



Cumbria County Council

LOCAL CYCLING AND WALKING INFRASTRUCTURE PLAN TECHNICAL REPORT

Carlisle





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1 STAGE 1: DETERMINING SCOPE

1.1 BACKGROUND

- 1.1.1. It is the ambition of Cumbria County Council to get more people cycling and walking in Cumbria and that cycling and walking should be the natural choice for everyday short journeys. Cycling and walking more often is good for our health and wellbeing, the environment and the local economy.
- 1.1.2. During the height of Covid-19, less traffic on our roads resulted in cleaner air and quieter streets, transforming the environment in our towns and city. Because of this, lots of people discovered, or rediscovered, cycling and walking as a means for exercise and travel. We now have an opportunity to help maintain this interest and ensure people have the choice to take short journeys on foot or by bike, rather than use their cars. The proven way of encouraging more of us to walk and cycle is by providing routes that are coherent, direct, safe, comfortable and attractive.
- 1.1.3. To encourage active travel, the County Council has established a Cycling and Walking programme to identify, develop and secure funding to deliver infrastructure improvements. A key component of this programme is the development of Local Cycling and Walking Infrastructure Plans (LCWIPs) which will identify and prioritise future improvements to the local cycling and walking network over the next 15 years. LCWIPs are being developed in Barrow-in-Furness, Carlisle, Kendal, Workington, Whitehaven and Penrith. The Council has complementary workstream looking at cycling and walking in five strategic corridors around the County, aligned to the National Cycle Network. These corridors look to connect places and people and provide longer distance routes to support the cycling and walking sectors of the Cumbrian Tourism economy.

1.2 LCWIP PROCESS

- 1.2.1. Local Cycling and Walking Infrastructure Plans (LCWIPs) are a strategic approach to identifying cycling and walking improvements required at a local level. They enable a long-term approach to developing networks and routes and form a vital part of the Government's strategy to increase the number of trips made on foot or by cycle. LCWIPs will be instrumental in leveraging funding from national and local funding streams.

THE LCWIP PROVIDES:

- Plans of the proposed priority networks showing the most important routes and zones for further development, targeting short journeys (to school, work etc).
- A prioritised programme of infrastructure improvements for future development.
- This LCWIP report, setting out the evidence and work completed to support the development of the Plan.
- A basis for securing government funding or developer contributions.

THE LCWIP DOES NOT PROVIDE:

- Exact details of the improvements on each route (these details will be developed as funding comes forward and will be subject to further consultation).
- Specific timeframes for when routes will be delivered.
- Guaranteed funding for delivery, although it will put us in the best possible position to secure funding.
- Network planning for long distance routes.

- 1.2.2. For Carlisle, this process and the resulting outputs will represent an evidence-based approach to focus future investment where the most benefit can be realised, over a 15 year period to 2032.
- 1.2.3. The geographical extent of this LCWIP is Carlisle district in its entirety, focussing in detail on the city of Carlisle, and also encompassing key settlements such as Dalston, Brampton and Longtown. The Carlisle LCWIP will focus on everyday journeys to work and school, as well as unlocking the potential of more people visiting the area for recreational cycling and walking.
- 1.2.4. The government has published guidance on the preparation of LCWIPs, setting out the following six stage process:
 - **Stage 1: Determine the scope** – establish the geographical context and arrangements for governing and preparing the plan.
 - **Stage 2: Gathering information** – identify existing walking and cycling patterns and potential new journeys. Review existing conditions and identify barriers to walking and cycling. Review related transport and land use policies and programme.

- **Stage 3: Network planning for cycling** – identify origin and destination points and cycle flows. Convert flows into a network of routes and determine the improvements required.
- **Stage 4: Network planning for walking** – identify key trip generators, core walking zones and routes, audit existing provision and determine the improvements required.
- **Stage 5: Prioritising improvements** – prioritise improvements to develop a phased programme for future investment.
- **Stage 6: Integration and application** – integrate outputs into local planning and transport policies, strategies and delivery plans.

- 1.2.5. The remainder of this document details how the LCWIP has been developed and sets out a prioritised programme for its delivery.



2 STAGE 2: GATHERING EVIDENCE

2.1 ACTIVE TRAVEL CONTEXT

THE CASE FOR WALKING AND CYCLING

- 2.1.1. The Department for Transport announced their Cycling and Walking Investment Strategy (CWIS) in April 2017, outlining the Government's ambition to make walking and cycling the natural choice for shorter journeys or as part of a longer journey, including the aim to double cycling activity by 2025. The benefits of achieving this outcome would be substantial, supporting public health and wellbeing, more vibrant towns and public spaces, and low carbon travel patterns becoming commonplace.
- 2.1.2. In order to help local bodies that are interested in increasing cycling and walking in their local areas, the DfT published guidance on the preparation of Local Cycling and Walking Infrastructure Plans (LCWIPs) in April 2017.
- 2.1.3. In early 2020 the Government launched Gear Change: A Bold Vision for Cycling and Walking, announcing a £2 billion plan make England a great walking and cycling nation. Gear Change identified four key themes central to achieving this:
- Better streets for cycling and people;
 - Putting cycling and walking at the heart of decision making (transport, place-making and health policy);
 - Empowering and encouraging Local Authorities - £2bn of dedicated new investment funding only schemes that meet the new standards; and
 - Enabling people to cycle and protecting them when they do through changes to the highway code.
- 2.1.4. This was supported by New Design Guidance - Cycle Infrastructure Design (Local Transport Note 1/20) (July 2020) which set out the framework for Cycling to play a far bigger part in our transport system with the quality of cycle infrastructure to sharply improve to be consistent with national guidance. Routes should be:
- Coherent - part of a wider strategic network that provide access to key destinations
 - Direct - reach their destination as directly as possible
 - Safe - of a high quality and designed to standards that meet safety requirements
 - Comfortable - accessible and attractive for all abilities

- Attractive - contribute to good urban design by integrating with and complementing their surroundings.

- 2.1.5. The Government has an ambitious plan to accelerate the decarbonisation of transport. The Transport Decarbonisation Plan (TDP) sets out what government, business and society will need to do to deliver the significant emissions reduction needed across all modes of transport, putting us on a pathway to achieving carbon budgets and net zero emissions across every single mode of transport.
- 2.1.6. In 2017 Cumbria County Council, together with Cumbria's district councils, national parks, cycling bodies and highways partners endorsed the Cumbria Cycling Strategy. The Strategy sets the context for the development of cycling in Cumbria in the 5 year period to 2022. A key objective is to improve the county's infrastructure and Cumbria County Council is committed to taking the lead on this aspect.
- 2.1.7. The Cumbria Transport Infrastructure Plan (CTIP), developed by County Council and Cumbria Local Enterprise Partnership (CLEP), supersedes the Cumbria Cycling Strategy and updates the local strategy context for cycling and walking in Cumbria for the period 2022-2037, The CTIP supports the need for greater levels of walking and cycling in Cumbria, and affirms the County's commitment and ambition in relation to active travel. Increased levels of active travel are particularly recognised as being an essential requirement in order to meet the CTIP Objective of Clean & Healthy Cumbria.
- 2.1.8. Within Carlisle, there are clear opportunities to better connect people and places with targeted investment in active travel infrastructure. The council shares the CWIS ambition to provide more direct, convenient, safe and attractive options for more local journeys, as demonstrated in the Cumbria Cycling Strategy.

CREATING ATTRACTIVE PLACES TO LIVE AND WORK

- 2.1.9. The CLEP's Industrial Strategy recognises the potential of active travel to enhance not only the tourist economy but also in creating attractive places to live and work. The Strategy sets out a priority to secure the walking, cycling, local highway and public transport improvements that help people better access jobs, training, services and visitor destinations
- 2.1.10. With a population of almost 110,000 people (2020 estimate, Cumbria Observatory.org.uk), Carlisle employs approximately 48,600 people (aged 16-64), with around 3,985 businesses located throughout the district (2019). The district accounts for 23% of all employment in Cumbria, and is a key part of the Cumbrian economy.
- 2.1.11. Significant future development is planned for Carlisle; around 10,000 new homes and associated employment areas will potentially be delivered as part of the St Cuthbert's Garden Village. In addition there will be schools, community facilities, district and local centres, and green and blue infrastructure. This major development is in the government's Garden Cities, Towns and Villages programme, and is an opportunity to create an exemplar development for active travel. The masterplan for the area maximises green, blue, and open space, incorporating greenway routes and creating streets that are attractive places to be in, not just to move along.
- 2.1.12. Carlisle also forms a key gateway to Cumbria via the rail network, and has recently seen the expansion of services in the vicinity of the Carlisle Lake District airport, creating related employment opportunities. Providing onward connectivity by active modes is an essential part of the LCWIP, maximising the opportunities new development presents.
- 2.1.13. As the county's largest urban area, many people live and work in Carlisle within a walkable or cyclable distance. Carlisle also has a wide draw, pulling in trips from rural hinterlands where active travel is not always an option. Investment in the streets where people live and work could also enable more attractive and desirable places, encouraging more people to live in the urban area as well as creating opportunities for modal shift for those that can, allowing people to choose the right mode of transport for the journey length and purpose.

SUPPORTING HEALTH, WELLBEING AND ACCESS FOR ALL

- 2.1.14. Active travel can play a crucial role in supporting public health and wellbeing. It is one of the simplest and most effective ways to enable adults and children to meet recommended levels of physical activity. A lack of physical activity is the cause of one in six deaths in the UK, and costs the country an estimated £7.4bn per year.
- 2.1.15. Active Cumbria (2021) reported that over 34.3% of people in Carlisle (aged 16+) are inactive, while just 1.5% of adults cycle and 15.7% walk for travel at least 3 days per week – below the national averages of 3.1% and 22.7% respectively. Inactivity is calculated to cost Carlisle £1.9m per year. Cumbria County Council are encouraging more people to be active as well as using sport and physical activity to help address health inequalities, contribute positively to the economy and raise the profile of the area.
- 2.1.16. The health and wellbeing importance of travel is a core component of the Cumbria Joint Public Health Strategy. This highlights how transport is critical to enable people to access goods and services that are important for health and wellbeing, to encourage physical activity through promoting regular walking or cycling and to tackle climate change and improve air quality.
- 2.1.17. Air pollutants come mainly from human activities, with road traffic being one of the key causes. There are currently four AQMAs within Carlisle city, namely:
- A7 AQMA – An area encompassing the A7 between Hardwicke Circus and J44 of the M6, and Brampton Road for a distance of 100m from the Stanwix Bank junction;
 - AQMA No. 2 – An area encompassing Currock Street and the properties immediately to the west of it, between the junction with James Street / Water Street and Crown Street;
 - AQMA No. 4 – An area along the north side of the A595 at Bridge Street, northbound from the junction with Shaddongate; and
 - AQMA No. 5 – An area encompassing the junction of Dalston Road and Junction Street.
- 2.1.18. Carlisle City Council has produced an Air Quality Action Plan (AQAP), which sets of specific air quality improvement measures to reduce the nitrogen dioxide concentrations in the City and particularly the identified Air Quality Management

Areas. One of the key actions for improving air quality in Carlisle is encouraging walking and cycling.

- 2.1.19. Focussing on inclusive design and ensuring Cumbria's active travel networks are accessible for all will be important when developing and delivering schemes through the LCWIP process.
- 2.1.20. The LCWIP also has a vital role to play in creating longer term behaviour change well beyond its 15-year deliver plan. European countries such as the Netherlands have only been able to facilitate mass cycling (27% of all trips are undertaken by bike) though long term investment (The Dutch 'cycling revolution' can be traced back to a targeted political response in the 1970s). This has engendered generational change to the point where the bicycle is the clear mode of choice for journeys between 2km to 7km.
- 2.1.21. The Carlisle LCWIP, supported by local and national policy, guidance, and funding, presents an opportunity to start the process of creating real change for generations to come.

RESPONDING TO THE CLIMATE CRISIS

- 2.1.22. The Cumbria Zero Carbon partnership was established in January 2021 and aims for a carbon neutral Cumbria by 2037. Decarbonising the impact of transport is key to achieving this and more cycling and walking will form part of the approach.
- 2.1.23. Cycling and walking has a much lower carbon footprint compared to other forms of transport. Transport is the largest emitting sector of greenhouse gases, producing 27% of the UK's total emissions in 2019 – 61% of this from cars and taxis. The Zero Carbon partnership recognises the need for a holistic approach to reducing the County's carbon emissions and that everyone in the county needs to work together and do their part in order to achieve neutrality. Embedding generational behaviour change through incremental shift to active modes is likely to be a key part of this and is essential in order to enable future generations to live sustainably.

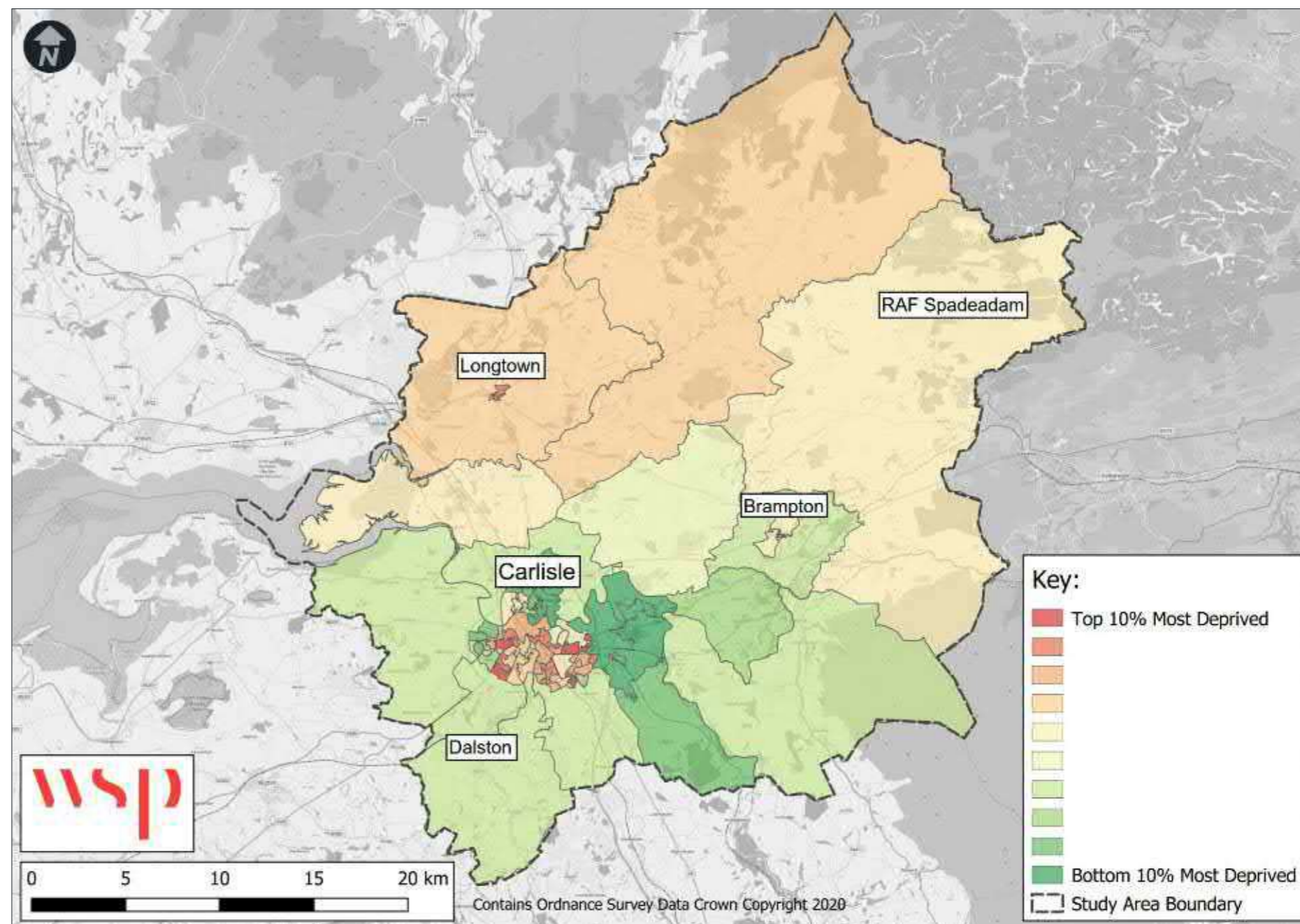
IMPROVING THE TOURISM OFFER

- 2.1.24. Tourism plays a key role in Cumbria's economy, with the county's visitor economy contributing £3.1bn to the economy in 2019, supporting 65,000 jobs, equivalent to 26% of Cumbria's working age population (Cumbria Tourism Strategy 2020-2025).
- 2.1.25. Cycling and walking investment can play a key role in enhancing the tourism offer. It can increase the number of visitors for travel around the District and improved connections to existing networks can provide enhanced cycling and walking experiences.
- 2.1.26. Carlisle is a key gateway for the visitor economy, with key transport hubs connecting local, regional, national and international transport networks.
- 2.1.27. The proposed LCWIP network integrates with the Hadrian's Wall National Cycle Network route (NCN72), as well as providing connectivity to key tourist destinations such as Tullie House, Carlisle Castle, and Carlisle Cathedral.

IMPROVING ACCESSIBILITY AND SOCIAL INCLUSION

- 2.1.28. Almost a third of the study area lies within the top 30% most deprived areas in the country, and these are particularly focussed on the more densely populated urban areas to the south of the city (Figure 2.1).
- 2.1.29. Almost 25% of households in Carlisle district are without access to a car (Census 2011) and these households can suffer from social exclusion and transport poverty, struggling to access employment and education opportunities, key services and facilities, as well as being isolated from support networks.
- 2.1.30. Cycling, and walking in particular, are generally affordable and natural modes of transport that can be made accessible to the vast majority of people. Enabling a greater number of people to walk and cycle to the locations they need to travel to can have significant benefits not just in regard to health, wellbeing, and for the environment, but also in enabling social inclusion, helping connect people to jobs, education, and each other when other modes of transport aren't feasible options.
- 2.1.31. Given the proportion of the overall population that resides in the main urban centre, the topography, and large number of employers in close proximity to education facilities, there are very clear and strong opportunities to promote social inclusivity through improved active travel connections.

Figure 2.1. Indices of Multiple Deprivation (IMD)



2.2 NATIONAL AND LOCAL POLICY CONTEXT

2.2.1. There are clear opportunities to support environmental, health, social, economic and sustainable mobility goals that better connect people and places with targeted investment in active travel infrastructure. This is evident in both national and local policy that has guided and shaped the Carlisle LCWIP process. A summary overview is provided below.

NATIONAL CONTEXT

Gear Change: A bold vision for cycling and walking (DfT 2020)

Sets out Government’s vision for delivery of far higher quality cycling infrastructure, focusing on segregated cycle routes with local authorities being expected to deliver a step change in the Level of Service for cycling and walking. It establishes “Active Travel England” that will assess local authorities’ performance on active travel, with findings influencing the funding authorities receive across all transport modes. The accompanying Local Transport Note 1/20 Cycle Infrastructure Design sets out new ambitious cycle design standards.

Cycling and Walking Investment Strategy (DfT 2017)

Aims to make active modes a natural choice by 2040. Locally targeted investment via LCWIPs assist to connect people with places – creating vibrant, healthier and productive places and communities.

Future of Mobility: Urban Strategy (DfT 2019)

Nine principles to address the challenge of transforming towns and cities to meet current and future transport demands. Includes the principle that ‘walking, cycling and active travel must remain the best option for short urban journeys’.

UK Net Zero Target 2020

This national target, set by the Government in 2019, will require the UK to bring all greenhouse gas emissions to net zero by 2050, compared with the previous target of at least 80% reduction from 1990 levels.

Everybody Active, Every Day (Public Health England 2014)

Indicates how the built and natural environment impact on the travel choices people make and highlights the necessity for effective urban design and transport systems which create ‘active environments’ to promote walking, cycling and more liveable communities.

Clean Air Strategy (DEFRA 2018)

Outlines how achieving modal shift is key to delivering emissions reduction. LCWIPs have a part to play in tackling the climate emergency by reducing emissions through the delivery of walking and cycling options for journeys.

Inclusive Transport Strategy (DfT 2019)

An inclusive transport system must provide inclusive infrastructure, with streetscapes designed to accommodate the needs of all travellers. LCWIPs identify improvements to build active travel networks and key routes fit for all users.

LOCAL CONTEXT

2.2.2. Local policy relating to walking and cycling is contained in a range of documents, outlined below. These policy documents show a strong level of support for cycling and walking. Several documents, including the adopted district-wide Local Plan which is being reviewed and the emerging Local Plan for St Cuthbert’s, providing an opportunity to further integrate cycling and walking proposals..

2.2.3. Key local policy documents include:

- Cumbria Transport Infrastructure Plan (2022-2037)
- Cumbria Local Industrial Strategy (2019)
- Cumbria Cycling Strategy (2017-2022)
- Carlisle District Local Plan (2015-2030)
- Economic Recovery Plan, 2020
- Destination Borderlands and the Borderlands Growth Deal, 2021-2031
- Cumbria Rural and Visitor Economy Growth Plan, 2017

2.2.4. Key relevant themes emerging from local policy are set out on the following pages.

Policy support for cycling and walking

2.2.5. There are strong levels of support for walking and cycling in existing local policy. Several policies of the Carlisle District Local Plan cite cycling and walking as key mechanisms to achieving policy goals, including Policy IP2 – Transport and Development which seeks to ensure new development must be accessible by a range of sustainable transport options, including walking and cycling, and link to existing network. Policy SP5 – Strategic Connectivity seeks to increase the provision for active travel links across the district, whilst Policy SP9 – Healthy and Thriving Communities aims to create high-quality and inclusive environments that support people in making healthy choices, providing an integrated network of

green infrastructure assets maximising the opportunity for walking and cycling.

2.2.6. The Cumbria Transport Infrastructure Plan (CTIP) recognises the role the active travel schemes can play in supporting the local economy, improving health, and access to education, employment and services. The Plan positions active travel centrally in the aim to develop a clean and healthy Cumbria, highlighting the key role it can play in transport decarbonisation and promoting physical and mental health.

Growth areas and local plan designations

2.2.7. The Local Plan sets out housing and employment growth areas in Carlisle which should be considered when developing active travel networks to ensure their sustainability. Key development sites include:

- St Cuthbert’s Garden Village –delivery of around 10,000 new homes and employment opportunities, and a new Southern Link Road.
- Carlisle Station and Citadels – to create a new high profile gateway development for Carlisle, attracting people to live, study and work in the area.
- Kingmoor Park – 37Ha of employment development within the Enterprise Zone.
- Land south of Orton Road – residential development to deliver approximately 500 homes.

Transport and placemaking schemes

2.2.8. A large volume of activity is currently underway around Carlisle aimed at bolstering the district’s offer as a place to live, work, study, visit and invest.

2.2.9. Across these projects, there is significant investment in improving connectivity, specifically via sustainable and active modes. These proposals will be central to the development of the Carlisle LCWIP, as we seek to create an integrated and connected network across the city and wider district.

2.2.10. A summary of the key projects being led by Cumbria County Council and partners is provided below.

Town Investment Plan

- 2.2.11. In September 2019, the government invited 100 places to develop proposals for a Town Deal, as part of the £3.6 billion Towns Fund. The Towns Fund is part of the government's plan for levelling up the UK economy and the overarching aims of the Towns Fund are to drive the sustainable economic regeneration of towns and to deliver long term economic and productivity growth through urban regeneration, skills and enterprise infrastructure and connectivity.
- 2.2.12. In Spring 2021 Carlisle was awarded £19.7m of funding from the Towns Fund. The Town Deal investment will support the regeneration of the city, through facilitating skills and business development and improving both digital and physical connectivity.
- 2.2.13. The Town Deal funding will also support an integrated programme of investments in active and sustainable travel and public realm to better connect key developments in the Southern Gateway area of Carlisle, including the Railway Station, Citadels, Devonshire Street and the former Central Plaza site, and to connect St Cuthbert's Garden Village with the City Centre.

Carlisle Station Gateway & Citadels Project

- 2.2.14. The £350m Borderlands Inclusive Growth Deal will bring forward the Carlisle Station Gateway and Citadels project



- 2.2.15. The Railway Station is a major gateway to the city and for some, the first impression of Carlisle is the station and Court Square, the area outside of the main entrance.

- 2.2.16. The Railway Station and Citadel buildings are important historical assets and targeted improvements seek to showcase their full potential.
- 2.2.17. Improvements proposed include reducing vehicle movement on Court Square and creating more car parking at the south of the station. This will remove the pedestrian-vehicle conflict on Court Square, accommodate future growth in passenger numbers and further enhance the public space around the station. These improvements will increase connectivity and help future proof the station.
- 2.2.18. The Citadels project will see the creation of a new university campus at the unused citadel, whilst proposals to improve the south of the station and Caldew Riverside are also proposed and will regenerate the area.



Future High Streets Fund

- 2.2.19. The Future High Streets Fund is a £657m fund administered by the Ministry of Housing Communities and Local Government (MHCLG) which aims to provide infrastructure investment to help renew and reshape high streets in a way that improves the experience, drives growth and ensures future sustainability.
- 2.2.20. Carlisle City Council, working in partnership with local businesses, community groups, local people, and Cumbria County Council, identified key priorities which supported the development of projects for the fund. £9.1 million has been secured for Carlisle City Centre through the Fund. The proposals for Carlisle's Future High Street Fund bid include: reimagining the Market Square, to renew the square and

create a greater space for events, repurposing key empty sites for redevelopment, pedestrian improvements to Devonshire Street and the 'Lighting Up Carlisle' project.

Carlisle Southern Link Road

- 2.2.21. Both the Cumbria Infrastructure Plan (Cumbria Local Enterprise Partnership) and the Carlisle District Local Plan (Carlisle City Council) identified the need to improve strategic east-west connectivity and network resilience, reducing traffic congestion, and improving journey time reliability.
- 2.2.22. The new A689 Carlisle Southern Link Road (CSLR), a key enabling project for the 10'000 home St Cuthbert Garden Village development, aims to address these needs by providing a new 8.6km east-west route to the south of city.
- 2.2.23. By creating a new direct route between junction 42 of the M6 and the A595 at the Newbywest roundabout the CSLR project will improve east-west connectivity. In combination with the M6, between junction 42 and 44, and the A689 Carlisle Northern Development Route (CNDR), which links junction 44 of the M6 with the A595 (also at Newbywest roundabout) the network resilience will be improved. The provision of an alternative route other than the City Centre will see a reduction in congestion, improving journey time reliability.
- 2.2.24. The CSLR project includes a new shared use footway for cycling and walking on the Carlisle side of the new route that links to several existing rights of way, including the National Cycle Network (Route 7). Disability Discrimination Act compliant earthwork ramps and new bridge structures provide a long continuous new route that crosses over the A595 (Wigton Rd), the B5299 (Dalston Rd.) the West Cumbrian coastline railway, the river Caldew, the West coast mainline railway and the river Petteril. The route also provides three over bridges at strategic locations to reduce any severance impact for those on routes north-south. The shared use path also extends beyond junction 42 of the M6 along the A6 to Carlton at the current city boundary.
- 2.2.25. Funding is being provided by the Department for Levelling Up, Housing and Communities (DLUHC) Housing Infrastructure Fund, the County Council and the City Council. The project is expected to commence in Spring 2022 however this is still subject to a number of statutory and other approvals.

St Cuthbert's Garden Village

- 2.2.26. St Cuthbert's Garden Village (SCGV) is one of the largest sites in the north included in the Government's Garden Cities, Towns and Villages programme. It is amongst the most ambitious development projects being actively progressed within the north of England, and is one of the leading projects for meeting the growth ambitions of Carlisle City Council, as well as Cumbria Local Enterprise Partnership and the wider Borderlands Inclusive Growth Deal.
- 2.2.27. The proposals seek to deliver around 10,000 new homes as part of the development, supported by new employment opportunities, a full range of infrastructure and community facilities. The Garden Village will be delivered over a phased period between 2022 and 2049.
- 2.2.28. The Carlisle LCWIP seeks to build on the vision for St Cuthbert's Garden Village to create low carbon neighbourhoods including development of an integrated cycling and walking network to provide excellent sustainable transport connections and environments that make active travel the most attractive method for getting from A to B.
- 2.2.29. At the heart of Garden Village will run the St Cuthbert's Greenway: a connective multiuse area that will join the three settlements of Cummersdale, Durdar and Carleton, as well create links back into Carlisle. The greenway will be a car-free space designed to encourage active travel and recreation between the garden village communities. It is a key placemaking feature for the whole of the garden village, and will be considered as the primary active travel route within the development, bringing together the entire cycle and walking network for St Cuthbert's.
- 2.2.30. The LCWIP seeks to reflect this vision by making the most of Carlisle's natural assets using the three river corridors to provide a largely off-road green network for pedestrians and cyclists to connect residential areas with the city centre and education cluster, creating an attractive environment, for both commuting and leisure. This network is shown highlighted in yellow on the Priority Cycling Network Plan.
- 2.2.31. It is believed that this network has potential to create a '20 minute neighbourhood'. The idea of the 20 minute neighbourhood has grown in interest since the Covid-19 pandemic put a spotlight on the importance of the liveability of where we live. The concept is based on creating a compact and connected neighbourhood where people can meet their

everyday needs within a short walk or cycle with potential for multiple benefits including boosting local economies, improving people's health and well-being and increasing social connections in communities and tackling climate change.

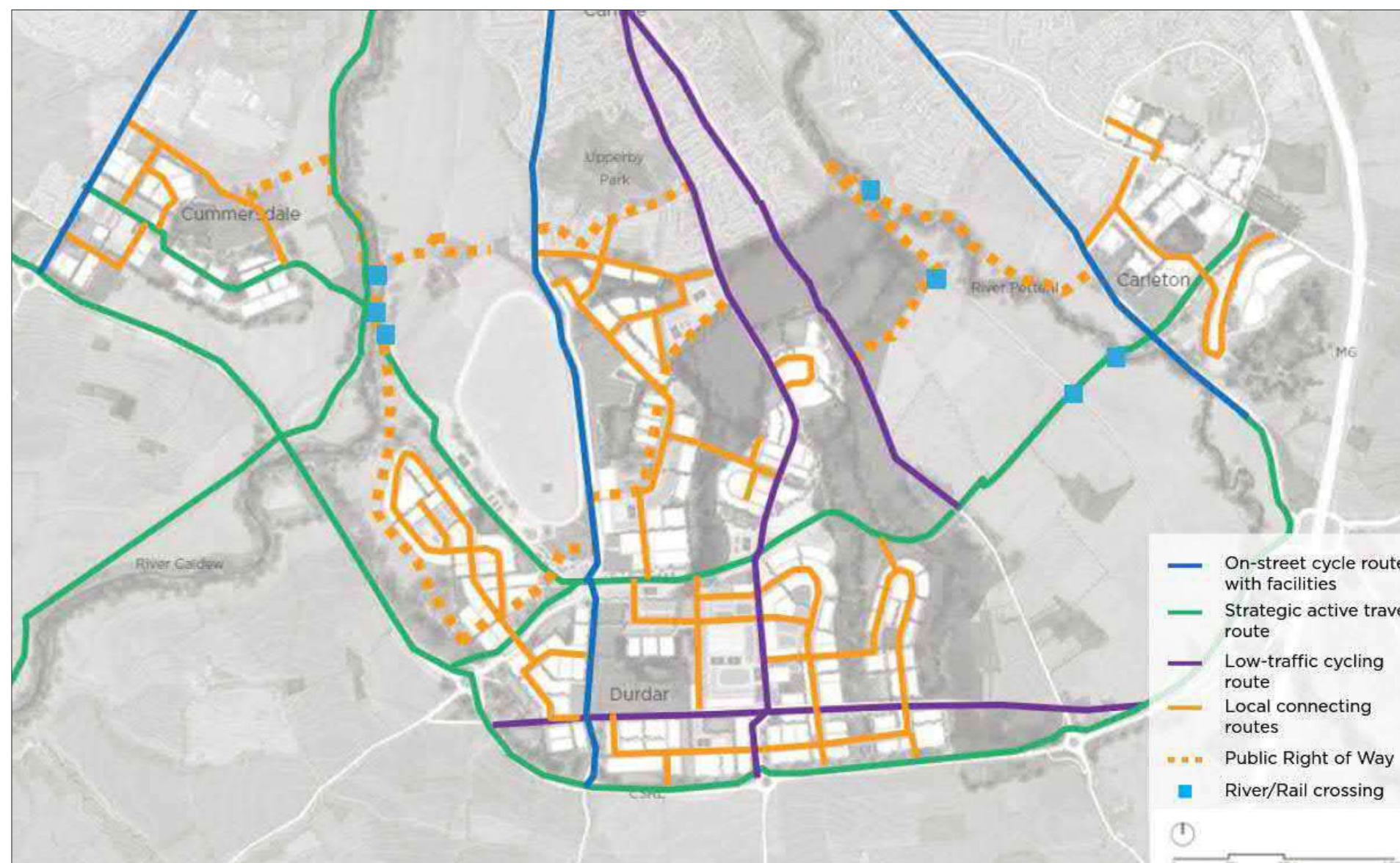


Figure 2.2. St Cuthbert's Garden Village Active Travel Network

2.3 EXISTING CYCLING AND WALKING TRAVEL PATTERNS

- 2.3.1. The levels of walking and cycling in Carlisle increased during the COVID-19 lockdown in Spring/Summer 2020. This was in part because roads were less busy and quieter, offering more desirable conditions for cycling. This reduction in traffic emissions also led to improvements in air quality.
- 2.3.2. Whilst levels of cycling and walking have since fallen back to pre-covid levels, this demonstrates that the potential for cycling and walking exists if the right conditions are put in place. The improvements to active travel infrastructure proposed in the Carlisle LCWIP could therefore help increase cycling and walking back to the levels observed during March/April 2020.
- 2.3.3. Pre-Covid Census Journey to Work data (2011) shows that almost 79% of residents work within the District itself (33,368 workers), demonstrating high levels of containment. Only 21% of workers travel to areas outside of the District for employment.
- 2.3.4. Carlisle district also attracts a number of employment trips, with 9,900 additional trips per day into the District, with the majority arriving from neighbouring Eden and Allerdale.
- 2.3.5. 52% of people within the district travel less than 5km to work (on average 20mins on a bike), compared with the national average of 35%, demonstrating a high potential for active mode travel choices. This is further demonstrated in that 25% of workers live less than 2km of their place of work (on average 25mins on foot), compared to the national average of 17%, highlighting that walking in particular could be a more viable and attractive mode for residents.
- 2.3.6. Despite these short commuting journeys, 67% of residents travel to work by car, whilst 20% walk and 3% cycle (2011 Census).
- 2.3.7. The Carlisle city centre zones are the key destination points for employment, attracting the greatest volumes of trips from the District.
- 2.3.8. Census output data shows that existing levels of cycling are greatest in the urban areas of Carlisle, with up to 5% of journeys to work undertaken by bike in some areas. Results are similar for walking, with the largest concentration of walking trips converging on the town centre area.

- 2.3.9. Elsewhere in the district, commuting by bike is much lower, estimated to only 1-2% between Lower Super Output Area (LSOA) OD pairs.
- 2.3.10. Furthermore, just 21% of children in the Carlisle district walk to school, whilst 2% cycle, compared to the County average of 27% and 3% respectively.
- 2.3.11. Topography across Carlisle is generally flat in the areas of greatest population, and there remains clear potential to build upon current levels of active travel to make cycling and walking more viable and attractive modes in the area for everyday journeys.
- 2.3.12. This is reflected in local policy and strategy, recognising the need to provide high quality safe active travel infrastructure to encourage a shift to healthy and greener modes, and to also ensure that future developments are sustainable and connected to these networks.

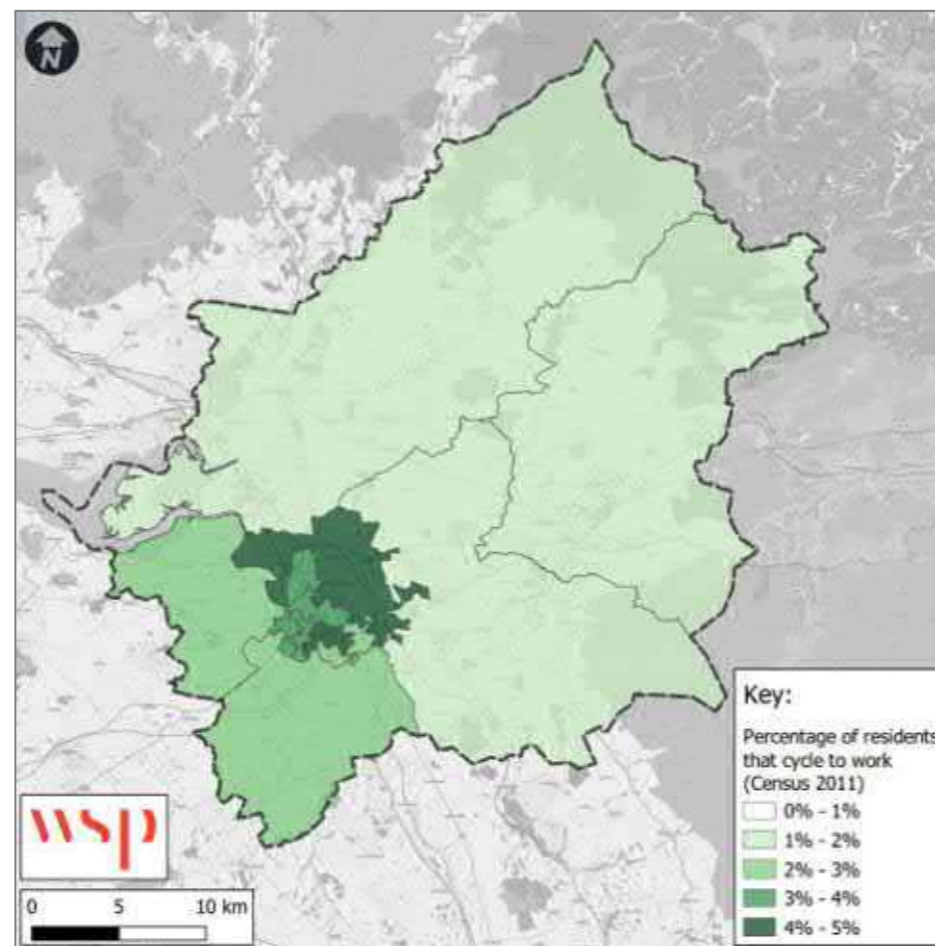


Figure 2.3. Residents that cycle to work (2011 census)

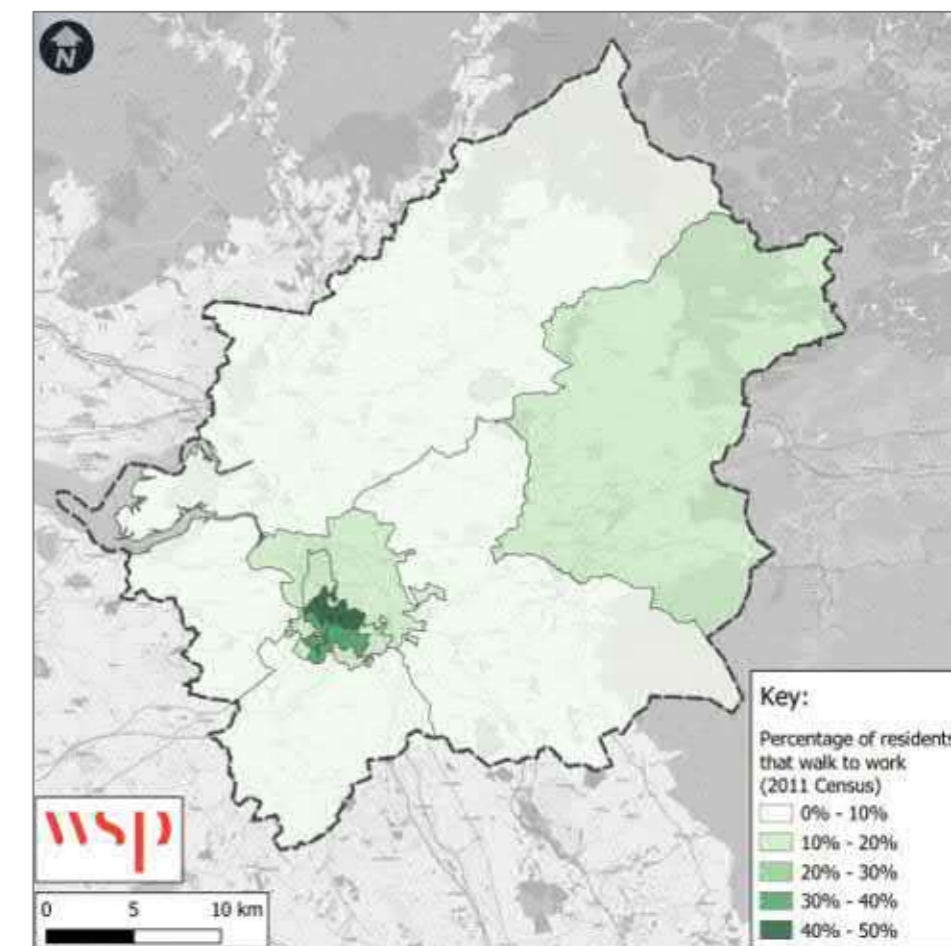


Figure 2.4. Residents that walk to work (2011 census)

Figure 2.5. 2011 Commuter cycle flows – Carlisle District top, Carlisle City bottom.

Increased width = higher usage (Source: Propensity to Cycle Tool)

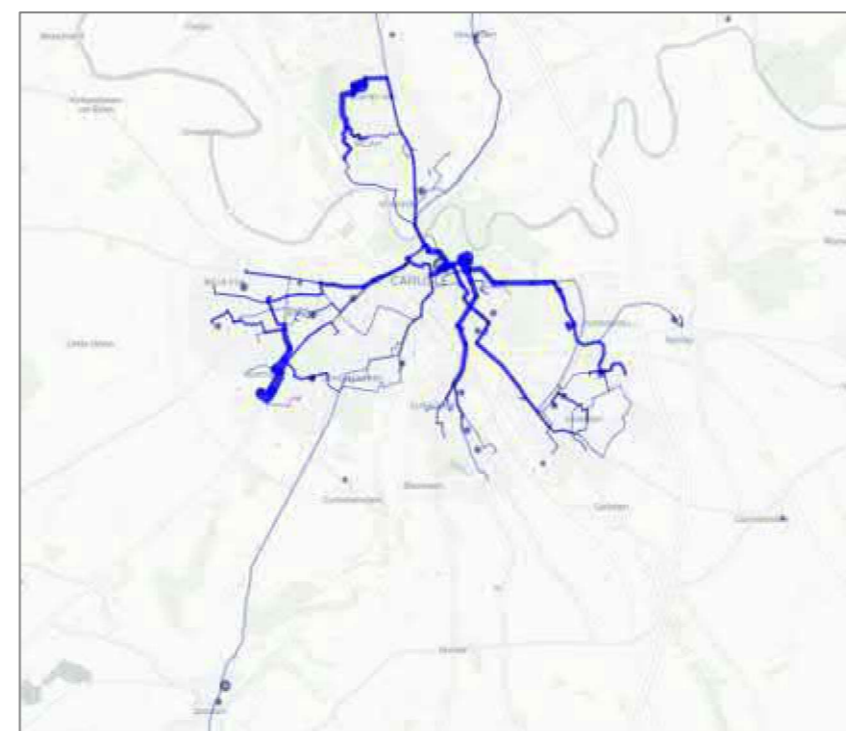
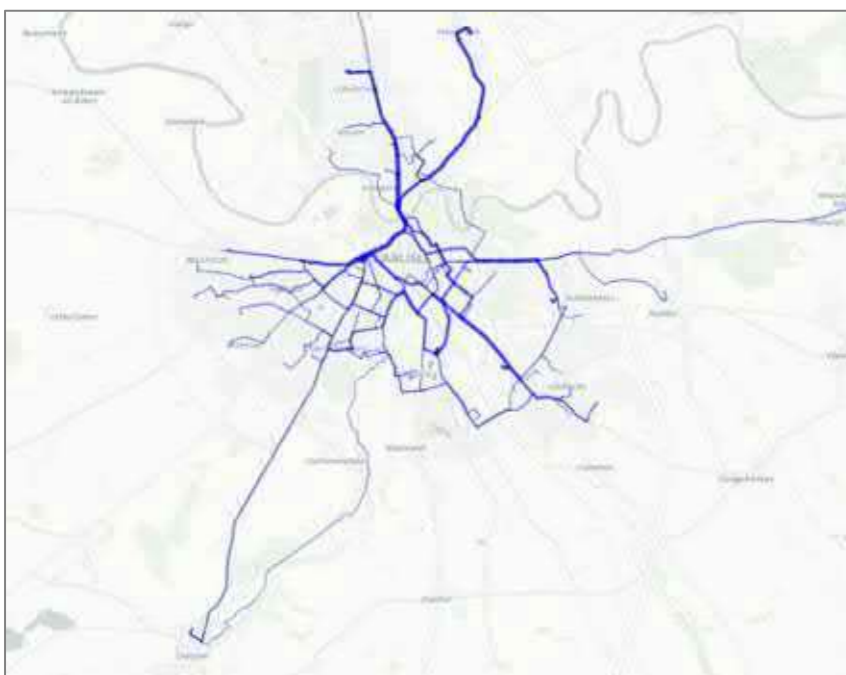
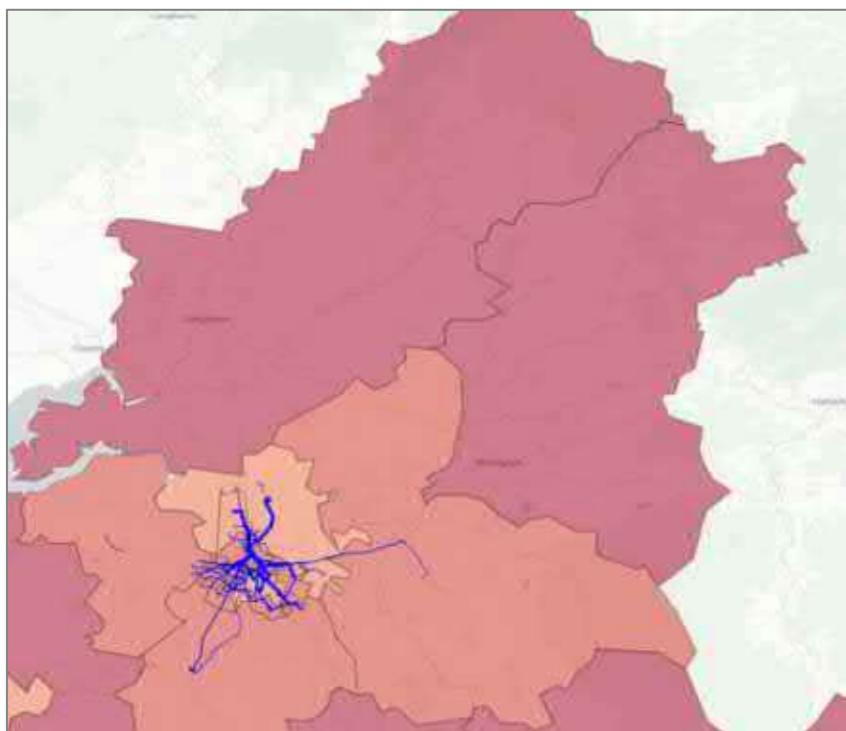


Figure 2.6. School cycle flows. Increased width = higher usage (Source: Propensity to Cycle Tool)

2.3.13. Figure 2.5 shows the estimated routes taken by people cycling to work in Carlisle district in 2011, for the top 30% most cycled routes. As clearly shown, the top 30% of used routes are primarily located in the main built up area of Carlisle city itself.

2.3.14. The key radial routes of the A7 corridor, Castle Way, London Road, Warwick Road converging on the City Centre area are the most popular routes in all current and future scenarios in the Propensity to Cycle Tool (PCT) (see www.pct.bike for further information on the PCT). Each of these routes record well over 100 cyclists per day, with future scenarios highlighting significant potential growth for cycling within Carlisle.

2.3.15. While commuting trips are important, they do not represent all cycle trips. Figure 2.6 shows estimated cycle to school trips based on the 2011 school census data. Whilst the reported

cycling levels are slightly lower than the national average, the presence of several schools, including Trinity School, Richard Rose Morton Academy and Newman Catholic School demonstrate the importance of routes around the City Centre area of Carlisle. Likewise, safe routes to schools should be considered in the development of any networks.

2.3.16. Consideration should also be made for ensuring safe and attractive active travel links to any new education sites being delivered as part of the strategic St Cuthbert's Garden Village development..



Figure 2.7. Strava cycle flows. Brighter colours = higher usage (Source: Strava)

2.3.17. Finally, outputs from the Strava global heatmap (www.strava.com/heatmap), show anonymised data collected from people cycling using the Strava mobile app. While the results are typically skewed towards more confident sports/leisure cyclists, the results again highlight the importance of the existing NCN 7, 10 and 72 routes and other radial links converging in the city centre vicinity, such as A6 London Road, A595 Wigton Road and A7 Kingstown Road, connecting communities with key employment sites and leisure routes.

2.3.18. Perceived and actual safety can be a barrier to taking up or continuing cycling and walking.

2.3.19. Figure 2.8 shows pedestrian and cycle casualties across Carlisle, for the period 2017-2019. For every injury shown on the map, there will be additional injuries and near misses not reported. Table 2.1 presents this data numerically.

Table 2.1. Pedestrian and cyclist accidents by severity: 2017 to 2019

Severity	2017		2018		2019	
	Cycle	Walk	Cycle	Walk	Cycle	Walk
Slight	32	33	32	30	20	27
Serious	9	9	8	21	6	13
Fatal	0	2	1	1	0	1
Total	41	44	41	52	26	41

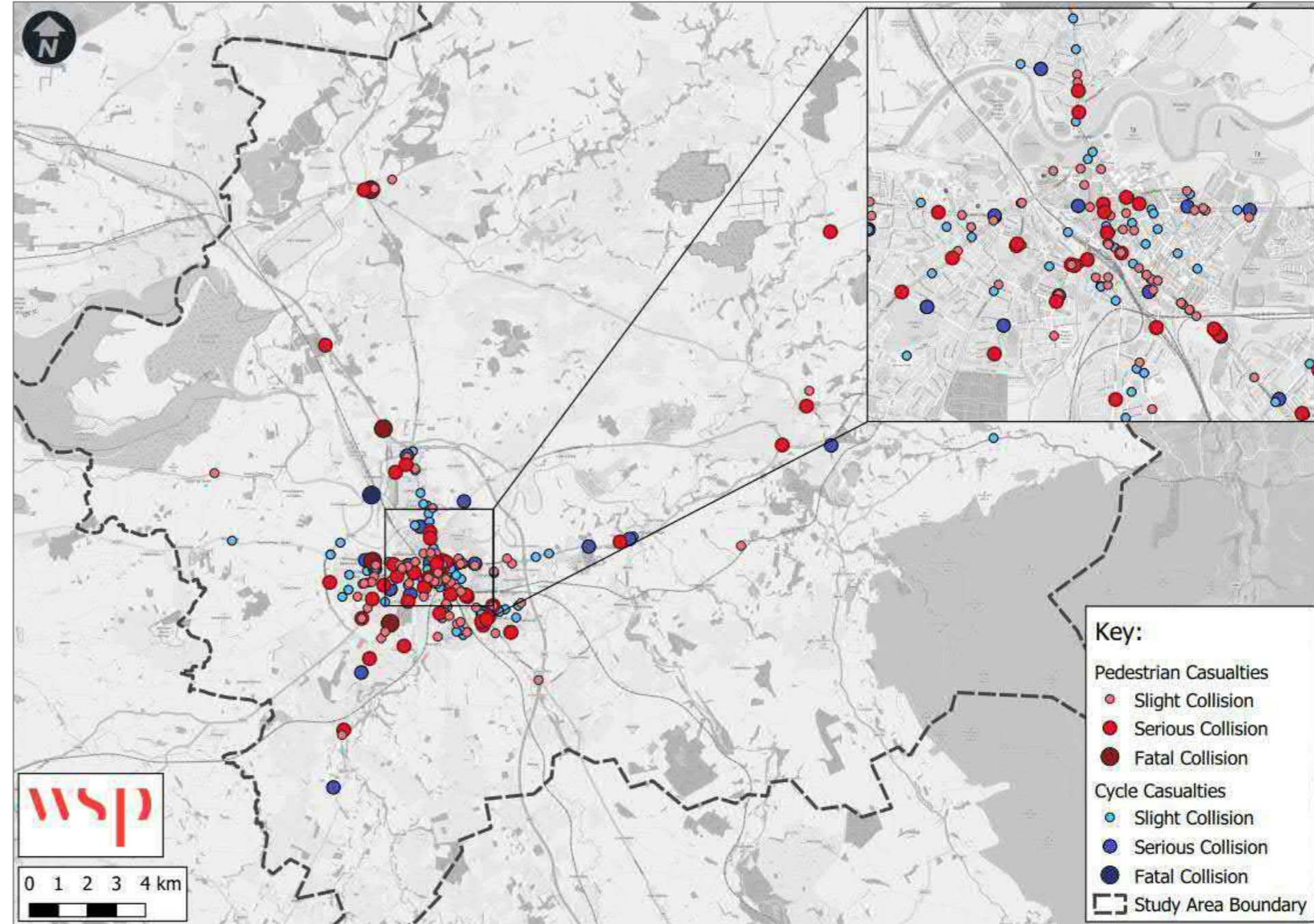
2.3.20. The data shows that over the three-year period there were five fatal collisions, 4 of which involved pedestrians. Numbers of collisions with pedestrians have remained consistent across this period – a key issue to be addressed by the LCWIP. Collisions involving cyclists has seen a general decrease over the same time period.

2.3.21. Plotting the location of collisions can help to identify ‘hotspots’, where several incidents have been recorded in a small geographic area. Those areas of the network where safety may need to be improved for pedestrians and cyclists can then be identified.

2.3.22. As can be seen from the figures, ‘hotspots’ or ‘clusters’ of collisions are typically located along arterial roads or at junctions where there is a higher number of pedestrians and cyclists. There are pedestrian casualty hotspots within the city centre, along the A6 Botchergate / London Road, and the A595 Wigton Road. Cycling casualty hotspots can be found on A7 Kingstown Road, A69 Warwick Road and around the Yewdale area of the City.

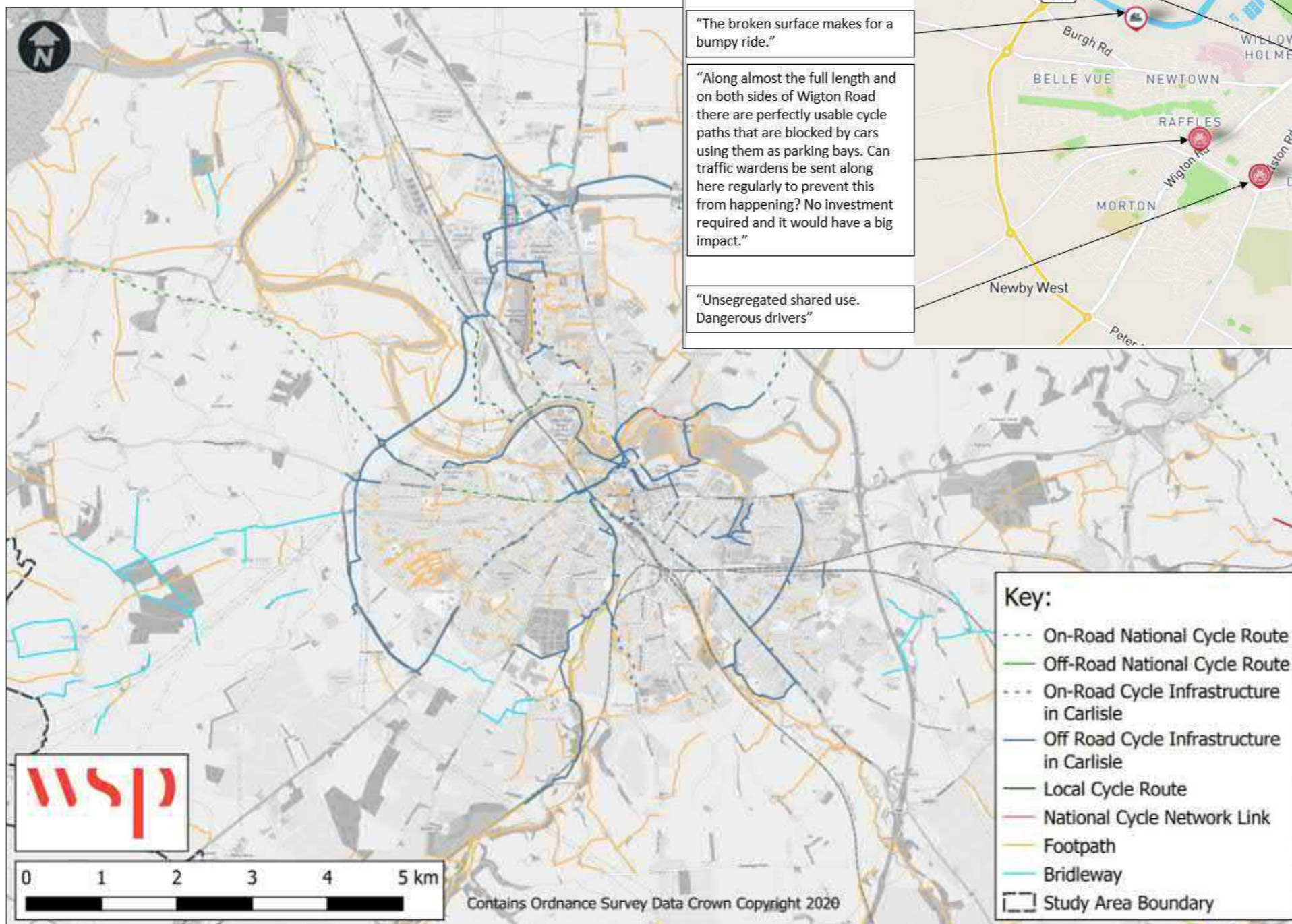
2.3.23. Improving infrastructure for cycling and walking within the study area could further reduce collisions in future.

Figure 2.8. Pedestrian & cyclist traffic casualties: 2017-19



2.3.24. Figure 2.9 shows existing active travel provision in Carlisle. The map shows the fragmented nature of the active travel networks.

2.3.25. Carlisle benefits from the presence of several strategic cycle links – namely NCN 7 which provides connections southwards to Penrith and northwards to the Scottish border, NCN 10 providing connections to Cockermouth and Northumberland, and NCN 72 Hadrian’s Cycleway connects Ravenglass to Tyneside.



“Corduroy ‘hazard’ tactile used in place of ‘cycleway’ tactile on NCN 7/10/72 on Castle Way. These caught my tyre slightly as I was cycling over them. Some of the paving slabs along here were a bit uneven too.”

“A narrow faded line segregated footway/cycleway for NCN routes 7 and 10 over the bridge on Bridge Street to get to the crossing. I don’t know what standards this may meet. But three lanes for westbound motorists.”

“The broken surface makes for a bumpy ride.”

“Along almost the full length and on both sides of Wigton Road there are perfectly usable cycle paths that are blocked by cars using them as parking bays. Can traffic wardens be sent along here regularly to prevent this from happening? No investment required and it would have a big impact.”

“Unsegregated shared use. Dangerous drivers”

“No path between Linstock junction and Brunswick Lane end for walkers and cyclists”

“Pavement is very narrow with street lights that actually mean you can not walk a pram up the pavement without joining the road. The path is narrow on both sides of the road. A shame really as the rest of the pavements up Scotland Road are good.”

“Proper cycleway not pavement markings with lamp posts in the way”

“Reduce traffic lanes, make a cycle lane with guided route around motorway. This can link to the soon to be protected cycleway in English Street and enable better cycling north, east and through the city centre”

“Poor surface on cycle path”

“Widespread problem of pavement parking throughout Denton Holme. Needs to be overcome by a combination of double yellow lines (to limit parking to one side of most roads and away from corners/junctions) and bollards where pavement parking persists.”

2.3.26. Despite this, there is very limited existing off-road or fully segregated provision meaning that sections of these routes fall below the level of provision recommended in latest national guidance.

2.3.27. Figure 2.10 shows suggestions for improvements collated on the widenmypath.com website. Whilst the level of engagement is limited, the majority of requests were concentrated on Carlisle City, with most highlighting the need for improved maintenance of existing cycle routes and for additional, continuous and protected cycle infrastructure.

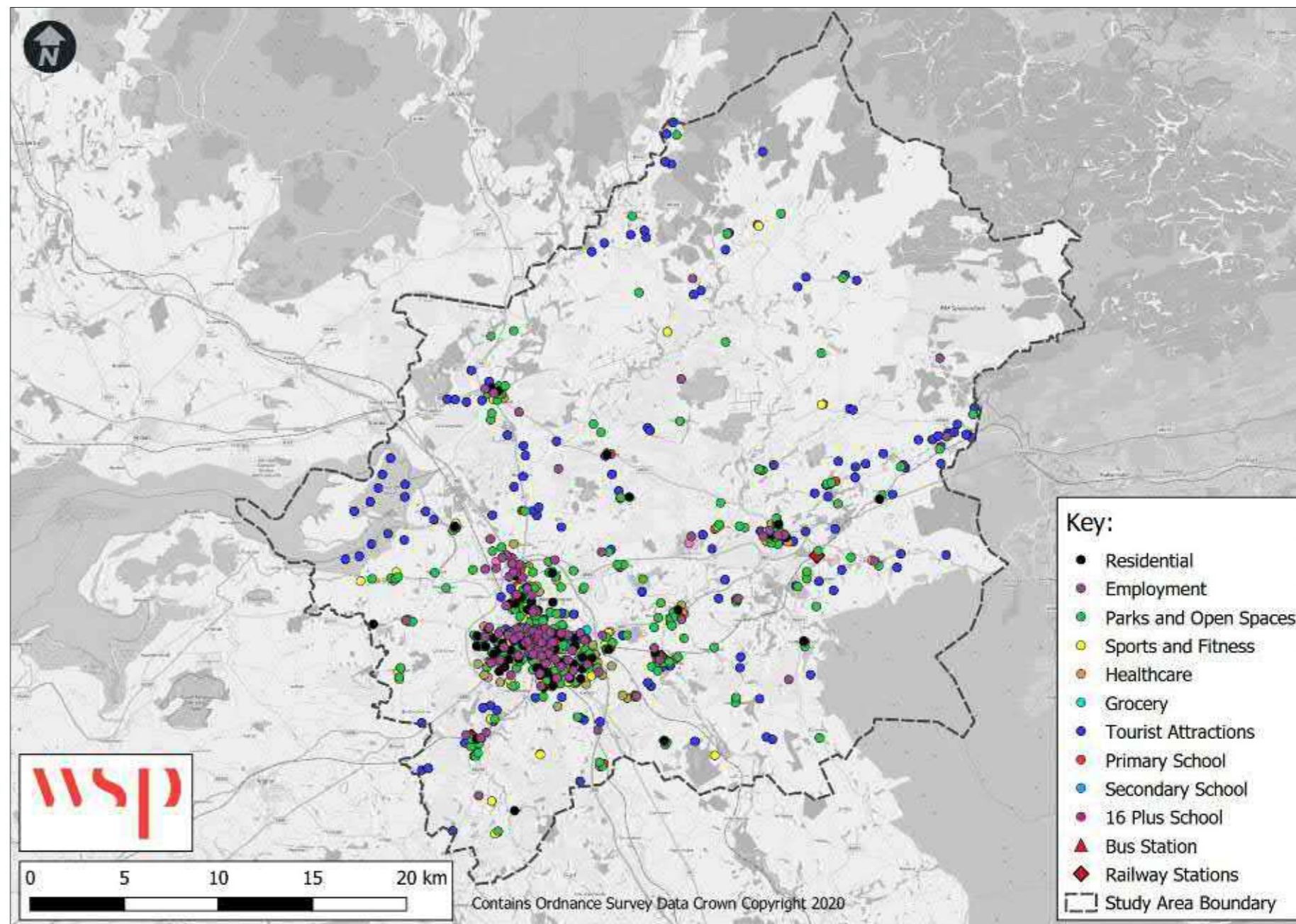
Figure 2.9. Existing and proposed cycle infrastructure (left)
Figure 2.10. Suggestions for Improvement (above)

3 STAGE 3: NETWORK PLANNING FOR CYCLING

3.1 CURRENT & FUTURE ORIGINS & DESTINATIONS

- 3.1.1. The LCWIP Technical Guidance for Local Authorities (DfT, 2017) notes that identifying demand for a planned cycle network should start by mapping the main trip origin and destination points (ODs).
- 3.1.2. In line with the guidance, census output areas were chosen to represent journey origins from existing residential areas. Additional origins and destinations were identified as shown in Figure 5.1, including:
- Undeveloped housing and employment sites allocated in the Carlisle District Local Plan;
 - Public transport interchanges (as above);
 - Principal retail areas;
 - Employment concentrations;
 - Large grocery shops;
 - Hospitals;
 - Tourist attractions; and
 - Educational institutions.
- 3.1.3. The resultant OD Map is shown in Figure 3.1 opposite.

Figure 3.1. Carlisle OD Map



3.2 CLUSTERING & DESIRE LINES

- 3.2.1. The guidance recommends that trip ODs in close proximity to each other are clustered together, providing an indication of significant OD areas which will be the focus for many trips.
- 3.2.2. Once OD clusters were determined, desire lines between every LSOA or allocated housing site and identified cluster were mapped; the lines represent the most direct route between these points, irrespective of the existing network and barriers.
- 3.2.3. For ease of interpretation, desire lines were aggregated to present the top 1% desire lines. These are used as the basis to inform a schematic network, referred to as the 'Suggested Cycle Network'.
- 3.2.4. The OD clusters are shown in Figure 3.2.

3.3 VALIDATION OF DESIRE LINES

- 3.3.1. The desire lines were validated through the use of existing data, such as the PCT and Strava, as well as through engagement with key stakeholders.

PCT: GO DUTCH SCENARIO

- 3.3.2. The desire lines were compared against the PCT Go Dutch scenario outputs, which presents a potential scenario of cycling demand in the future if 'Dutch style' infrastructure was available, as well as a similar attitude toward cycling. The top ten PCT outputs support the identified desire lines within the urban area of Carlisle, but suggests there is much lower cycling potential in outlying rural areas for everyday purposes.
- 3.3.3. The PCT outputs are illustrated in Figure 2.5.

STAKEHOLDER FEEDBACK

- 3.3.4. Two stakeholder workshops were undertaken to review and discuss the identified desire lines. The stakeholder feedback was in support of the desire lines identified, however, some additional desire lines were put forward for consideration:
 - Cargo to Carlisle City Centre;
 - Durranhill to Aglionby;
 - Scotby to Carlisle City Centre;
 - Orbital Route of South Carlisle; and
 - Gilsland to Hadrian's Wall
- 3.3.5. 14 desire lines were ultimately agreed upon to represent the most important connections between people and places. These are illustrated in Figure 3.3.

Figure 3.2. OD Clusters

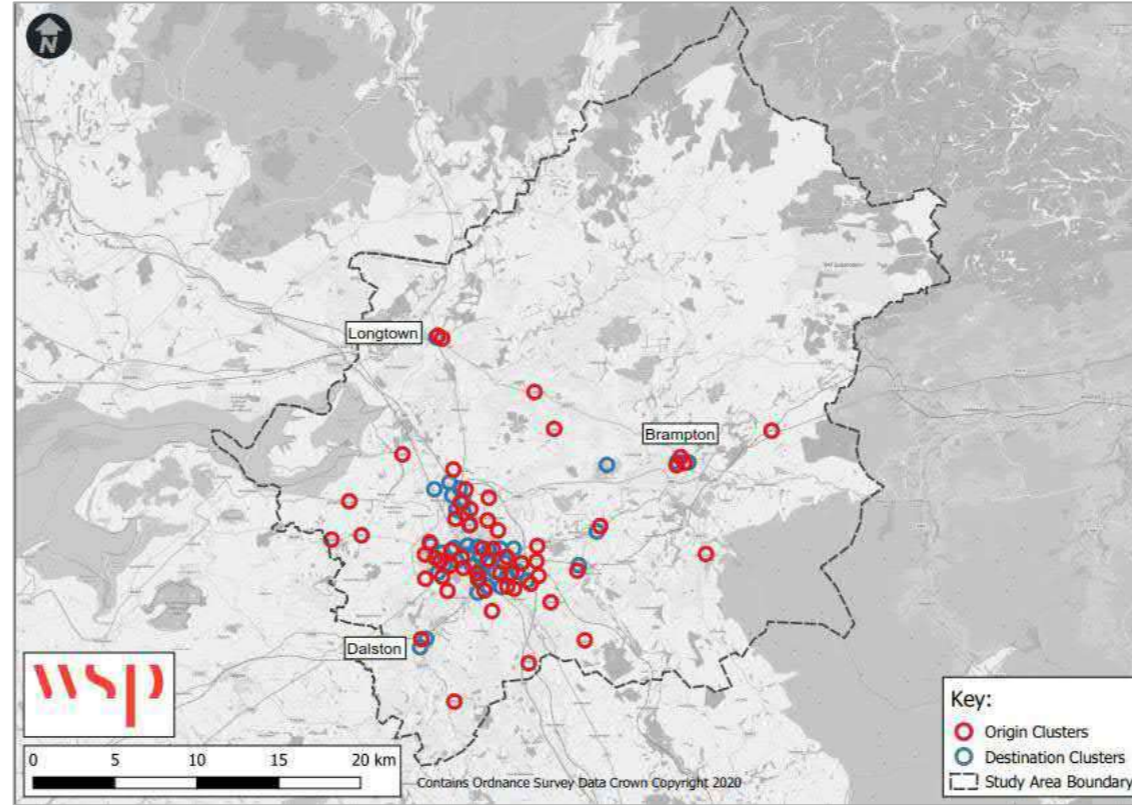
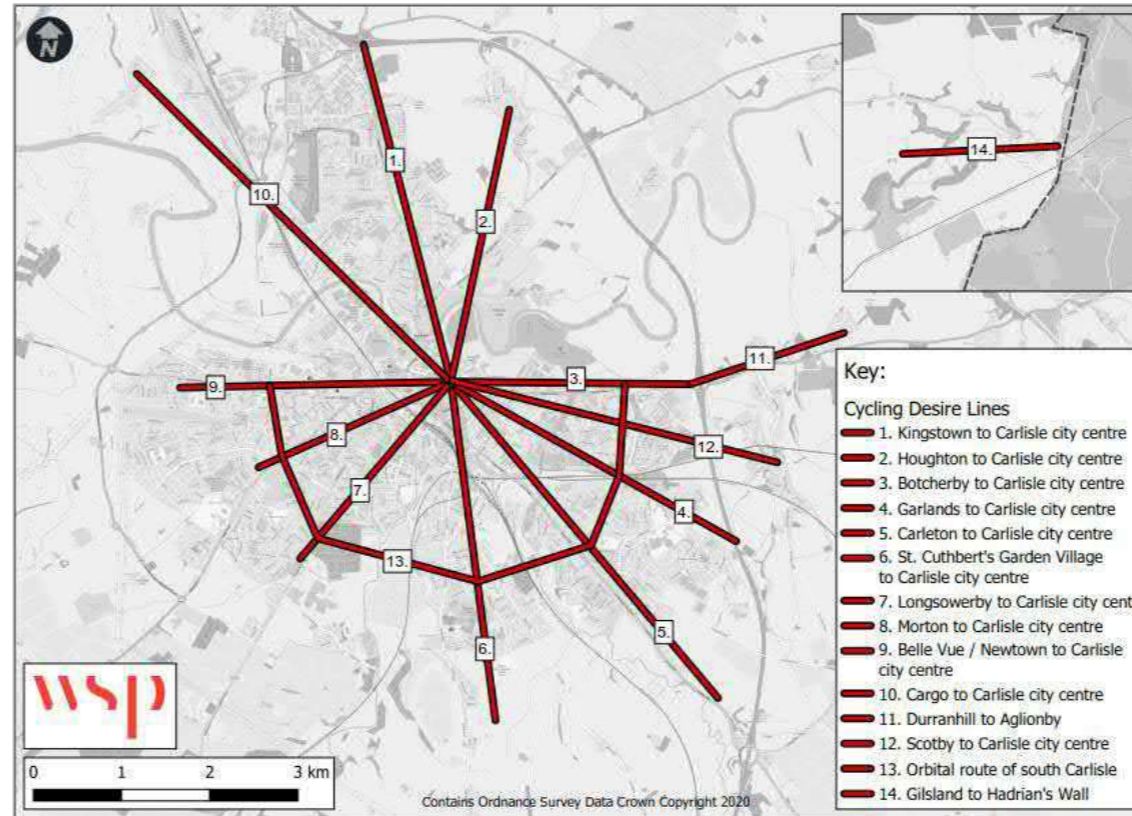


Figure 3.3: Agreed Desire Lines



3.4 ROUTE DEVELOPMENT PROCESS

3.4.1. Having determined the desire lines, the next stage of the process is to identify real routes that can accommodate these desire lines. This could be through appropriate schemes to upgrade existing roads or paths to the latest standards, or identifying opportunities to create new routes.

PRODUCING THE SUGGESTED CYCLE NETWORK

3.4.2. The first step in the process is to identify the potential routes that might support the cycling desire lines. Potential route alignments were plotted, following the desire lines as closely as possible. The routes selected take into account existing roads, paths and structures where these are available, but do not consider the type of infrastructure that might be required to bring these up to the required standard, nor the existing constraints that might preclude this.

3.4.3. Additional links were identified using the information gathered during the Stakeholder Workshop. Stakeholders identified schools, transport interchanges and large workplaces as some of the most important destinations which should be included within the cycle network. The draft network was refined and then agreed with the Project Delivery Group (additional details regarding the PDG can be found in Section 6..

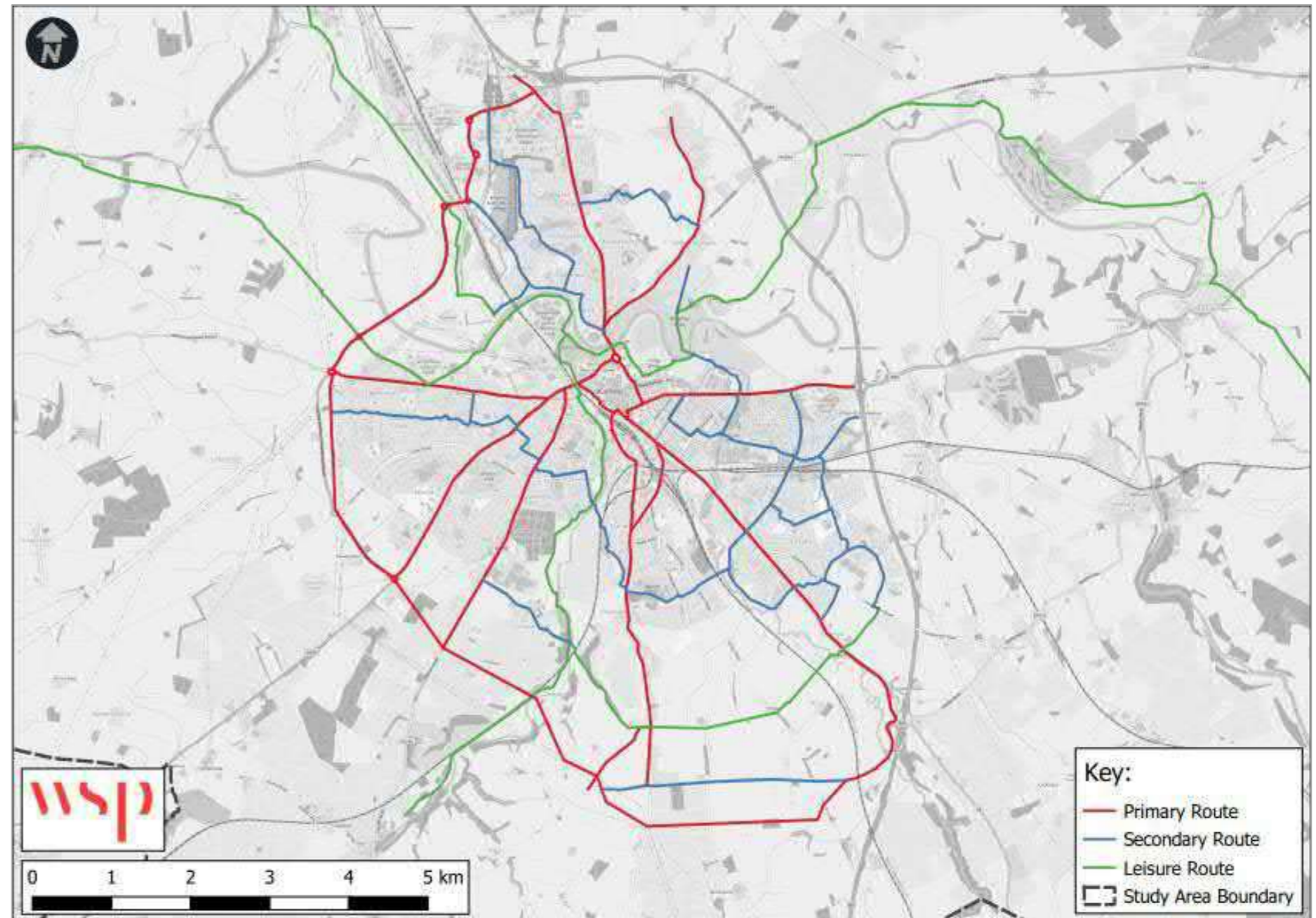
3.4.4. The importance of each link and route needs to be understood in terms of their overall significance in the network – this will largely relate to the numbers of cyclists that each will cater for in the future. The following hierarchy was therefore applied to the links in the network:

- Primary: The primary routes are generally those which align with the agreed desire lines, and are therefore most likely to attract the highest number of cyclists. These are supplemented by forecast flows from the PCT and Strava, as well as local knowledge;
- Secondary: Secondary routes are those with lower expected flows of cyclists, generally those links that connect to specific attractors such as schools, colleges and employment sites, or which add to the ‘mesh density’ of the overall network;
- Leisure: these are routes that do not align specifically with specific destinations, but are important routes in their own right for leisure purposes, which is a vital part of the Cumbrian economy.

3.4.5. This network is referred to as the ‘Suggested Cycle Network’, and is the basis of any further route identification work – both that presented here and any carried out as the LCWIP evolves. The routes displayed in the Suggested Cycle Network are those that cyclists would likely wish to use if the right infrastructure for the conditions could be provided, and should always be considered as the first option for any route alignment, with other options identified using the DfT’s Route Selection Tool (RST) or similar.

3.4.6. The resultant Suggested Cycle Network is shown in Figure 3.4, with a high resolution image included in Appendix A.

Figure 3.4. Carlisle Suggested Cycle Network Map

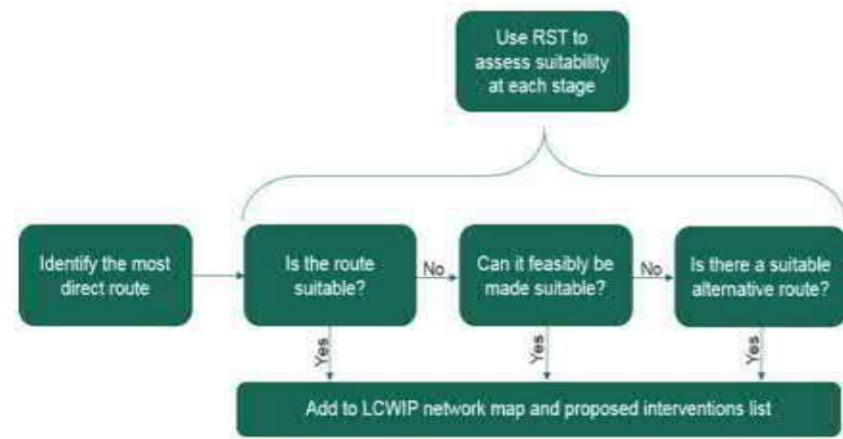


3.5 PRODUCING THE PRIORITY CYCLE NETWORK

3.5.1. Whilst the Suggested Cycle Network presents the basis for a network were money and acceptability of the associated proposals required no object, there is no surety that any of the routes can be delivered without additional consideration of the feasibility of each route.

3.5.2. The LCWIP guidance sets out the process that should be followed in order to determine whether a route can feasibly be made suitable for cycling (i.e. complies with the latest design standards) and therefore should be included in the final cycling network plan and prioritised programme of infrastructure improvements for future investment. This process is illustrated in Figure 3.5.

Figure 3.5. Route Selection Process



3.5.3. Ideally, the DfT’s Route Selection Tool (RST) should be used to assess the suitability of each route, identify the potential interventions required to make the route suitable, and consider alternative route choices where the route cannot be made suitable. However, this is a time consuming process, and to undertake this process fully for each route identified in the Carlisle suggested cycle network is not considered feasible.

3.5.4. Alternatively, CCC have initially engaged with key internal and external stakeholders in various forums, including officers and elected members, in order to agree a consensus on which routes may or may not be feasible. This engagement has been aligned with the approach outlined in the DfT’s Early Assessment and Sifting Tool (EAST), considering factors such as:

- Identified problems and objectives of the option;
- Degree of consensus over outcomes;
- Expected Value for Money (VfM) Category;
- Implementation timetable;
- Public acceptability;
- Practical feasibility;
- Affordability; and
- Where is funding coming from?

3.5.5. Each targeted stakeholder engagement session also considered whether a route could adequately meet the five core design principles: Coherent; Direct; Safe; Comfortable and Attractive. This high-level consideration is based on the criteria for each core design principle given in the RST, which include:

- Directness compared to likely alternative;
- Gradient of the route;
- Traffic volume and speed and the need to segregate;
- Connectivity of the route;
- The potential of the route to support high quality infrastructure; and
- The number of changes required to junctions along a route.

3.5.6. This initial sifting process resulted in the production of the Carlisle Priority Cycling Network, which was subsequently presented to the public as part of the first round of public consultation.

3.6 STAKEHOLDER ENGAGEMENT: CYCLING

- 3.6.1. Public consultation has played a key part of the development of the Carlisle LCWIP with the presentation of draft priority networks and improvements to seek feedback to inform the development of the LCWIP and ensure the plan has public support..
- 3.6.2. Public consultation took place in two distinct stages. These were:
- Stage 1: 7th May to 28th May 2021; and
 - Stage 2: 5th November to 26th November 2021.
- 3.6.3. The consultation reports following the respective consultation phases can be found at <https://cumbria.gov.uk/planning-environment/cyclingandwalking>
- 3.6.4. Stakeholder engagement has been undertaken throughout the development of the LCWIP with key stakeholders, primarily through the LCWIP Project Delivery Group (PDG) forum. Members of the PDG are detailed in Stage 6.
- STAGE 1 CONSULTATION**
- 3.6.5. The Stage 1 consultation included a survey to obtain feedback on the developing LCWIP and to understand where people would like to see improvements. This included the presentation of a 'Draft Priority Cycling Network' and a request for where improvements to walking should be made.
- 3.6.6. The questionnaire was split into the following sections:
- About the respondent and their links to the area.
 - Current travel behaviour (cycling and walking journeys and why these are undertaken).
 - Public opinion on the current active travel infrastructure provision in Carlisle.
 - Any barriers on active travel routes that may prevent cycling and walking.
 - Finding out what would encourage modal shift to cycling or walking for short journeys.
 - Open questions relating to St Cuthbert's Garden Village.
- 3.6.7. A total of 191 responses were received to the Carlisle LCWIP questionnaire during the consultation period.
- 3.6.8. These results were considered by CCC and key stakeholders in the ongoing process of refining the Priority Cycling Network map. Not only were new routes considered as a result of this, but feedback was spatially mapped and analysed where this related to a specific place and used as a criteria in the

subsequent prioritisation of schemes (presented in Section 5 of this document).

- 3.6.9. Note that analysis relating specifically to walking is described in Section 4.
- 3.6.10. The analysis of the consultation results found that:
- More respondents walk than cycle currently (91% of respondents walk at least occasionally compared to 75% of respondents cycling).
 - The majority of respondents feel that the existing walking routes and cycling routes connect with the places they wish to go to. However, this is less so for cycle routes compared with walking routes (42% disagree for cycling vs 22% for walking).
 - Two thirds of respondents consider that the draft priority cycling network plan either partially or fully connect with the places that people wish to cycle to.
 - Respondents were asked whether the routes shown in the draft priority cycle network plan connect with their desired destinations. The most frequent response was that safety needs to be improved on major routes into the city, such as London Road, Warwick Road, Eastern Way and Dalton Road (23 mentions). Additionally, several respondents feel that there is an opportunity to improve connectivity and provision for cyclists between Brampton and Carlisle (12 mentions), and to re-open the Waverly Line and Viaduct as a walking and cycling route (10 mentions).
 - Respondents were overwhelmingly supportive about the idea of more money being spent on cycling and walking in Carlisle (94% would like to see this).
 - The main obstacles to cycling were busy roads (82 respondents), quality of routes (71 respondents) and feeling unsafe (47 respondents). Encouragingly, terrain and geography were not considered to be a major barrier to cycling (5 people mentioning).
 - 79% of respondents currently make journeys by car to places that are within walking or cycling distance – most of these being for shopping trips (76 respondents mentioning).
 - Cycle routes separated from other modes of travel were seen as the most common measure that would encourage more cycling (93 respondents – 49% of all respondents).
 - There was some suggestion that 'carrot' type measures which incentivise sustainable travel were more likely to encourage sustainable behaviour than 'stick' type measures which seek to de-incentivise alternatives (raising costs for public transport and motoring were not mentioned

by many respondents as a means of encouraging walking and cycling).

- Improvements to cycling and walking routes would encourage respondents to walk and/or cycle more often than they do currently (all but 4 of the respondents stating they would either start walking or cycling or do so more often).
- 3.6.11. A 'You Said, We Did' summary of the consultation results was also produced and published as part of the leaflet that accompanied Stage 2 of the consultation. This summarised the most common themes and explained how these have been addressed in the development of the priority cycle network map between Stage 1 and Stage 2 of consultation.



STAGE 2 CONSULTATION

- 3.6.12. The Stage 2 consultation was a follow up to the Stage 1 consultation and offered a final opportunity to feedback on the proposals prior to finalising the Carlisle LCWIP.
- 3.6.13. The questionnaire asked questions targeted around specific themes, including:
- Gauging level of support for the Priority Network Plans (cycling and walking);
 - Whether the network and interventions proposed would encourage the respondent to use active modes more often;
 - Whether the respondent would support reduced space for cars to prioritise active modes; and
 - Inviting general comments on specific parts of the network.
- 3.6.14. A total of 147 responses were received to the Carlisle LCWIP Stage 2 consultation.
- 3.6.15. The analysis of the consultation results found that:
- 83% of respondents strongly agreed or agreed with the Priority Cycling Network Plan;
 - 71% of respondents felt that the Priority Cycling Network would encourage them to cycle more often;
 - 86% of respondents strongly agreed or agreed with the Walking Network Plan;
 - 30% preferred the Botchergate cycle route and 49% the Lancaster Street route option;
 - 95% of respondents said that they would support walking and cycling improvements even when this could mean less space for other road traffic.
- 3.6.16. A 'You Said, We Did' summary of the Stage 2 consultation results was also produced. The key themes responded to included:
- Connectivity;
 - Safety & Traffic;
 - Cycle Parking;
 - Continuous Routes; and
 - Behaviour Change.
- 3.6.17. No significant changes were made to the Priority Cycling Network Map as a result of the Stage 2 consultation.



3.7 FINAL PRIORITY CYCLING NETWORK PLAN

- 3.7.1. Following the two stages of public engagement and consultation, a **Priority Cycling Network Plan** was agreed and approved by the Carlisle LCWIP Project Delivery Group. This plan is presented in Figure 3.6, with a high resolution image included in Appendix A.
- 3.7.2. The **Priority Cycling Network** has been designed to prioritise connectivity for commuting and leisure, with the aim of increasing active travel in order to reduce car journeys and also to help address health inequality in Carlisle.
- 3.7.3. The network has been designed to prioritise connectivity into the city centre in order to increase active travel and reduce car journeys with Carlisle Station being a central cycle hub with provision of a new cycle parking facility, from which to access the city centre. The education cluster around Carlisle College and the secondary schools provides another important destination.
- 3.7.4. Another key influence on the routes selected for the priority network is access to employment, including the hospital, Kingmoor Park/ Kingstown and the city centre as significant locations of employment. In addition, connectivity from the St Cuthbert's Garden Village to the south is critical to the LCWIP given the importance of cycling and walking connectivity to realising the low carbon ambitions for the proposed new settlements.
- 3.7.5. The network presented provides key connections along or adjacent to the main routes into Carlisle, recognising that it is not possible to connect everywhere, the Plan focuses on the most important routes to secure funding for. The network provides a combination of cycling infrastructure along the main routes into the city as well as alternative routes using the river corridors and quieter roads to create an integrated walking and cycling network.
- 3.7.6. The combination of new cycling routes and improvements to existing routes, alongside existing provision, will provide a coherent, direct, safe, comfortable and attractive cycle network for Carlisle.
- 3.7.7. The routes have been developed taking into account updated guidance on Cycle Infrastructure Design. The new standards of design are much higher than in the past and look to include cycle provision that is physically protected from traffic, as well as the separation of pedestrians and cyclists on main routes.

- 3.7.8. The Priority Cycle Network provides an ambitious and comprehensive network for the area. It represents the strategic pieces of infrastructure required to bring forward a cohesive network that are likely to form the basis of future central government funding bids. However, the ambition of the LCWIP is not limited to this network.
- 3.7.9. The suggested cycle network indicates a much wider network of secondary routes (those of lower usage) that provides a greater 'mesh density' and ensures that people are always close to high quality cycle routes. These routes will be investigated in collaboration with delivery partners over the life of the LCWIP to consider additional links, such as connections through residential areas or direct connections into schools, hospitals, and other discreet locations. The routes could form the basis of a feasibility study into Low Traffic Neighbourhoods (LTNs) or highlight the location of school streets.
- 3.7.10. The priority network also does not preclude the implementation of smaller schemes that could be delivered through local funding pots or windfall opportunities like developer contributions, such as contraflows on one-way streets.
- 3.7.11. The LCWIP also recognises the importance of traffic calming and speed reduction schemes in creating conditions that could be suitable for mixed-traffic cycling, and will investigate opportunities to implement these where it could create new routes in accordance with LTN 1/20.

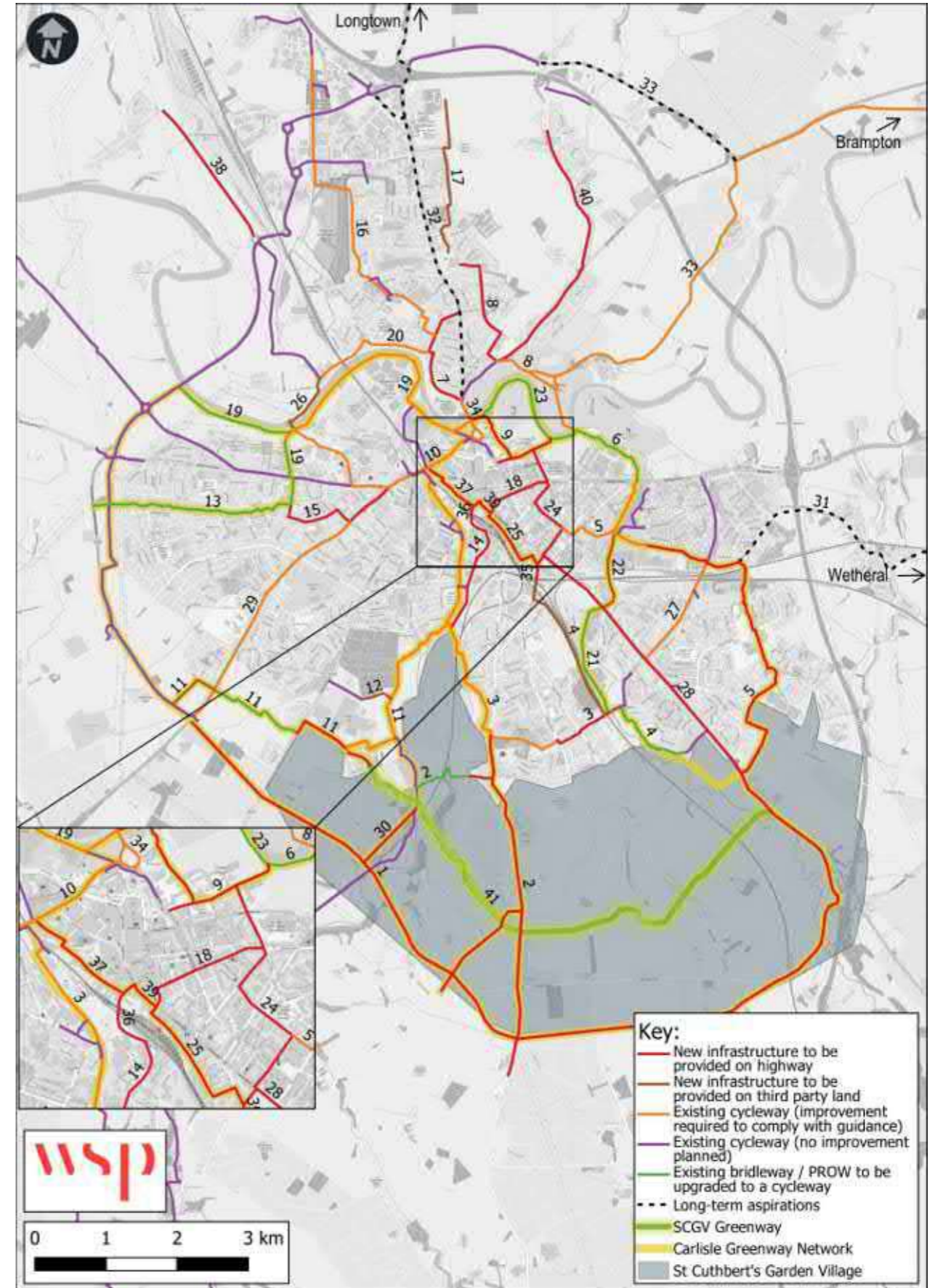
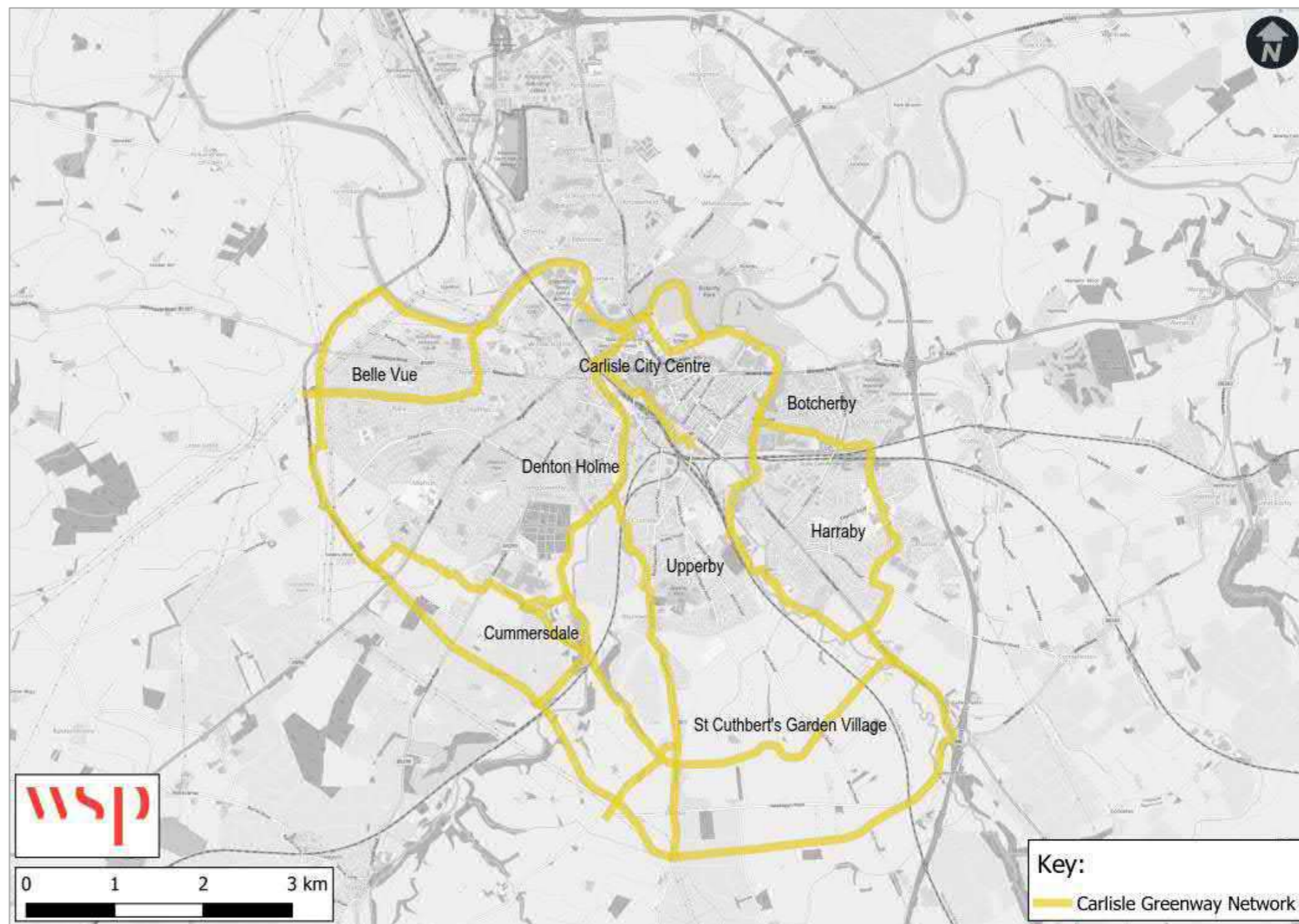


Figure 3.6. Priority Cycling Network Plan

CARLISLE GREENWAY NETWORK

- 3.7.12. Leisure and tourism is a crucial part of the Cumbrian economy, and accessing the Lake District by bike (and on foot) is part of a wider strategy to enhance access by sustainable transport to tourist locations. Additionally, encouraging local leisure trips via active modes can boost wellbeing as well as cyclist confidence, increasing the likelihood that these people will walk or cycle for everyday purposes. The LCWIP recognises this, providing not only the direct and segregated cycle infrastructure people need to make short trips within the urban area, but also a network of greenways and off-road routes that both complement the urban routes and allow people to make trips into the local environment. Combined with longer-distance routes provided by the National Cycle Network, the LCWIP Priority Network will offer routes suitable for every trip purpose.
- 3.7.13. Those routes specifically designated as part of this greenway network are highlighted in yellow on the Priority Cycling Network, and shown separately in Figure 3.7.

Figure 3.7. Carlisle Greenway Network



3.8 CYCLING IMPROVEMENTS

3.8.1. The Priority Network Plan has been subdivided into 38 routes. While it is the intention of the LCWIP to deliver the entirety of the network, this will be subject to the availability of suitable funding opportunities. This may result in phasing or combining the delivery of improvements where necessary.

3.8.2. Table 3.1 lists each of the priority improvements identified, detailing:

- Route description – explanation of the proposal;
- Route type – infrastructure type proposed; and
- Total Cost – estimated costs within a range.

IMPROVEMENT TYPES

3.8.3. It should be noted that the improvement descriptions and type provide an indication of the type of improvement that it may be possible to deliver on each route based on the opportunities and constraints present.

3.8.4. While broad agreement has been reached over the type of infrastructure that is likely to be required to deliver the Priority Cycle Network, the network is considered to be in the earliest stages of concept design and it is acknowledged that significantly more design, assessment, and engagement work is likely to be required to bring forward any of the proposed schemes.

3.8.5. The continuation of the design process will also include refinement of the associated costs, giving a much greater and detailed understanding of the overall cost of delivery of the network, as well as the likely future operational and maintenance costs.

3.8.6. The implementation of improvements are also subject to the securing of sufficient funding.

IMPROVEMENT COSTS

3.8.7. The cost estimates presented here are in the following ranges:

- £0-£1m;
- £1m-£3m;
- £3m-£5m; and
- £5m+

3.8.8. The ranges selected can give an indication of the method of funding that may be required in order to deliver an improvement in its entirety.

Total improvement costs

3.8.9. The overall cost of the delivery of the Priority Cycling Network for Carlisle is currently estimated at **£132.5 million** to deliver circa **100km of high quality cycle routes**.



Table 3.1. Cycling Improvements

ID	Potential Improvement	Improvement Description	Improvement Type	Total Cost Range
1	Carlisle Southern Link Road	A new link road to the south of Carlisle associated with St Cuthbert's Garden Village, incorporating cycling provision and providing a high quality southern orbital route. Also includes grade separated infrastructure at junctions.	New on-road segregated cycleway (permanent)	£5m+
2	St Cuthbert's Garden Village (Durdar to Blackwell)	Key connections between Currock and Upperby to the Garden Village. To include a fully segregated cycleway.	New on-road segregated cycleway (permanent)	£1m - £3m
3	Hammonds Pond to Castle Way	Improvements to the existing off-road route, as well as traffic calming measures where the route follows local streets. Likely to include improvements to side streets and minor priority junctions.	Upgrades to existing facilities (e.g. surfacing, signage, signals)	£0 - £1m
4	Carleton to Blackwell Road	Off-road greenway connection from Carleton and the Garden Village to the town centre via St Nicholas Bridge.	New off-road cycleway (e.g. greenway)	£1m - £3m
5	Carleton to Warwick Road	Connection from Carleton to Warwick Road via Melbourne Park. Forms an eastern orbital route and avoids the constrained Warwick Road corridor. Proposals would likely include a mixture of new provision including segregated cycleway where required, as well as traffic calming where mixed-traffic cycling is suitable.	New on-road segregated cycleway (trial temporary)	£1m - £3m
6	Warwick Road to Strand Road	Off-road greenway route between Warwick Road to Strand Road. Connects to Carlisle United and provides a key link to education facilities. May require minor bridges for pedestrians / cyclists.	New off-road cycleway (e.g. greenway)	£5m+
7	Knowefield Avenue to Cavendish Terrace	Residential connection avoiding Kingstown Road. To include traffic calming measures and improvements to crossing points.	New on-road segregated cycleway (permanent)	£1m - £3m
8	Morrison's to Hadrian's Cycleway & Strand Road	Residential connection via Lansdowne Crescent, Beech Grove and Rickerby Park, avoiding Kingstown Road. A mixture of segregated cycleway and upgrades to existing facilities.	New on-road segregated cycleway (permanent)	£1m - £3m
9	Sands Centre to Strand Road	A quiet alternative to Georgian Way / Hardwicke Circus Roundabout. Includes segregated cycleway and upgrades to existing cycleway.	New on-road segregated cycleway (permanent)	£0 - £1m
10	Castle Way	Connection from Hardwicke Circus to McVitie's. To include a segregated cycleway. This route includes a number of significant junctions that would likely need to alter to provide continuous and safe cycle infrastructure, including signal changes around Sainsburys, connections to town centre routes and roundabout junction with Wigton Rd.	New on-road segregated cycleway (permanent)	£5m+
11	Denton Holme to Cummersdale - Caldew River Cycleway NCN 7	Denton Holme to Cummersdale connection along the Caldew Cycleway NCN7. Improvements to the existing NCN route, such as segregation, widening and realignment as well as low-level lighting to create an LTN1/20 compliant route.	Upgrades to existing facilities (e.g. surfacing, signage, signals)	£1m - £3m
12	Dalston Road to Caldew Cycleway	A short connection from Dalston Road to the Caldew Cycleway NCN7.	New off-road cycleway (e.g. greenway)	£0 - £1m
13	Belle Vue to Engine Lonning	A quiet alternative to Newtown Road and Moorhouse Road. Connection alongside Parham Beck and through Heysham Park.	New off-road cycleway (e.g. greenway)	£3m - £5m

ID	Potential Improvement	Improvement Description	Improvement Type	Total Cost Range
14	Rome Street	Link from Currock to Carlisle Railway Station via Rome Street. On road route to include traffic calming measures.	New on-road segregated cycleway (permanent)	£0 - £1m
15	Heysham Park to City Centre	Link from Heysham Park to McVitie's via Creighton Avenue and Wigton Road. The link will likely include a mixture of segregated cycle facilities on Wigton Road and traffic calming measures along quieter streets to maintain conditions and provide continuity.	New on-road segregated cycleway (permanent)	£3m - £5m
16	Kingmoor Park to Etterby Lea Road	Quiet alternative to Kingstown Road, using a network of quieter streets and an existing cycleway. Upgrades to existing and traffic calming measures.	New on-road segregated cycleway (permanent)	£3m - £5m
17	California Lane to Morrison's	Quiet alternative to A7 Kingstown Road, using a network of quieter streets. Proposals likely to include a mix of off-road cycleway and quiet mixed-traffic streets where conditions are acceptable.	New on-road segregated cycleway (permanent)	£1m - £3m
18	Warwick Road - Lismore Street to Carlisle Railway Station	Connection from the city centre to educational facilities. To include a segregated cycleway. Major changes required to Lowther St junction. Also likely to require signalisation of Lismore Place to accommodate all movements. Minor changes to existing signals at Spencer St anticipated.	New on-road segregated cycleway (permanent)	£3m - £5m
19	Upgrade to NCN72 and City Centre Link	Upgrades to NCN72 on Newtown Road between McVitie's and Infirmary Street. Provides a quieter alternative via Infirmary Street, Willowholme and the Sheepmount. Also links to Route 26 Waverley Bridge. Likely to include a mix of provision, including a segregated cycleway, traffic calming and off-road cycleway.	Upgrades to existing facilities (e.g. surfacing, signage, signals)	£0 - £1m
20	Etterby Road / Scour	Upgrades to the existing on road cycleway. Likely to include traffic calming measures to maintain low traffic / speed conditions and provide continuity.	Upgrades to existing facilities (e.g. surfacing, signage, signals)	£0 - £1m
21	Hilltop Link	Off road link from Petrill Bank Road to London Road along the River Petrill. Likely to include resurfacing of existing route, potentially including new lighting.	New off-road cycleway (e.g. greenway)	£0 - £1m
22	London Road to Melbourne Park	Link from London Road to Melbourne Park. Would require widening of the existing narrow path.	New off-road cycleway (e.g. greenway)	£0 - £1m
23	Sands Centre to Strand Road via Catholic Lonning	Off road cycleway connecting the Sands Centre to Strand Road. Improvements to surfacing and widening where possible.	New off-road cycleway (e.g. greenway)	£0 - £1m
24	Education Cluster Connection (From London Road)	Connection to the education cluster from London Road via quieter streets. On road route to include improvements to the existing cycleway and traffic calming measures.	Upgrades to existing facilities (e.g. surfacing, signage, signals)	£0 - £1m
25	Carlisle Railway Station to London Road (Via Lancaster Street)	Link from Carlisle Railway Station using Lancaster Street, Albion Street, St Nicholas Street and Woodrouffe Terrace to access London Road. Combination of segregated cycleway and traffic calming measures, as well as new crossing points where necessary.	New on-road segregated cycleway (permanent)	£5m+
26	Waverley Bridge Crossing	Connection over the River Eden via the Waverley Viaduct. Also includes a new off road connection to Etterby Road.	New off-road cycleway (e.g. greenway)	£3m - £5m
27	Eastern Way (London Road to Durran Hill Road)	Improvements to the existing shared use path on Eastern Way. Proposals will ideally include upgrades and new infrastructure to create uni-directional facilities on either side of the carriageway, with priority at side streets and upgraded junctions to segregate cyclists.	New on-road segregated cycleway (permanent)	£3m - £5m

ID	Potential Improvement	Improvement Description	Improvement Type	Total Cost Range
28	London Road	Main direct route into the city centre from the south east. Scheme would likely include improvements to the existing cycleway and creation of a new segregated cycleway on both sides of the carriageway where possible. Scheme would likely include major changes to the junctions with Cumwhinton Rd, Eastern Way, and at the Retail Park. There is also a presumption that a number of side streets may require signalisation to allow access to the route from all directions.	New on-road segregated cycleway (permanent)	£5m+
29	Wigton Road	Main direct route into the city centre from the south west. Proposals would likely include improvements to the existing cycleway and creation of a new segregated cycleway where necessary. It is assumed that a number of signalised junctions will need to change significantly to accommodate segregated cycle infrastructure, as well as changes to incorporate cycle priority over numerous side streets.	Upgrades to existing facilities (e.g. surfacing, signage, signals)	£5m+
30	Carlisle Southern Link Road - NCN Link	Cycling link from the CSLR onto the existing NCN Route 7.	New off-road cycleway (e.g. greenway)	£0 - £1m
31	Carlisle to Wetheral	Aspirational link to Scotby and Wetheral, subject to further feasibility. Route may require third party land, new junctions and / or structures to overcome physical constraints.	New on-road segregated cycleway (permanent)	£5m+
32	Carlisle to Longtown via A7	Aspirational link to Longtown, subject to further feasibility. This routes would require major changes to a high number of existing signalised junctions to accommodate cyclists, and may need new structures at the M6 and northwards along the A7 to overcome significant pinch points. Expected to be a very high cost major scheme and likely delivered in phases.	New on-road segregated cycleway (permanent)	£5m+
33	Carlisle to Brampton	Currently via the NCN. Feasibility work is ongoing. Also incorporates a longer term aspiration for a northern orbital link to Kingstown, dependent on further feasibility work.	New on-road segregated cycleway (permanent)	£5m+
34	Eden Bridge	Improvements to the existing shared use route to provide full segregation where possible.	Upgrades to existing facilities (e.g. surfacing, signage, signals)	£0 - £1m
35	St Nicholas Bridge	Provision of uni-directional segregated facilities over St Nicholas Bridge	New on-road segregated cycleway (permanent)	£0 - £1m
36	Victoria Viaduct	Link from James Street to the Victoria Viaduct via Water Street. To include a new access point to Carlisle Station. May require changes to Nelson Bridge / James St junction	Upgrades to existing facilities (e.g. surfacing, signage, signals)	£1m - £3m
37	West Walls	Victoria Viaduct to Annetwell Street and Castle Way via West Walls. Likely to include traffic calming measure to maintain conditions suitable for mixed-traffic cycling. Likely to also include public realm.	Upgrades to existing facilities (e.g. surfacing, signage, signals)	£0 - £1m
38	Cargo Cycleway	Cycleway on the C1016 Cargo straight from Cargo junction connecting to the Stainton roundabout of the A689.	New on-road segregated cycleway (permanent)	£1m - £3m
39	English Street	A new segregated route to connect multiple routes through the town centre. May require alterations to signals with Botchergate and junction with Devonshire St / Victoria Viaduct.	New on-road segregated cycleway (permanent)	£1m - £3m
40	Houghton Strategic Connection	Proposed Route from Carlisle city centre to Houghton, likely seeking to convert existing verge and create a shared use route where pedestrian flows are very low.	New on-road segregated cycleway (permanent)	£1m - £3m

ID	Potential Improvement	Improvement Description	Improvement Type	Total Cost Range
41	SCGV Greenway	A new multi-user path through the heart of the SCGV, providing key orbital connectivity across the south of Carlisle.	New off-road cycleway (e.g. greenway)	£5m+

3.9 ESTABLISHING CYCLING INFRASTRUCTURE IMPROVEMENT

- 3.9.1. The Priority Cycle Network broadly identifies the types of improvements that could be implemented. These have been considered in accordance with Local Transport Note (LTN) 1/20: Cycle Infrastructure Design, which represents a significant national shift in how cyclists are perceived and provided for.
- 3.9.2. LTN 1/20 is based around five overarching design principles and 22 summary principles that encompass the essential requirements to achieve more people travelling by foot or cycle for more of their trips.
- 3.9.3. The five core design principles are that cycle routes and networks must be:
 - Coherent;
 - Direct;
 - Safe;
 - Comfortable; and
 - Attractive.
- 3.9.4. The principles are based on international and UK best practice and address the factors that determine whether people choose to cycle for a range of trip purposes.
- 3.9.5. LTN 1/20 sets out an overarching preference for segregation for cyclists from other users, recognising that bicycles have very different requirements from both motor vehicles and pedestrians. The determination of how this segregation is achieved considers factors such as traffic volume and speed, as well as the character of the street.
- 3.9.6. The improvements included within the LCWIP could include:

NEW ON-HIGHWAY SEGREGATED CYCLEWAY

Segregated Cycleway

- 3.9.7. A fully segregated cycle track usually runs at carriageway level, with a buffer between the track and the carriageway as well as the footway. The route may be next to, or sometimes completely away from the carriageway. A fully segregated track will generally offer the greatest level of service for cyclists, although they are also the most expensive option and can require significant changes to the highway to incorporate.

Figure 3.8. Segregated cycleway (carriageway height)



Stepped Cycle Track

- 3.9.8. Stepped cycle tracks run at an intermediate height between the carriageway and the footway, directly adjacent to the carriageway. Although more space efficient than a fully segregated cycleway, a stepped cycle track does not offer the same level of safety and are therefore unsuitable for high speed roads.

Figure 3.9. Stepped cycle track (intermediate height)



NEW OFF-ROAD CYCLEWAY (GREENWAYS, RURAL ROUTES)

Shared use path

- 3.9.9. A footway converted to legally permit cycling. Can also refer to other places where cyclists and pedestrians are unsegregated, such as a bridleway or Vehicle Restricted Area. Shared use paths are generally unsuitable except where pedestrian flows are very low, as they can result in actual and perceived safety issues for both users. They are therefore most suitable for greenways, PROWs which permit cycling, or rural connections with few people on foot.

Figure 3.10. Greenway (segregated cycle / pedestrian facilities)



UPGRADES TO EXISTING FACILITIES

Light segregation

- 3.9.10. Vertical infrastructure that can be placed within existing traffic lanes (including cycle lanes) to convert them to protected space. They are easy to install and comparatively cheap, and can be used to trial a new cycle path. Cyclists can leave the path easily but vehicles are prevented from entering. However, light segregation provides only limited protection from motor traffic, with other solutions providing a greater feeling of safety.

Contraflow cycle route

- 3.9.11. Contraflow cycle lanes are an easy and low-cost way of increasing an area's permeability to cycles, by permitting cycling on one-way streets. Contraflow lanes can take the form of physical segregation such as stepped cycle tracks, wands, planters or parking protected, or can be unsegregated.

Modal filter / Low Traffic Neighbourhood

- 3.9.12. Removing through traffic can enable cycling in mixed traffic streets by lowering traffic volumes. Encouraging traffic to use main roads can provide benefits for pedestrians and residents as well as enabling cycling. A modal filter typically consists of a bollard, planter, or other barrier that allows pedestrians, cyclists, and occasionally public transport to pass, but not other motor traffic. Low traffic neighbourhoods (LTNs) often deploy modal filters to reduce the volume of motor traffic through an area.

Figure 3.11. Modal filter / LTN



20mph limits/zones and traffic calming

- 3.9.13. Traffic calming includes features that physically or psychologically slow traffic. 20mph limits refers to 20mph

areas enforced by signs only. 20mph zones refers to 20mph enforced by signs and traffic calming.

NEW ROAD CROSSINGS

Continuous footway/cycleway crossing

- 3.9.14. A method of giving people walking and cycling priority over motor vehicle movements at side junctions. The footway and / or cycleway material continues across the junction, giving a strong visual priority. There are a number of different ways to achieve this depending on the characteristics of the location.

Parallel / Tiger crossing

- 3.9.15. A parallel crossing is similar to a traditional zebra crossing, but with a cycle crossing provided alongside. Drivers must give way to cyclists and pedestrians using the crossing. As with traditional zebra crossings, parallel crossings can be divided into two parts with a central refuge to improve the ease of use.

Figure 3.12. Parallel 'Tiger' crossing



Signalised Parallel / Toucan Crossing

- 3.9.16. Signal controlled cycle facilities hold the flow of general traffic to allow cyclists to cross the carriageway. These are usually appropriate where vehicle flows, and speeds are higher. Toucan crossings should be avoided and only used where it is necessary to provide a shared facility. Instead dedicated cycle crossings should be used, and a pedestrian crossing used alongside if necessary

NEW JUNCTIONS

- 3.9.17. Providing separation between conflicting streams of traffic (including pedestrians and cyclists) is essential to improve road safety as junctions are where most conflicts occur. Junctions are often the most hazardous and intimidating parts of a journey for cyclists, and a junction that does not provide safe facilities may be the reason people will not use the remainder of the route.

Cyclops Junction

- 3.9.18. The best UK example of segregated junctions are Manchester's CYCLOPS junctions (Cycle Optimised Protected Signals). CYCLOPS junctions are equipped with cycle tracks on each arm of the junction, with signalised pedestrian crossings provided inside the cycle track.

Figure 3.13. CYCLOPS signalised junction



'Dutch' Roundabout

- 3.9.19. Segregated roundabouts use parallel crossings on each arm of the roundabout to separate pedestrians, cyclists, and vehicles. On entering the roundabout vehicles must give way to pedestrians and cyclists circulating the roundabout. These roundabouts can take on two forms: 'Dutch style' roundabouts with a tight junction geometry lowering vehicle entry/exit speeds and improving their line of sight, and parallel crossing points on traditional roundabouts.

Figure 3.14. ‘Dutch’ Roundabout (Cambridge)



PROVISION OF SECURE CYCLE PARKING FACILITIES

Cycle Stands and Hubs

Cycle parking should be carefully considered against the type of expected user, the duration of their stay, and the need for enhanced security. While Sheffield stands can be sufficient for short stay parking needs, such as local shops or in the town centre, it will seldom meet the needs of longer stay commuters, who will require facilities that are at least covered and well overlooked, if not fully secure lockable facilities. High quality cycle hubs should be considered at strategic locations, such as schools or transport interchanges.

Figure 3.15. Secure cycle hub (Manchester)



4 STAGE 4: NETWORK PLANNING FOR WALKING

4.1 INTRODUCTION

4.1.1. Most roads in Carlisle have footways for people walking, with minimum footway provision having been a core part of design guidance and scheme delivery for many decades. However, there is still a need to continuously improve conditions for walking, including footway provision where it does not currently exist, helping to unlock increased walking rates within Carlisle.

4.1.2. As set out in this section, key improvements for walking have been identified within the core town centre areas, which are recognised to be in need of investment and regeneration.

4.2 CURRENT & FUTURE ORIGINS AND DESTINATIONS

4.2.1. The LCWIP Technical Guidance notes that identifying demand for a planned walking network should start by mapping the main origin and destination points. Origins and destinations were identified are shown in Figure 4.1 below.

4.3 IDENTIFYING CORE WALKING ZONES

4.3.1. The next stage of the LCWIP process is to identify Core Walking Zones (CWZs), normally consisting of walking trip generators that are located close together – such as town centres or business parks. An approximate five minute walking distance of 400m is used as a guide to the minimum extents of the Core Walking Zones.

Table 4.1. Carlisle CWZs

ID	Name
1	Carlisle City Centre
2	Kingstown Industrial Estate
3	Newtown Industrial Estate
4	Rosehill Industrial Estate
5	Upperby
6	Carleton
7	Cummersdale

8	Scotby
9	Wetheral
10	Great Corby
11	Warwick Bridge / Little Corby
12	Dalston
13	Brampton
14	Longtown

4.3.2. Fourteen CWZs were identified in Carlisle through a process of GIS analysis and stakeholder engagement. These are shown in Table 4.1, and displayed spatially in Figure 4.2.

4.3.3. Following the identification of the CWZs, key walking routes to each zone were then identified by mapping a 2km isochrone from the centroid of each CWZ, considered to be the maximum desirable walking distance from the CWZs

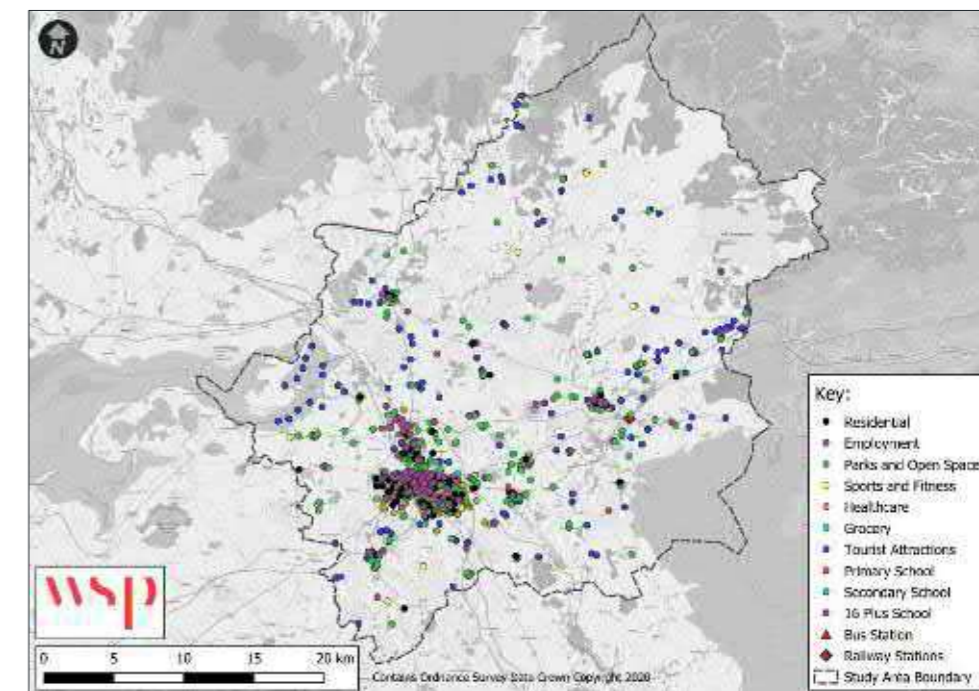


Figure 4.1. Carlisle OD Map

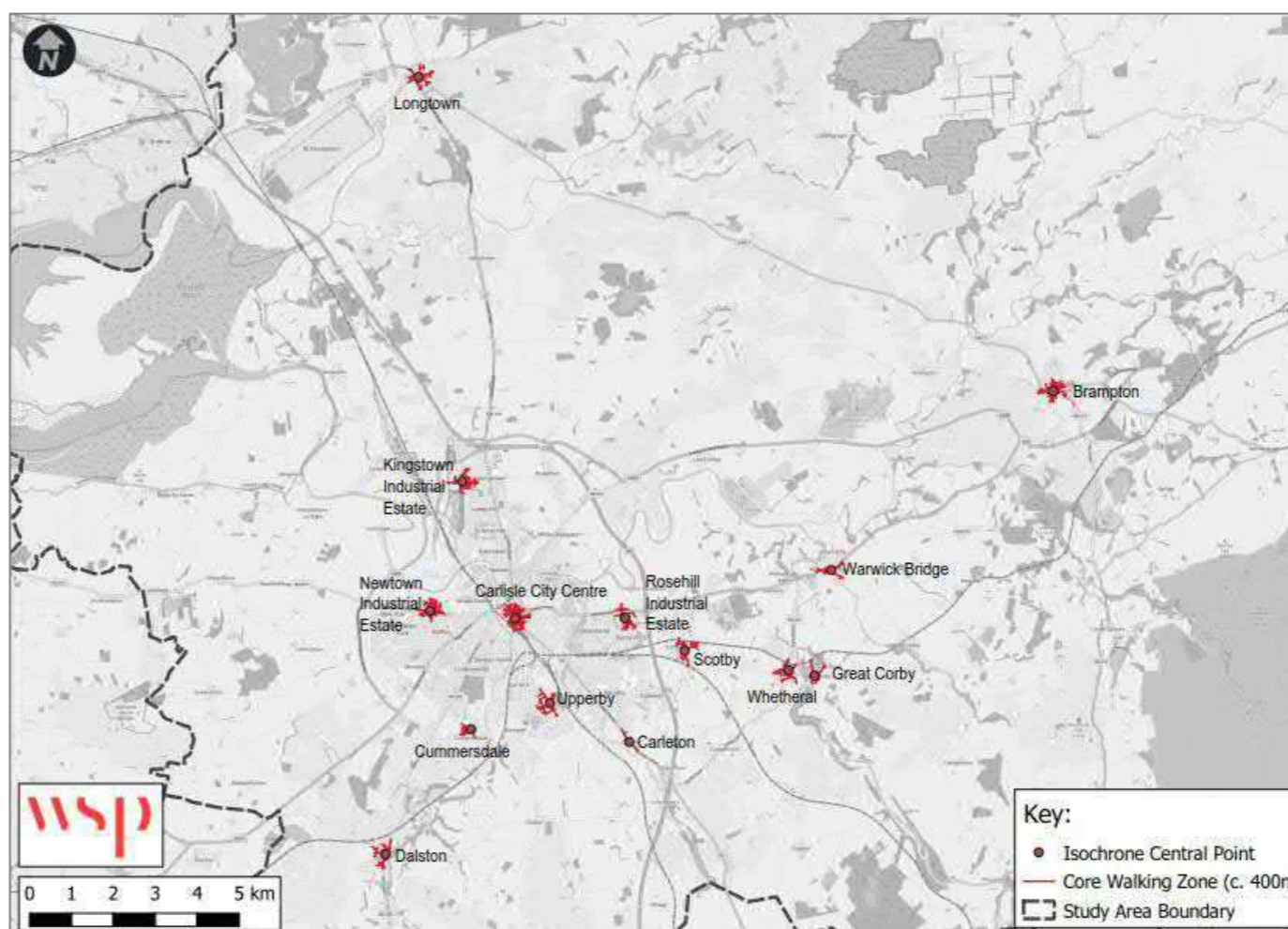


Figure 4.2. Carlisle CWZ Map

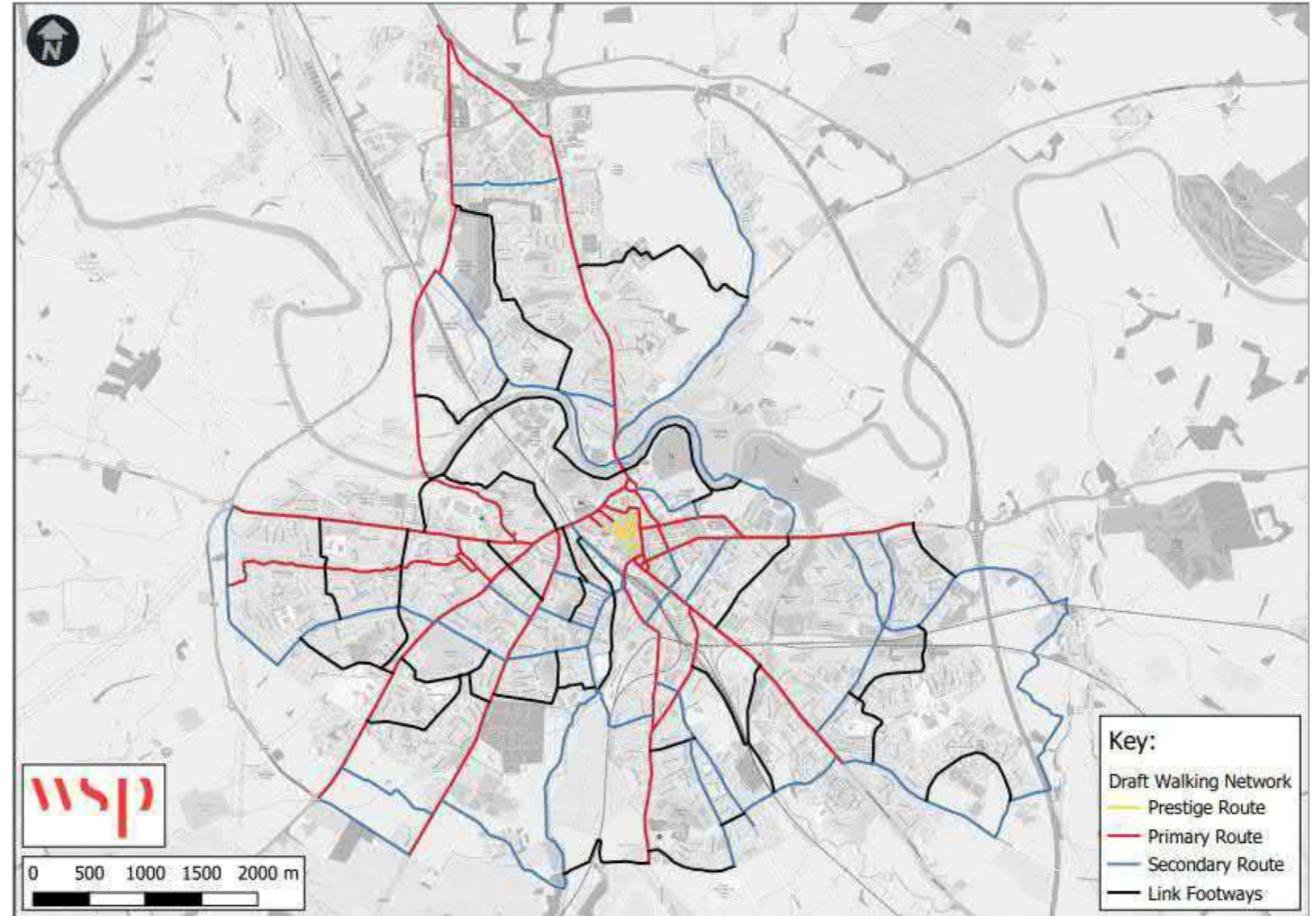
4.4 PRODUCING THE DRAFT WALKING NETWORK

- 4.4.1. The routes that could serve the CWZs, as identified by the 2km walking isochrones, must then be rationalised to produce a walking network map.
- 4.4.2. The first step to doing so is to map out the main walking routes, which are those routes identified by the 2km isochrones that most closely follow the desire lines identified through the development of the cycling network, as presented in Section 3. These routes often overlap as a single street can serve multiple CWZs, creating longer corridors used for multiple trip purposes.
- 4.4.3. The next step is to identify those additional routes that can support the main routes and provide a comprehensive network. Given the subtle choices that lead to people determining where to walk and the freedom offered to pedestrians in comparison with vehicles, the determination of these lesser-used routes is done in conjunction with stakeholders and supplemented by local knowledge.
- 4.4.4. Additional links were therefore identified using the information gathered during the Stakeholder Workshop. Stakeholders identified schools, transport interchanges and large workplaces as some of the most important destinations which should be included within the walking network. The **Draft Walking Network** was refined and then agreed with the Project Delivery Group.
- 4.4.5. The importance of each link and route needs to be understood in terms of their overall significance in the network – this will largely relate to the numbers of pedestrians that each will cater for in the future. The following hierarchy was therefore applied to the links in the network:
- Prestige Walking Routes: Very busy areas of towns and cities, with high public space and street scene contribution;
 - Primary Walking Routes: Busy urban shopping and business areas, and main pedestrian routes;
 - Secondary Walking Routes: Medium usage routes through local areas feeding into primary routes, local shopping centres, etc;
 - Link Footways: Linking local access footways through urban areas and busy rural footways.
- 4.4.6. Additionally, a ‘town centre core is identified’; this is defined as a broad area where the number of existing and aspirational

ODs indicate a requirement for such a level of permeability that identifying a single route is not practicable.

- 4.4.7. The resultant draft Walking Network Map is shown in Figure 4.3, with a high resolution image included in Appendix A.

Figure 4.3. Draft Walking Network Map



4.5 IDENTIFYING WALKING PRIORITIES

4.5.1. The entirety of the draft Walking Network Map should ideally be audited to identify where improvements might be required in order to enable more people to walk to where they want to go. However, given the size and complexity of the draft network, this would be a significant undertaking and therefore priority routes need to be identified in the first instance.

4.5.2. Initially, a prioritisation exercise has been undertaken in order to identify which routes should be immediately considered for potential improvements. The fourteen CWZs were assessed against a number of criteria, under the headings of:

- Effectiveness;
- Policy;
- Economic; and
- Deliverability.

4.5.3. The CWZs were ranked as:

- 1: Carlisle City Centre CWZ
- 2: Brampton CWZ
- 2: Upperby CWZ
- 4: Newton Industrial Estate CWZ
- 4: Longtown CWZ
- 6: Cummersdale CWZ
- 7: Wetheral CWZ
- 8: Dalston CWZ
- 9: Rosehill Industrial Estate CWZ
- 10: Carleton CWZ
- 11: Great Corby CWZ
- 12: Warwick Bridge / Little Corby CWZ
- 13: Kingstown Industrial Estate CWZ
- 14: Scotby CWZ

4.5.4. The Primary Walking Routes leading to Carlisle CWZ were then identified from the draft Walking Network Map. These routes are identified as:

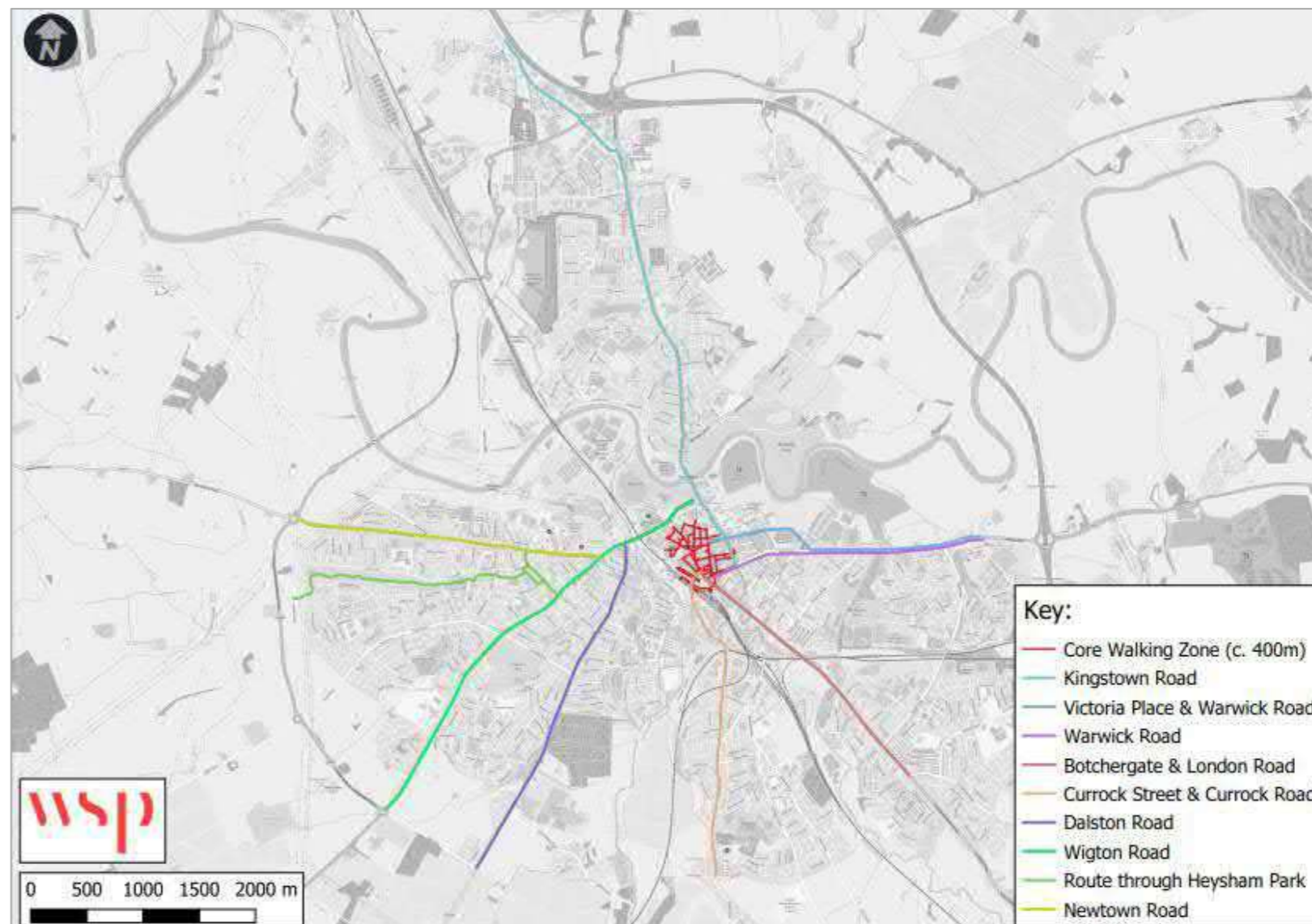
Ref	Corridor
1	Kingstown Road
2	Victoria Place & Warwick Road
3	Warwick Road
4	Botchergate & London Road
5	Currock Street & Currock Road
6	Dalston Road

7	Wigton Road
8	Route through Heysham Park
9	Newtown Road

4.5.5. The **Carlisle Priority Walking Network Map** therefore consists of the Carlisle City Centre CWZ and the nine Primary Walking Routes identified above; this is illustrated in Figure 4.4, with a high resolution image included in Appendix A.

4.5.6. Note that all the routes promoted in the priority cycling network will also include enhancements for pedestrians where practicable, improving conditions for all active modes. This is particularly the case in regards to the 'greenway network' (see Section 3.7), which promotes an active travel network primarily focussed on leisure trips on foot and by bike.

Figure 4.4. Priority Walking Map



4.6 AUDITING KEY WALKING ROUTES AND CORE WALKING ZONES

4.6.1. The next step in the process is to audit the existing walking infrastructure to determine where improvements are needed. Route audits were carried out using the principles of the DfT Walking Route Audit Tool (WRAT). The auditing methodology focuses on five core design outcomes for walking infrastructure:

- Attractiveness;
- Comfort;
- Directness;
- Safety; and
- Coherence.

4.6.2. The assessment particularly considers the needs of vulnerable users who may be elderly, visually impaired, mobility impaired, hearing impaired, with learning difficulties, buggy users, or children in order to ensure that any proposed schemes comply with the Equality Act 2010.

4.6.3. The audit process assigned a 'Red, Amber, Green' (RAG) rating to each of the five core design outcomes, identifying where issues were present, and therefore what intervention might be required to overcome these.

4.6.4. At this early stage in the design process, the proposals identified sit within a package of 13 typical improvements. Where necessary, some bespoke additions have been made, particularly where audited routes fall within other committed or aspirational schemes (e.g. St Cuthbert's Garden Village).

4.6.5. These typical interventions are:

- Attractiveness:
 - Maintenance;
 - Increase surveillance; and
 - Place-based interventions (greening, streetscape, seating etc).
- Comfort
 - Footway widening; and
 - Parking controls.
- Directness
 - New crossing point on desire line;
 - Improve Junction (widen refuge, improved timings, fewer refuges); and

- New access point to buildings / car parks.

- Safety

- Speed reduction scheme.

- Coherence

- Drop kerb;
- Reduced radii;
- Blended footway; and
- Wayfinding.

4.6.6. The results of the audits have been mapped out on a route by route basis (including the Core Walking Zone). A summary of the overall package of interventions (the 'scheme') for each route is provided for the purpose of engagement with key stakeholders and the general public.

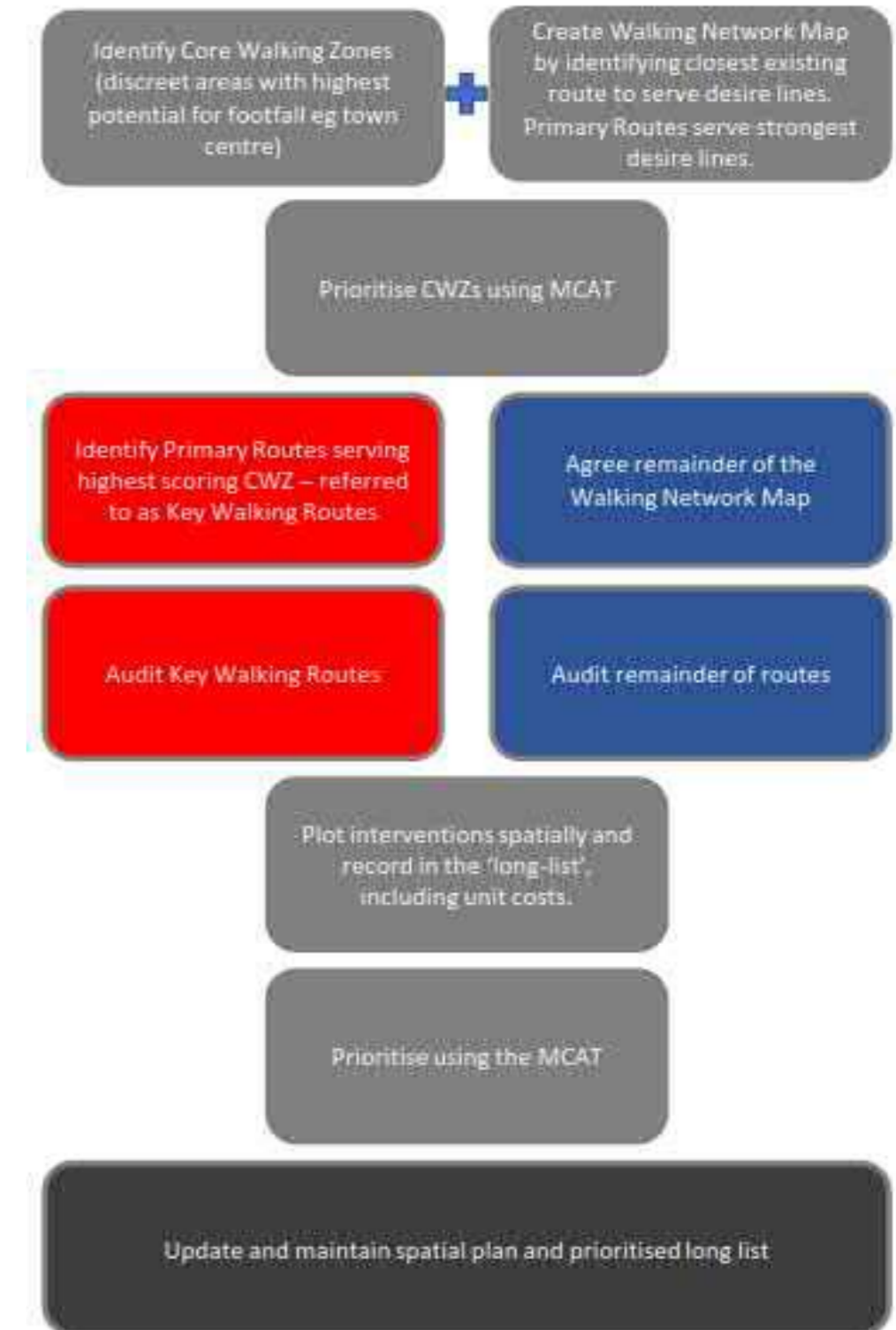
4.6.7. It should be noted that at this stage in the design process (early Concept), these are very high level recommendations which require significantly more detail in order to determine the feasibility of the various discreet elements.

4.7 AUDITING OF ADDITIONAL ROUTES

4.7.1. At this stage in the LCWIP process the Priority Walking Network is considerably reduced in comparison with the draft Walking Network. Going forward, a more comprehensive long term audit process is anticipated to occur in conjunction with additional stakeholder input which will cover significantly more of the wider draft Walking Network Map.

4.7.2. Figure 4.5 illustrates the proposed process that will be followed in order to cover the entirety of the Walking Network. The stages highlighted in red are those presented in this LCWIP document, covering the Primary Walking Routes associated with the highest priority Core Walking Zone. The stages highlighted in blue are those that will need to be undertaken throughout the lifetime of the LCWIP, auditing and determining appropriate improvements for the remainder of the routes identified in the Walking Network Map.

Figure 4.5. Walking Network Map audit process



4.8 STAKEHOLDER ENGAGEMENT: WALKING

- 4.8.1. Public consultation has played a key part of the development of the Carlisle LCWIP with the presentation of draft priority networks and improvements to seek feedback to inform the development of the LCWIP and ensure the plan has public support..
- 4.8.2. Public consultation took place in two distinct stages. These were:
- Stage 1: 7th May to 28th May 2021; and
 - Stage 2: 5th November to 26th November 2021.
- 4.8.3. The consultation reports following the respective consultation phases can be found at <https://cumbria.gov.uk/planning-environment/cyclingandwalking>
- 4.8.4. Stakeholder engagement has been undertaken throughout the development of the LCWIP with key stakeholders, primarily through the LCWIP Project Delivery Group (PDG) forum. Members of the PDG are detailed in Stage 6.

STAGE 1 CONSULTATION

- 4.8.5. The Stage 1 consultation included a survey aimed at getting feedback on the developing LCWIP and to understand where people want to see improvements.
- 4.8.6. A total of 191 responses were received to the Carlisle questionnaire during the consultation period.
- 4.8.7. These results were considered by CCC and key stakeholders in the ongoing process of developing the **Priority Walking Network Map**. Feedback was spatially mapped and analysed where this related to a specific place, and used as a criteria in the prioritisation of the CWZs (as described in Section 4.5), as well as in the prioritisation of schemes (presented in Section 5 of this document).
- 4.8.8. The analysis of the consultation results found that:
- When respondents were asked whether existing walking routes connect with their desired destinations, several expressed a need to segregate walking, cycling, and motorised users with pedestrians prioritised (6 respondents). Other recurring themes were that additional pedestrian priority is needed at crossing points (5 responses), and that there are many sections of road that would benefit from having a footway (5 responses).
 - The main obstacles to walking were busy roads (68 respondents), quality of routes (52 respondents) and

difficult junctions to cross (41 respondents). As above, terrain and geography were not considered to be a major barrier to walking (15 people mentioning).

- Better maintained pavements and footways were seen as the most common measure that would encourage more walking (72 respondents).
- 4.8.9. A 'You Said, We Did' summary of the consultation results was also produced, and published as part of the leaflet that accompanied Stage 2 of the consultation. This summarised the most common themes, and explained how these have been addressed in the development of the **Priority Walking Network Map** between Stage 1 and Stage 2 of consultation.

STAGE 2 CONSULTATION

- 4.8.10. The Stage 2 consultation was a follow up to the Stage 1 consultation and offered a final opportunity to feedback on the proposals prior to finalising the Carlisle LCWIP.
- 4.8.11. The questionnaire asked questions targeted around specific themes, including:
- Gauging level of support for the Priority Network Plans (cycling and walking)
 - Whether the network and interventions proposed would encourage the respondent to use active modes more often;
 - Whether the respondent would support reduced space for cars to prioritise active modes; and
 - Inviting general comments on specific parts of the network.
- 4.8.12. A total of 147 responses were received to the Carlisle LCWIP Stage 2 consultation.
- 4.8.13. The analysis of the consultation results found that:
- 65% of respondents strongly agreed or agreed with the Priority Walking Map;
 - 53% of respondents felt that the Priority Walking Map would encourage them to cycle more often;
 - 69% of respondents said that they would support walking and cycling improvements even when this could mean less space for other road traffic.
- 4.8.14. A 'You Said, We Did' summary of the consultation results was also produced in regards to Stage 2.
- 4.8.15. The Stage 2 consultation confirmed support for the networks presented and therefore, no significant changes were made to the Priority Walking Map as a result of the Stage 2 consultation.

4.9 WALKING IMPROVEMENTS

- 4.9.1. Following the audits of the priority Core Walking Zone and Primary Walking Routes, high level summaries of the scheme packages proposed for each zone / route were prepared for stage 2 of the public consultation. The outputs of Stage 2 have then refined these scheme packages.
- 4.9.2. The summary of improvements determined for each Primary Walking Route and for the Core Walking Zone is presented in Table 4.1. The table also includes the associated RAG rating determined through the audit process which has led to the identification of the improvements, as well as estimated cost ranges.

SCHEME DESCRIPTION

- 4.9.1. It should be noted that the scheme descriptions provide an indication of the type of improvement that it may be possible to deliver on each route based on the opportunities and constraints present. However, this is subject to further design work, engagement, and consultation to determine the best improvement that can be delivered in each location.
- 4.9.2. The implementation of improvements are also subject to the securing of sufficient funding.

IMPROVEMENT COSTS

- 4.9.3. The cost estimates presented here are in the following ranges:
- £0-£1m;
 - £1m-£3m;
 - £3m-£5m; and
 - £5m+
- 4.9.4. The ranges selected can give an indication of the method of funding that may be required in order to deliver an improvement in its entirety.

Total improvement costs

- 4.9.5. The overall cost of the delivery of the Priority Walking Network for Carlisle is currently estimated at **£5.5 million to improve circa 30km of high quality walking routes**. Approximately 15.5km of this will be delivered alongside the Priority Cycling Network at a cost of circa £2 million.

Table 4.1. Walking Improvements

ID	Route Assessment (RAG Rating)					Scheme Description	Cost Range
	Attractiveness	Comfort	Directness	Safety	Coherence		
WR1 Kingstown Road						<p>Introduce more crossing points between the east and west side of Kingstown Road.</p> <p>Improve junctions along Kingstown Road.</p> <p>Widen pavement to make it consistent throughout the route, particularly at the north sections (Along Parkhouse Road and Kingstown between Carlisle Northern Development Route and Morrison's) where footway width reduces.</p> <p>Where possible, side street treatments will be introduced to make crossing easier for people on foot and wheeling.</p> <p>Improve pavement evenness by resurfacing or replacing cracked paving slabs in localised areas.</p>	£1m - £3m
WR2 Victoria Place & Warwick Road						<p>Provide additional crossing points in proximity to Carlisle College and Richard Rose Central Academy along Victoria Place.</p> <p>Where possible, side street treatments will be introduced to make crossing easier for people on foot and wheeling.</p> <p>Improve Montgomery Way / Warwick Road junction by changing signal timings to reduce pedestrian wait time, providing upgraded signalised crossing points. Studies to be undertaken to understand what pedestrian improvements can be made.</p> <p>Improve Victoria Road / Warwick Road junction by reducing junction widths and providing new gateway features such as road markings, build outs, coloured surfacing, signage, planting, and/or speed tables, to enforce 20mph speed limit.</p>	£3m - £5m
WR3 Warwick Road						<p>Pavement parking is common practice in the area. Parking can be formalised where there is space for both pavement parking and pedestrians. Where there is not space parking controls can be introduced or pavements widened to incorporate parking spaces.</p> <p>Improve pedestrian priority at side streets including tactile paving and dropped kerbs.</p> <p>Improve Montgomery Way /Warwick Road junction by changing signal timings to reduce pedestrian wait time, providing signalised crossing points and/or fewer pedestrian islands, widening pedestrian islands, reducing junction widths, and removing or improving guardrail. Studies to be undertaken to understand what pedestrian improvements can be made.</p> <p>Improve Victoria Road /Warwick Road junction by reducing junction widths, providing new gateway features, such as road markings, build outs, coloured surfacing, signage, planting, and speed tables, to enforce 20mph speed limit.</p> <p>Provide dog waste bins along the route.</p>	£3m - £5m

Table 4.1. Walking Improvements (Continued)

ID	Route Assessment (RAG Rating)					Scheme Description	Cost (2021 Q1)
	Attractiveness	Comfort	Directness	Safety	Coherence		
WR4 Botchergate & London Road	Green	Yellow	Yellow	Green	Yellow	<p>Where possible, side street treatments will be introduced to make crossing easier for people on foot and wheeling.</p> <p>Parking controls will be introduced where necessary to deter pavement parking, particularly where this limits the movements of those with mobility impairments.</p> <p>New pedestrian crossing points will be considered at a range of junctions where crossing is particularly difficult, such as at Eastern Way, the London Road Retail Park, and St Nicholas Street. These are likely to occur alongside improvements for all active modes.</p>	£0 - £1m
WR5 Currock Street & Currock Road	Yellow	Yellow	Yellow	Yellow	Yellow	<p>Incorporate place making and landscaping which could include planting trees and greenery along Currock Road and providing more litter bins.</p> <p>Improve Nelson Bridge underpass by providing better lighting and repainting it.</p> <p>Pavement widening, particularly between Crown Street and Currock Rd.</p> <p>More frequent crossing points between the east and west side of Currock Road and Blackwell Road.</p> <p>Where possible, side street treatments will be introduced to make crossing easier for people on foot and wheeling.</p> <p>Improvements to the Henderson Road / Blackwell Road junction.</p> <p>Remove unnecessary guardrail.</p>	£0 - £1m
WR6 Dalston Road	Green	Yellow	Red	Green	Yellow	<p>Where possible, side street treatments will be introduced to make crossing easier for people on foot and wheeling.</p> <p>Pavement parking is common practice in the area. Parking will be formalised where there is space for both pavement parking and pedestrians. Where there is not space parking controls will be introduced or pavements widened to incorporate parking spaces.</p> <p>Extend the pavement on the western side of Dalston Rd between the cemetery and Cummersdale Road to the new housing site.</p> <p>Improve pavement evenness by resurfacing or replacing cracked paving slabs in localised areas.</p>	£0 - £1m
WR7 Wigton Road	Red	Yellow	Yellow	Green	Yellow	<p>Widen the pavement, particularly the west side of Wigton Road between Glaramara Drive and Orton Road.</p> <p>Repaint the centre line of shared-use path between Glaramara Drive and Orton Road as line is fading.</p> <p>Resurface pavement, where pavement surface is eroding.</p> <p>Cut back overgrown vegetation that limits the pavement width.</p> <p>Improve bus stops 'maintenance along the route by providing waiting facilities and tactile paving for ease of crossing.</p>	£0 - £1m

<p>WR8 Route through Heysham Park</p>						<p>Resurface path in Sandsfield Park to be consistent with surfacing in Heysham Park.</p> <p>Widen footway in Sandsfield Park.</p> <p>Provide a formal path with consistent surfacing between Parham Grove and Dobinson Road.</p> <p>Provide a formal path with consistent surfacing in the field with a basketball court, east of Heysham Park.</p> <p>Deliver elements of place making and improve visibility, which could include improvement of lighting, bins and seating areas in Sandsfield Park and the field with a basketball court.</p> <p>Widen entrance ways and improve access in to Heysham Park.</p> <p>Widen or replace bridge at Coalfell Avenue in Sandsfield Park.</p> <p>Provide railings at the bridge over Parham Beck (section east of Coalfell Avenue and west of Dobinson Road) to increase safety.</p> <p>Cut back low hanging vegetation from trees.</p>	<p>£1m - £3m</p>
<p>WR9 Newtown Road</p>						<p>Where possible, side street treatments will be introduced to make crossing easier for people on foot and wheeling.</p> <p>Provide and position signage in better locations so that it does not encroach on pedestrians.</p> <p>Widen pavement along section from the hospital to Church Street roundabout.</p> <p>Improve pavement evenness by resurfacing or replacing cracked paving slabs in localised areas.</p> <p>Pavement parking is common practice in the area. Where there is insufficient space, parking controls can be introduced, or pavements widened to incorporate parking spaces.</p>	<p>£1m - £3m</p>
<p>CWZ Carlisle City Centre</p>						<p>Deliver placemaking/landscaping elements such as improving space around tree pits (planting, tree pit surfacing, clearing), planting trees along Lowther Street, and providing more litter bins.</p> <p>Provide dog waste bins along the route.</p> <p>Provide additional crossing points, for example at West Tower Street and Market Street junction.</p> <p>Provide pavement along the east side of Market Street.</p> <p>Widen pavement where possible, for example along West Walls and Blackfriars Street.</p> <p>Explore opportunities to improve pedestrian security and safety at Market Hall bus station, West Walls, Blackfriars Street.</p> <p>Remove unnecessary guardrail.</p> <p>More in-depth review of existing pedestrian wayfinding and signage provision and identify opportunities to improve.</p>	<p>£0 - £1m</p>

4.10 TYPES OF IMPROVEMENTS

4.10.1. Improvements were developed according to the latest design standards, with key improvement types shown below.

MAINTENANCE

4.10.2. Where this is highlighted as an issue, the route likely requires immediate maintenance to bring it to standard, and it may be that a longer term programme of maintenance needs to be developed in order to ensure that this route is maintained to a standard commensurate with its importance in the active travel network.

INCREASE SURVEILLANCE

4.10.3. Increased surveillance can increase both the perception of and actual level of safety for users. This can be through technology, such as CCTV or 'help' points, or natural surveillance such as that afforded by good sightlines (which could be linked to maintenance), higher levels of activity, additional access points and permeability, or police patrols where deemed necessary.

PLACE-BASED INTERVENTIONS (GREENING, STREETScape, SEATING ETC)

4.10.4. These are measures that enhance the look and feel of an area, including tree planting, street art, paving, seating, and other features to make public spaces more attractive. This is likely to be very bespoke to each area where required, but can be as simple as planting, such as trees or rain gardens (perhaps as part of Sustainable Urban Drainage Systems), or could be significant changes involving use of materials, sculpture, art installations, or water features.

Figure 4.6. Public Realm



FOOTWAY WIDENING

4.10.5. While minimum footway width guidance has changed over the decades, Transport for London's Pedestrian Comfort Guidance is based on the level of comfort that width provides to users, rather than generic recommendations. However, widening the footway can be problematic, particularly where superfluous carriageway doesn't exist. Where this is recommended, it may be most feasible where undertaken alongside cycle schemes which also require significant changes to the highway.

PARKING CONTROLS

4.10.6. Where indiscriminate parking creates an issue for pedestrians, this could be due to various issues and a bespoke solution is likely to be required. This could be through provision of dedicated bays on carriageway, appropriate parking permit schemes, or perhaps greater enforcement of existing restrictions.

Figure 4.7. Buildouts with SUDs



NEW CROSSING POINT ON DESIRE LINE

4.10.7. Where across a major road, this is likely to be a new dedicated crossing point. A more detailed study would be required to determine the exact type and what additional changes may be required in order to implement it.

IMPROVE SIGNALS (WIDEN REFUGE, IMPROVED TIMINGS, FEWER REFUGES)

4.10.8. This category also includes changes to other junction types, such as roundabouts, that may not offer facilities for other road users at all. Altering any junction is likely to incur significant costs, and additional feasibility work including a traffic impact assessment is likely to be required.

Figure 4.8. Improved signalised junction (Enfield)



NEW ACCESS POINT TO BUILDINGS / CAR PARKS

4.10.9. This is likely to include new access points on desire lines where these have not been provided as part of the development. These may require third party agreement.

SPEED REDUCTION SCHEME

4.10.10. Any speed reduction scheme needs to be self-enforcing, and the methods employed to do so effectively will be bespoke to the specific location. This could be through enforcement cameras (including average speed limit zones), or through physical traffic calming measures, but could also be through a wider scheme which changes the fundamental purpose and feel of a street, including public realm, parking controls, and reduced kerb radii.

Figure 4.9. Raised table junction



DROP KERB / TACTILE PAVING

4.10.11. Dropped kerbs provide level access for pedestrians between the footway and carriageway. They are essential for the majority of wheelchair users to provide them with an accessible means of crossing a road safely and coherently. Tactile paving helps people with sight impairments understand the street and crossing points.

4.10.12. It is very important for visually impaired people that tactile paving is present, correct and adheres to standards as it can communicate to visually impaired pedestrians' information about the environment that they are in.

4.10.13. These should now be provided as standard, but many locations still lack them where these need to be retro-fitted.

REDUCED RADII

4.10.14. Manual for the Streets highlights the importance of kerb radii in inducing vehicle speeds and affecting pedestrians' ability to cross minor roads on their desire line. Where it is safe to do so, a reduced kerb radii can be carried out in conjunction with other interventions (such as a speed reduction scheme or blended footway) to create a low speed environment where pedestrians are afforded priority over vehicles.

BLENDED FOOTWAY

4.10.15. 'Blended footways' describe a footway which continues over the minor arm of a priority junction, enforcing the highway code (rule 170) through good design. These can be implemented through various techniques, including at carriageway level, raised tables (footway level), use of materials, and the positioning of road markings. The appropriate design solution will need to be determined in each instance.

Figure 4.10. Blended Footway



WAYFINDING

4.10.16. This intervention encompasses all of the ways in which people orient themselves and navigate from place to place. Wayfinding improvements could be as simple as directional and distance signage at key junctions, but could also be larger maps or even interactive screens where appropriate (such as a town centre).

Figure 4.11. Information and wayfinding (Sheffield)



5 STAGE 5: PRIORITISATION

5.1 OVERVIEW

- 5.1.1. Stage 5 of the LCWIP process involves prioritisation of improvements to create a programme of cycling and walking schemes.
- 5.1.2. The guidance states that priority should be given to improvements that are most likely to have the greatest impact on increasing the number of people who choose to walk and cycle, and therefore the greatest return on investment. Other factors may also influence the prioritisation of improvements such as the deliverability of the proposed works or opportunities to link with other schemes or projects..

5.2 PRIORITISING SCHEMES

- 5.2.1. A prioritisation framework has been produced to ensure consistency when prioritising walking and cycling infrastructure improvements. The framework includes the following criteria:
- **Effectiveness** - based on the potential number of walking or cycling trips that might use the route.
 - **Alignment with policy objectives** – considering the Cumbria Transport Infrastructure Plan, local priorities and alignment with ongoing workstreams
 - **Economic factors** - including scheme cost, value for money and likelihood of attracting funding.
 - **Deliverability issues** - including engineering constraints, land ownerships and level of stakeholder support.
- 5.2.2. The full assessment criteria and scoring methodology applied is provided in Table 5.1.

5.3 PRIORITISED LIST OF CYCLING INTERVENTIONS

- 5.3.1. The results of the prioritisation exercise for Cycling schemes are summarised in Table 5.2.

DELIVERY TIMESCALES

- 5.3.2. The improvements have been organised into four distinct categories. These are:
- **Funded:** These improvements are already funded;
 - **Priority 1:** These improvements are targeted for delivery within 5 years (by 2027/28) subject to funding;

- **Priority 2:** These improvements are targeted for delivery within 8 years (by 2030/31) subject to funding; and
- **Priority 3:** These improvements are targeted for delivery post 2030/31 subject to funding.

- 5.3.3. The improvements have been assigned to the delivery categories as follows:

Funded

- 5.3.4. These are improvements that form an integral part of the LCWIP network and have already secured funding. These include key sections such as the CSLR and associated improvements, connecting to the NCN Route 72.

Priority 1

- 5.3.5. These are improvements which have already seen funding bids submitted as early opportunities have become available, and include sections such as the Sands Centre to Strand Road.

Priority 2

- 5.3.6. These are improvements which constitute the core of the LCWIP network. These are located along the most feasible and deliverable sections of the Priority Network and build upon the improvements delivered through the Funded and Priority 1 phases. These include key routes along Castle Way, The Education Cluster, and St Nicholas Bridge.

Priority 3

- 5.3.7. These are improvements that extend the network further along more complex or expensive sections that are likely to take longer to come forward. These include routes along London Road and a new Waverly Bridge crossing.
- 5.3.8. It is recognised that the delivery timescales do not all align with the prioritisation framework scoring also undertaken. The delivery timescales have been determined based on key factors affecting deliverability, as well as geographical proximity to one another, ensuring that the overall network comes forward in a planned coherent way. The prioritisation framework scoring can help inform the strategic rationale for a section when appropriate funding opportunities are identified.

5.4 PRIORITISED LIST OF WALKING IMPROVEMENTS

- 5.4.1. While the walking improvements could be delivered in isolation, where these overlap with the Priority Cycle Network it is expected that the improvements would be delivered together (assuming funding is available), with any scheme delivering high quality active travel routes.
- 5.4.2. In Carlisle, approximately half of the Primary Walking Routes overlap with a Priority Cycle Network improvement. Table 5.2 clearly indicates which priority cycle routes overlap with which priority walking routes.
- 5.4.3. Where routes do not align with priority cycle improvements (such as in the Carlisle City Centre Core Walking Zone, or the Warwick Road Primary Walking Route), these could be delivered on an entirely separate basis, potentially on a street or area basis or through small, localised improvements depending on complexity and funding availability. For this reason, those routes that do not align with a priority cycle improvement have not been prioritised. It is expected that these will be delivered on an ad-hoc basis as funding become available.

Table 5.1 – LCWIP Prioritisation criteria and scoring

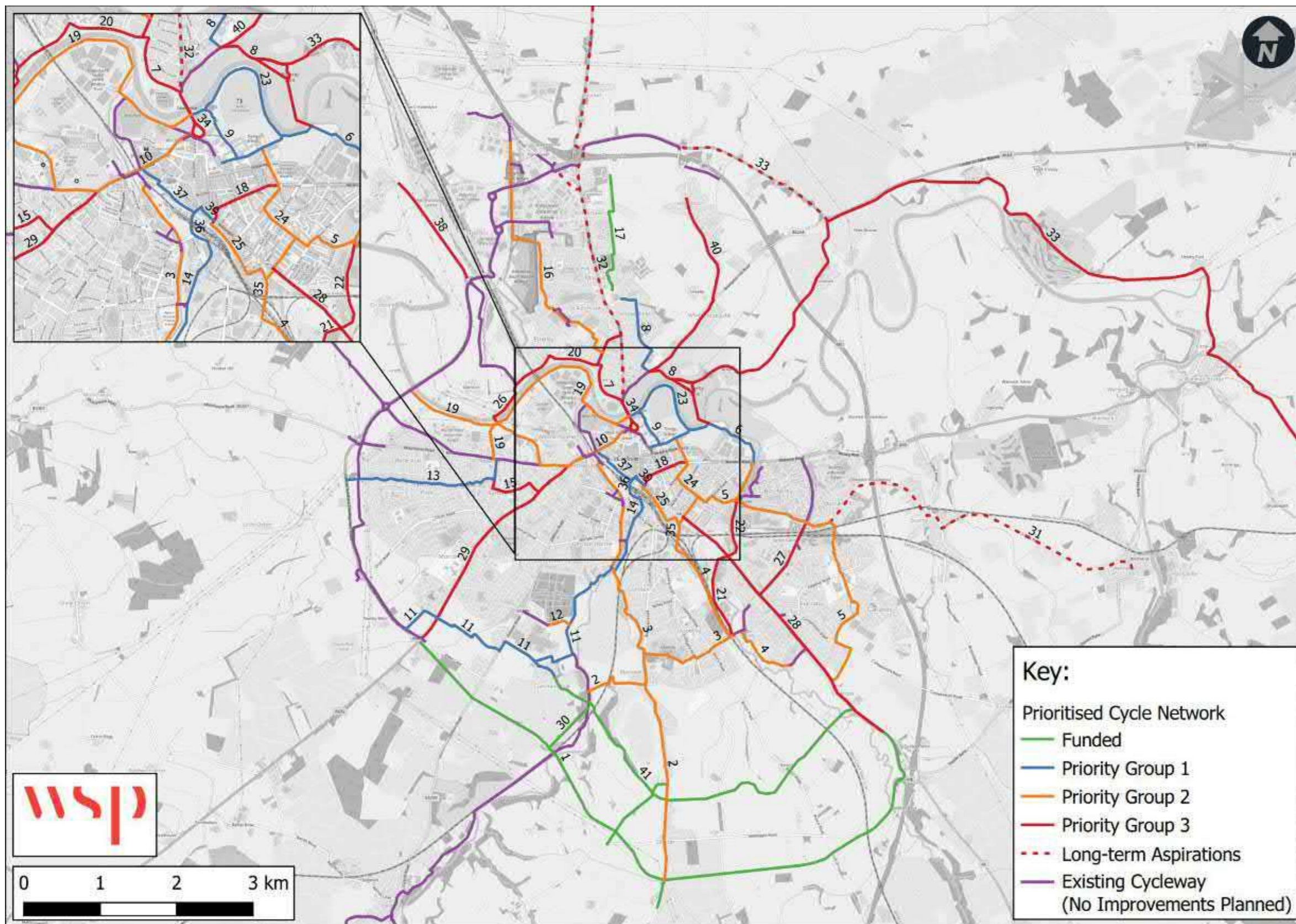
Ref	Category	Criteria	Definition	Source	Low (0)	Intermediate (1)	High (2)
1	Effectiveness	Catchment population	Population within the corridor or CWZ	Experian Mosaic	< 4,000 people	4,000 - 8,000 people	> 8,000+ people
2	Effectiveness	Propensity to Cycle	Forecast number of journeys to work using the corridor in the Government Target Near Market scenario (LSOA)	PCT (2011 Census)	< 50 cyclists	50 - 100 cyclists	> 100 cyclists
3	Effectiveness	Walking as a method of travel to work	Method of travel to work (Datashine) LQ is the Location Quotient and describes how far from the national average (LQ =1) the measure is.	Datashine (2011 Census)	LQ <1	LQ 2-3	LQ 4 +
4	Effectiveness	Existing employment	Number of workplace zone centroids within the corridor or CWZ	WSP OD mapping	< 5 Workplace Zone Centroids	5 - 10 Workplace Zone Centroids	> 10 Workplace Zone Centroids
5	Effectiveness	Attractor score	Attractors within the corridor or CWZ (excluding airports / train stations, hospitals, industrial estates, education establishments)	WSP OD mapping	< 10 attractors	10 - 19 attractors	> 19 attractors
6	Effectiveness	Education	Number of schools / colleges / universities within the corridor (a 500m radius)	WSP OD mapping	No schools	1 - 4 schools	5 or more schools
7	Effectiveness	Transport interchanges	Proximity to a transport interchange (train stations, bus stations or park and ride sites)	WSP OD mapping	> 1km from a transport interchange	500m - 1km from a transport interchange	< 500m from a transport interchange
8	Effectiveness	Development sites	Number of future housing / employment sites within the corridor or CWZ (500m radius)	WSP OD mapping	No sites	1-3 sites	> 3 sites
9	Effectiveness	Leisure and Tourism	Access to green and blue space (Parks, Coasts, Visit Carlisle sites)	WSP OD mapping	No sites within 500m radius	1-3 sites within 500m radius	> 3 within 500m radius
10	Policy	Alignment with ongoing workstreams	Does the corridor or CWZ align with other schemes or other planned transport improvement?	CCC	No	----- ----	Yes
11	Policy	Safety	Number of hotspots involving pedestrians or cyclists in the previous 5 years within the corridor (500m radius)	DfT (STATS19)	< 5 hotspots	5 - 10 hotspots	> 10 hotspots
12	Policy	Car ownership	Percentage of households with no car / van	2011 Census	< 25% of households	25% - 40% of households	> 40% of households
13	Policy	Health	Lowest Health Deprivation and Disability criteria in the IMD (i.e. most deprived LSOA) within the corridor or CWZ	IMD	>= 6 deciles of health deprivation and disability in the IMD	3 < & >6 deciles of health deprivation and disability score in the IMD	<= 3 deciles of health deprivation and disability in the IMD
14	Policy	Air Quality	Does the route travel through an Air Quality Management Area?	CCC	No (or no route option will travel through the AQMA)	----- ----	Yes
15	Economic	Scheme Cost	Total scheme cost estimates for package of interventions	Cost estimates	> £5 million	£2 - 5 million	< £2 million
16	Economic	Value for Money	Assessment of scheme benefits vs costs	Based on current/future demand and costs	Low demand relative to high cost	Medium demand relative to medium costs	High demand relative to low costs
17	Deliverability	Scheme Feasibility	Known land ownership issues or scheme dependencies	CCC	Land ownership, environmental or other issue unlikely to be overcome	Dependent on another scheme or third party land, or environmental constraints, likely to be overcome	No issues, scheme feasible to be undertaken
18	Deliverability	Public Acceptability	Likelihood of support or opposition for the scheme	CCC	Likely to be opposition	Neutral / unknown	Likely to be supported
19	Deliverability	Political Acceptability	Likelihood of support or opposition for the scheme	CCC	Likely to be opposition	Neutral / unknown	Likely to be supported
20	Deliverability	Timescales	Timescales for delivery	CCC	Long (deliverable in 8+ years)	Medium-term (deliverable within 8 years, where there is a clear intention to act, but delivery is dependent on identifying funding or other issues)	Short-term (deliverable within 5 years and funding identified)

Table 5.2. LCWIP Priorities: Cycling

Rank	ID	Name	Effectiveness	Policy	Economic	Deliverability	Cost	Delivery Timescales	Associated Walking Routes
36	1	Carlisle Southern Link Road	3	2	0	8	£5m+	Funded	
23	17	California Lane to Morrison's	6	2	4	7	£1m - £3m	Funded	
36	30	Carlisle Southern Link Road - NCN Link	0	3	3	7	£0 - £1m	Funded	
25	41	SCGV Greenway	7	2	1	8	£5m+	Funded	
4	9	Sands Centre to Strand Road	11	6	4	7	£0 - £1m	Priority Group 1	
18	11	Denton Holme to Cummersdale - Caldew River Cycleway NCN 7	7	4	3	7	£1m - £3m	Priority Group 1	
21	13	Belle Vue to Engine Lonning	7	4	1	8	£3m - £5m	Priority Group 1	WR8
7	14	Rome Street	9	9	3	5	£0 - £1m	Priority Group 1	
12	23	Sands Centre to Strand Road via Catholic Lonning	9	5	4	6	£0 - £1m	Priority Group 1	
5	36	Victoria Viaduct	9	8	4	6	£1m - £3m	Priority Group 1	
8	37	West Walls	10	7	4	4	£0 - £1m	Priority Group 1	
5	39	English Street	9	9	4	5	£1m - £3m	Priority Group 1	
40	2	St Cuthbert's Garden Village (Durdar to Blackwell)	2	2	1	5	£1m - £3m	Priority Group 2	
2	3	Hammonds Pond to Castle Way	14	6	3	6	£0 - £1m	Priority Group 2	
12	4	Carleton to St Nicholas Bridge	12	5	3	4	£1m - £3m	Priority Group 2	
2	5	Carleton to Warwick Road	13	5	4	7	£1m - £3m	Priority Group 2	
28	6	Warwick Road to Strand Road	7	4	1	5	£5m+	Priority Group 2	
8	10	Castle Way	11	6	1	7	£5m+	Priority Group 2	WR7
34	12	Dalston Road to Caldew Cycleway	1	4	3	6	£0 - £1m	Priority Group 2	
25	16	Kingmoor Park to Ettreby Lea Road	8	3	1	6	£3m - £5m	Priority Group 2	
1	19	Upgrade to NCN72 and City Centre Link	13	7	4	6	£0 - £1m	Priority Group 2	
8	24	Education Cluster Connection (From London Road)	10	6	3	6	£0 - £1m	Priority Group 2	
17	25	Carlisle Railway Station to London Road (Via Lancaster Street)	11	6	1	5	£5m+	Priority Group 2	
28	35	St Nicholas Bridge	7	3	4	3	£0 - £1m	Priority Group 2	

Rank	ID	Name	Effectiveness	Policy	Economic	Deliverability	Cost	Delivery Timescales	Associated Walking Routes
34	7	Knowefield Avenue to Cavendish Terrace	7	2	3	2	£1m - £3m	Priority Group 3	
21	8	Morrison's to Hadrian's Cycleway & Strand Road	10	2	3	5	£1m - £3m	Priority Group 3	
12	15	Heysham Park to City Centre	11	8	3	2	£3m - £5m	Priority Group 3	WR7
8	18	Warwick Road - Lismore Street to Carlisle Railway Station	11	8	2	4	£3m - £5m	Priority Group 3	
25	20	Etterby Road / Scour	7	2	4	5	£0 - £1m	Priority Group 3	
38	21	Hilltop Link	4	2	3	3	£0 - £1m	Priority Group 3	
18	22	London Road to Melbourne Park	6	7	4	4	£0 - £1m	Priority Group 3	
41	26	Waverley Bridge Crossing	2	2	2	2	£3m - £5m	Priority Group 3	
23	27	Eastern Way (London Road to Durran Hill Road)	8	3	2	6	£3m - £5m	Priority Group 3	
12	28	London Road	15	4	1	4	£5m+	Priority Group 3	WR5
31	29	Wigton Road	9	2	0	5	£5m+	Priority Group 3	WR7
32	31	Carlisle to Wetheral	11	0	0	4	£5m+	Priority Group 3	
18	32	Carlisle to Longtown via A7	12	5	0	4	£5m+	Priority Group 3	WR1
32	33	Carlisle to Brampton	10	2	0	3	£5m+	Priority Group 3	
12	34	Eden Bridge	10	5	4	5	£0 - £1m	Priority Group 3	WR1
38	38	Cargo Cycleway	1	3	3	5	£1m - £3m	Priority Group 3	
28	40	Houghton Strategic Connection	8	2	3	4	£1m - £3m	Priority Group 3	

Figure 5.1. Carlisle Priority Cycling Network – Prioritised Delivery Plan



6 STAGE 6: INTEGRATION & APPLICATION

6.1 INTEGRATING THE LCWIP

6.1.1. The final stage of the LCWIP process considers how the LCWIP should be integrated into local policy, strategies and plans, as well as practical applications of the outputs of the LCWIPs.

GOVERNANCE

6.1.2. An LCWIP Project Team has been established to produce the LCWIPs, consisting of officers from Cumbria County Council's Cycling and Walking team. Technical assistance was provided by WSP in the development of the Carlisle LCWIP between 2020 and 2022.

6.1.3. The LCWIP Project Team report to the Cycling and Walking Programme Delivery Group (PDG). Individual PDGs have been set up for each LCWIP study area. The PDGs maintain an overview of the project and provide support and technical direction during the delivery of the programme to ensure that the objectives and key milestones are met. The group includes a range of internal and external stakeholders to ensure a coordinated approach that will maximise success.

- 6.1.4. Members of the Carlisle LCWIP PDG include representatives from the following:
- Cumbria County Council
 - CCC Cycling and Walking Team
 - Active Cumbria
 - CCC Area Manager for Carlisle
 - CCC Public Health
 - Highways & Transport Traffic Management Team
 - CCC Highways & transport Local area Network Manager
 - Carlisle City Council
 - Bicycle Mayor of Cumbria

6.1.5. The Carlisle Cycling and Walking Project Delivery Group reports to the Directorate Management Team of the Economy and Infrastructure Directorate at Cumbria County Council.

6.1.6. The governance structure for the Cumbria LCWIP programme is presented in Figure 6.1.

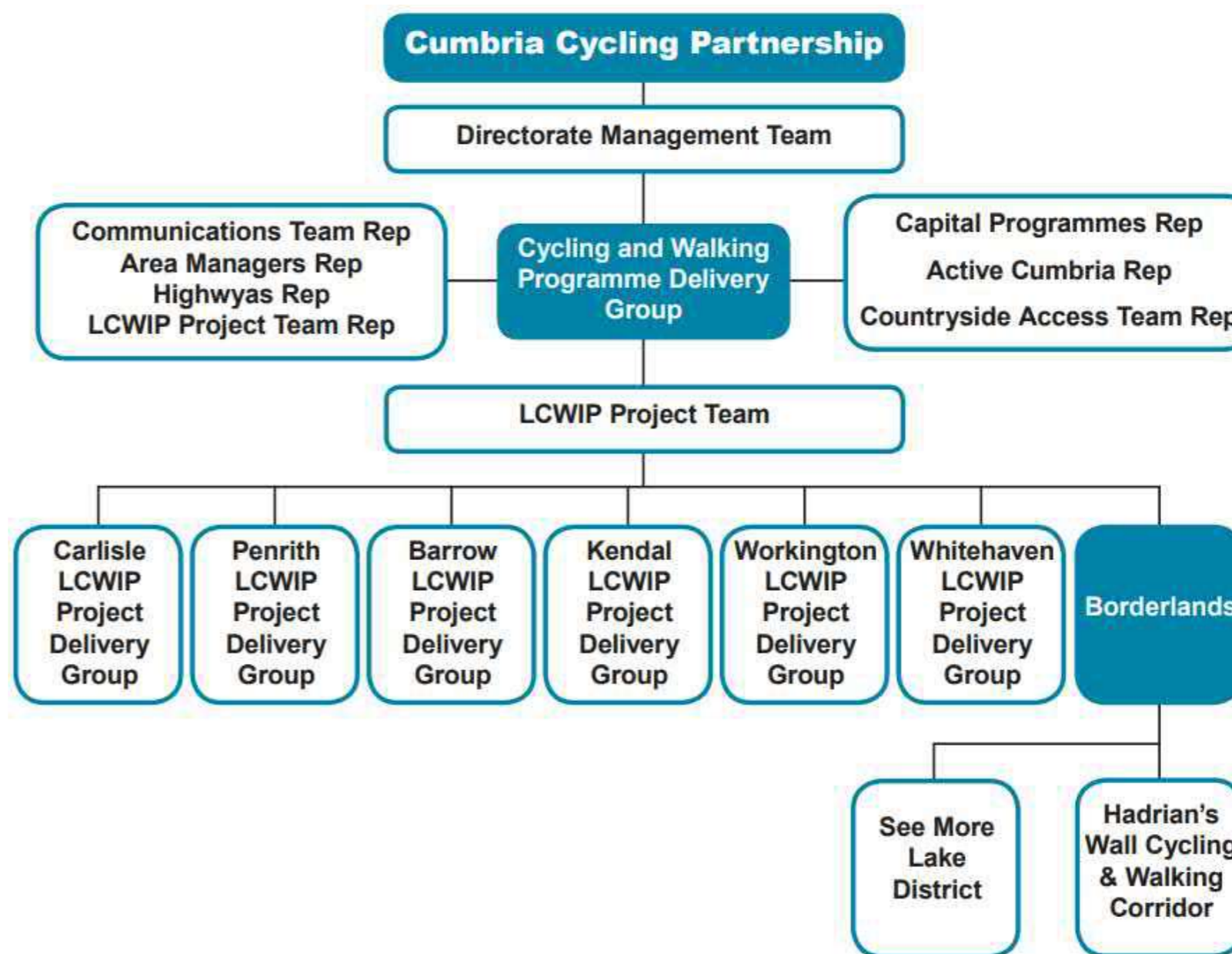


Figure 6.1. Cumbria LCWIP Governance Structure

STAKEHOLDER ENGAGEMENT & PUBLIC CONSULTATION

- 6.1.7. Effective engagement with stakeholders is integral throughout the development and delivery of an LCWIP to provide the opportunity for local people to express their views and input to the proposals. It is also imperative to engage with more vulnerable user groups, in particular those with protected characteristics as defined in the Equalities Act 2010. This will ensure that all relevant issues are considered when identifying interventions and it should increase support for the LCWIPs.
- 6.1.8. Key consultees included:
- County Councillors;
 - County Council Officers;
 - City / district Councils;
 - Town Councils;
 - Parish Councils;
 - Local businesses
 - Education providers;
 - Police;
 - Cycle and walking clubs and organisations; and
 - Disability groups.
- 6.1.9. Two rounds of public consultations have been undertaken to date on the Carlisle LCWIP:
- May 2021: Consultation on draft networks;
 - Nov 2021: Consultation on updated draft networks ahead of their finalisation.
- 6.1.10. Further consultation will be undertaken as priority schemes are developed following identification of appropriate funding opportunities. Community input will be central to the development of LCWIP proposals.

INTEGRATION

- 6.1.11. The PDG will be responsible for the integration of the LCWIP outputs in to local policy. This will help ensure that emphasis is given to cycling and walking within both local planning and transport policies, strategies and delivery plans. Reflecting the LCWIP in local policy will also help to make the case for central government funding

6.2 SECURING FUNDING & SCHEME DELIVERY

- 6.2.1. The LCWIP sets out the case for future funding for cycling and walking infrastructure. As set out in the section above there

are a number of compelling reasons for central government to invest in active travel infrastructure in Carlisle.

- 6.2.2. The PDG will seek to identify appropriate funding sources to deliver the aspirations of the Carlisle LCWIP. This will include local contributions, developer contributions, central government funding opportunities and other innovative funding mechanisms as appropriate to the scale of improvements.

6.3 MONITORING AND EVALUATION

- 6.3.1. Monitoring and evaluating the benefits of investment in delivering the LCWIP schemes will be critical, and will enable us to make the case for future investment in our streets. Monitoring and Evaluation will be undertaken in accordance with the methodology outlined in the CTIP and will be cognisant with the specific requirements from any emerging funding stream.

6.4 REVIEWING & UPDATING THE LCWIP

- 6.4.1. It is anticipated that LCWIPs will be reviewed every 3 to 5 years to reflect progress made. LCWIPs may also be updated if there are significant changes in local circumstances, such as the publication of new policies or strategies, major new development sites, or new sources of funding.

6.5 PROMOTION AND BRANDING

- 6.5.1. The Cumbria LCWIP programme will be supported by a marketing and promotional activities to maximise awareness and usage of our active travel networks.

6.6 DELIVERY OF PRIORITY SCHEMES

- 6.6.1. The schemes outlined in this document represent over £138m investment in 95km of high quality cycling and walking routes, as well as an additional 14.5km relating solely to walking routes.
- 6.6.2. This equates to circa £64 per person per year over a 20-year time period, based on the resident population. It would bring active travel spending up to levels seen in leading countries such as the Netherlands, and leading cities in the UK.
- 6.6.3. This demonstrates a step-change in the focus on active travel throughout Carlisle, and delivery of the plan will be highly dependent on successful funding bids to central government and developer contributions as planning applications come forward including planning applications associated with St Cuthbert's Garden Village. There are a number of factors

which strengthen the likelihood of increased central government funding for active travel in Carlisle:

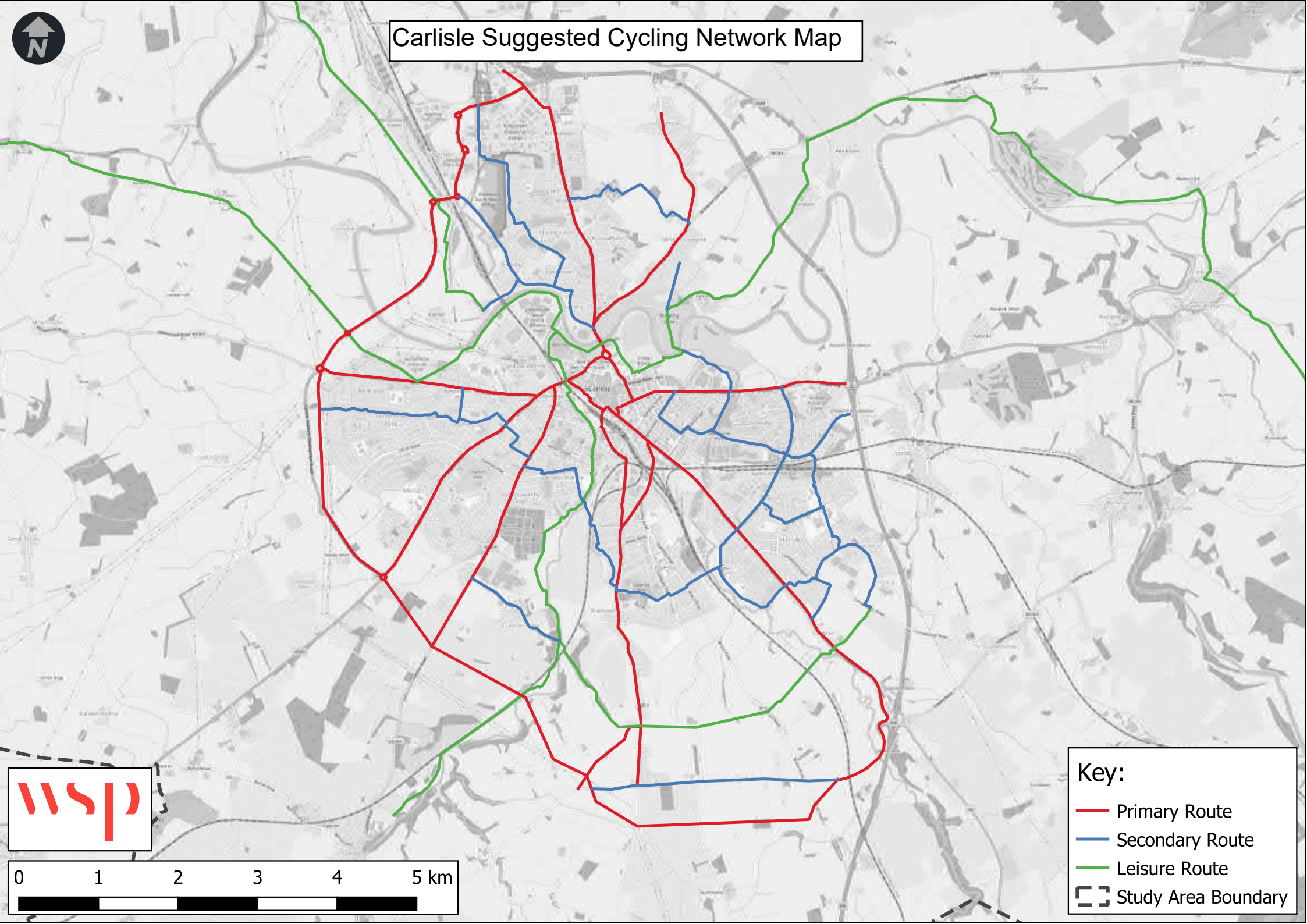
- Increased overall funding for active travel, with £2bn for cycling announced and further spending announcements likely over the lifetime of this LCWIP
 - Recognition of the need for increased funding and regeneration outside London and core cities to “level up” the country, especially to regenerate town centres and seaside towns
 - The need for a green recovery from the Coronavirus crisis and the need to tackle the climate crisis.
- 6.6.4. The priority improvements identified will deliver a range of benefits to public health, local economy and tourism, land value uplift, decongestion, road safety and carbon savings – all of which are expected to be significant. Most walking and cycling schemes represent very good value for money, providing greater benefit to society than the cost of the scheme.
- 6.6.5. This LCWIP has identified priority walking and cycling networks to be delivered across Carlisle and has selected the priority schemes to be delivered within the first ten years of the programme.
- 6.6.6. These schemes will help to deliver significant local benefit, and align with wider investment in strategic routes across the county.

Appendix A

LCWIP NETWORK PLANS



Carlisle Suggested Cycling Network Map



Key:

- Primary Route
- Secondary Route
- Leisure Route
- Study Area Boundary



0 1 2 3 4 5 km

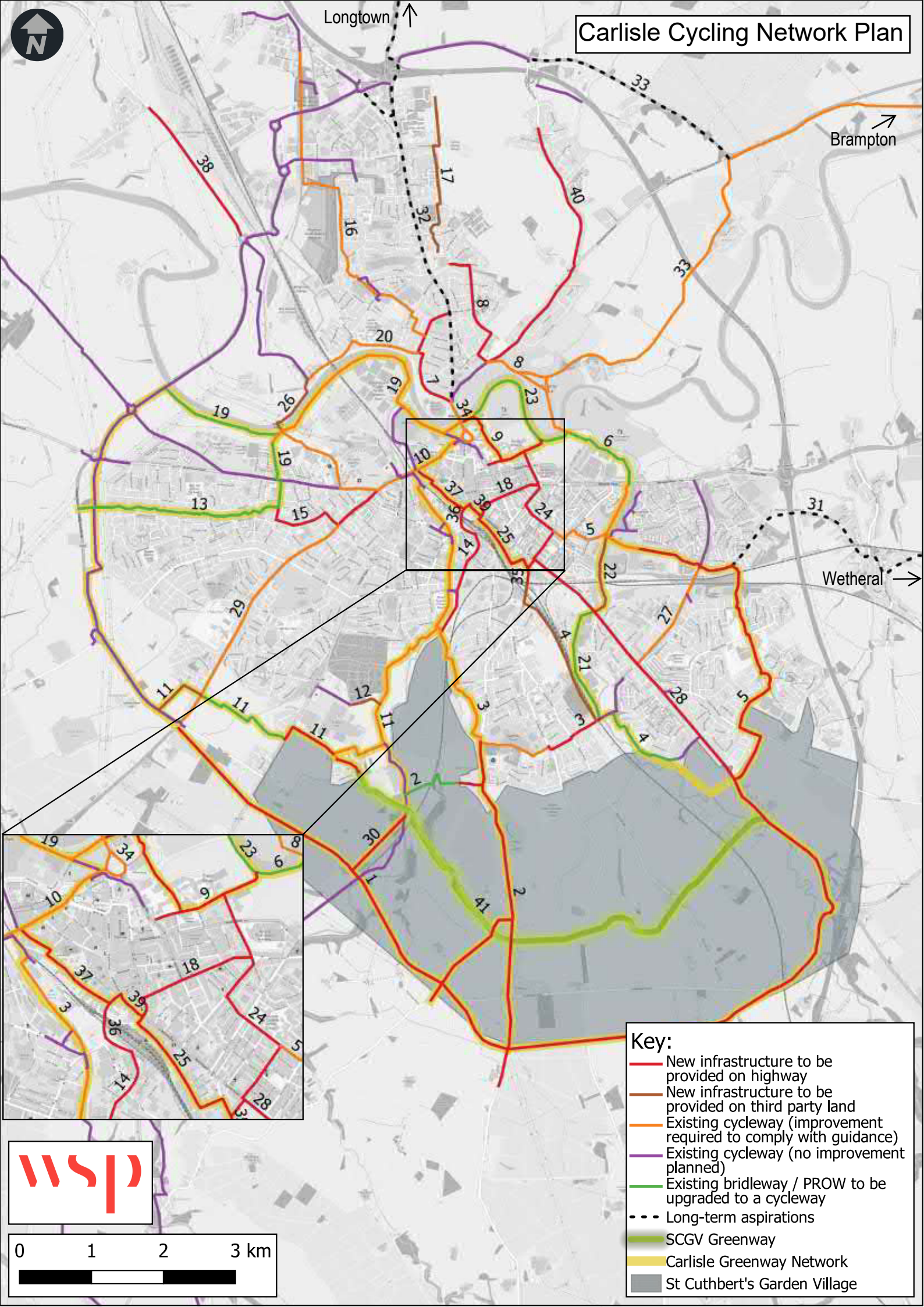
Carlisle Cycling Network Plan



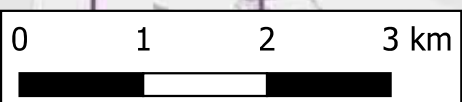
Longtown ↑

Brampton ↗

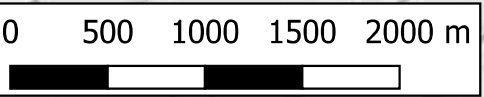
Wetheral →



- Key:**
- New infrastructure to be provided on highway
 - New infrastructure to be provided on third party land
 - Existing cycleway (improvement required to comply with guidance)
 - Existing cycleway (no improvement planned)
 - Existing bridleway / PROW to be upgraded to a cycleway
 - - - Long-term aspirations
 - SCGV Greenway
 - Carlisle Greenway Network
 - St Cuthbert's Garden Village

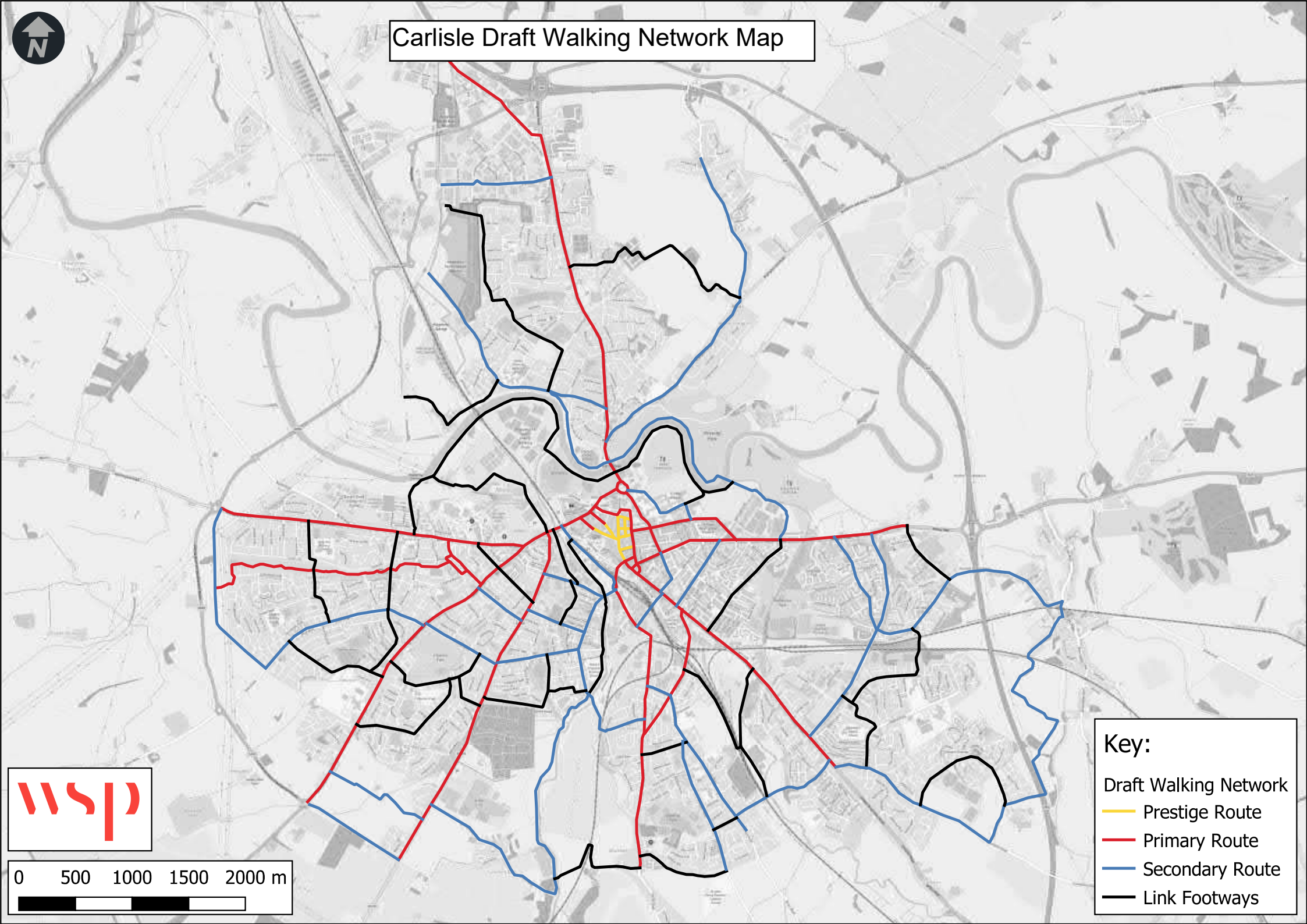


Carlisle Draft Walking Network Map



Key:

- Draft Walking Network
- Prestige Route
- Primary Route
- Secondary Route
- Link Footways

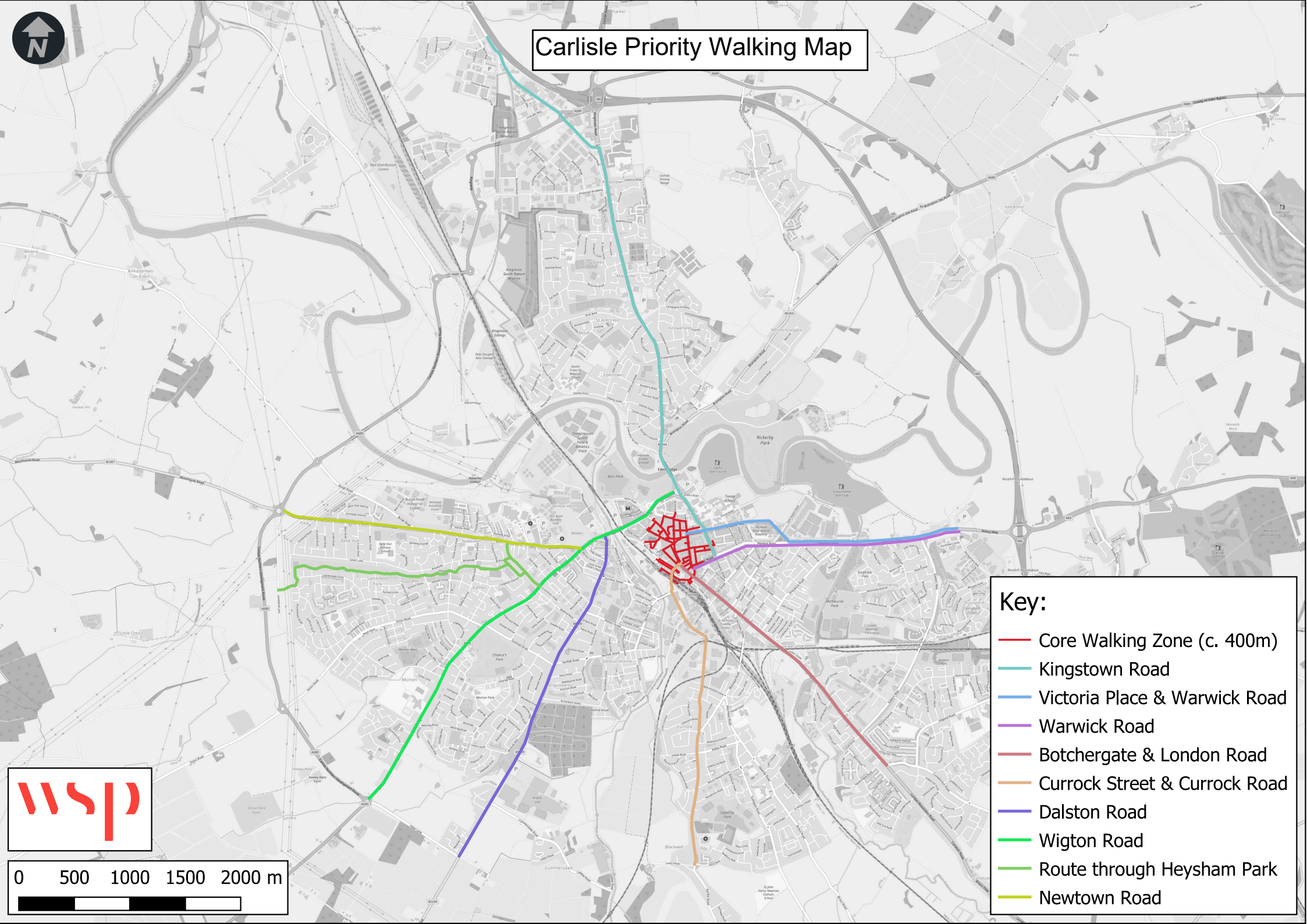
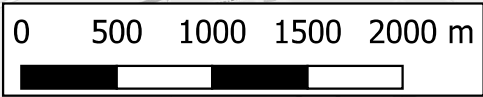


Carlisle Priority Walking Map



Key:

- Core Walking Zone (c. 400m)
- Kingstown Road
- Victoria Place & Warwick Road
- Warwick Road
- Botchergate & London Road
- Currock Street & Currock Road
- Dalston Road
- Wigton Road
- Route through Heysham Park
- Newtown Road

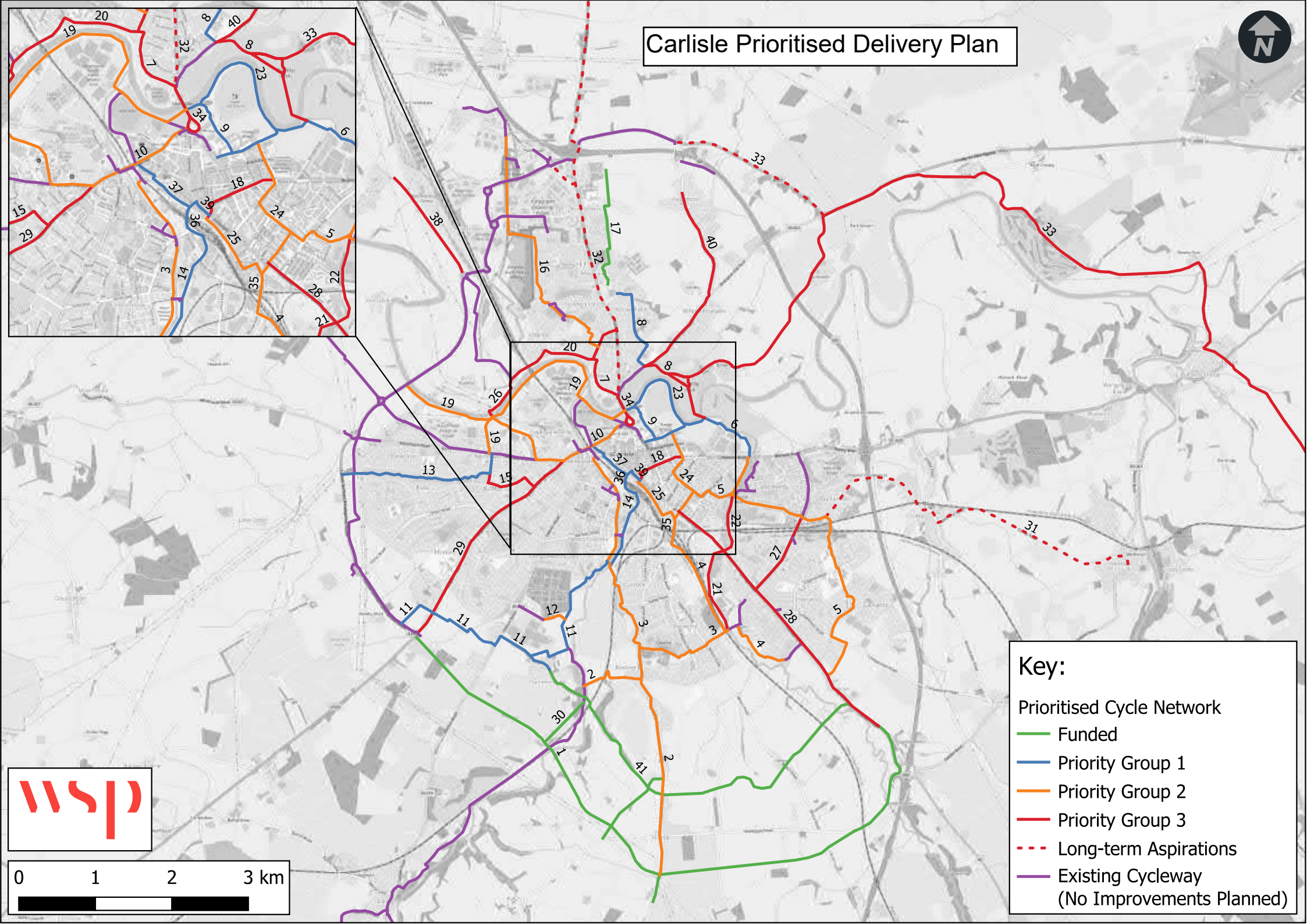


Appendix B

PRIORITISED NETWORK PLAN



Carlisle Prioritised Delivery Plan



Key:

- Prioritised Cycle Network
- Funded (Green line)
- Priority Group 1 (Blue line)
- Priority Group 2 (Orange line)
- Priority Group 3 (Red line)
- Long-term Aspirations (Red dashed line)
- Existing Cycleway (No Improvements Planned) (Purple line)





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