



Peterborough City Council Local Cycling and Walking Infrastructure Plan 2020 - 2029

This is the first iteration of Peterborough City Council's Local Cycling and Walking Infrastructure Plan (LCWIP).

This LCWIP aims to provide the context and network planning to prioritise a list of walking and cycling routes that should be targeted for improvement in the future. The routes identified offer the greatest opportunity to increase numbers of walking and cycling trips in Peterborough and have been prioritised using a range of factors and objectives.

The schemes identified are purely indicative at this time, and more comprehensive designs and concepts will need to be determined by more detailed studies.

Local user knowledge is a key source of information and PCC welcomes input in developing the strategic network of schemes. Delivery of the plan will be evidence led, based on a range of data sources and informed by the views and aspirations of residents, visitors and local groups in Peterborough and Cambridgeshire, including people who do not currently cycle or walk on a regular basis.

The LCWIP is a live document and will be reviewed and updated periodically to reflect progress and the future development of the City. At this stage, the LCWIP has concentrated on the primary corridors, connecting origins to strategic destinations. The LCWIP will be developed over time to reflect any updated information and studies regarding walking and cycling and to increase network coverage to rural and village locations.

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1. Introduction

1.1 Purpose

In 2017, the first Cycling and Walking Investment Strategy (CWIS) was published by the Department for Transport (DfT). The CWIS document sets out the Government’s ambition to make walking and cycling the natural choices for shorter journeys, or as part of longer journeys. The CWIS supports the transformation of local areas: which will tackle congestion, extend opportunity to improve physical and mental health, and support local economies.

The Strategy’s aims and targets, by 2025, are to:

- double cycling, where cycling activity is measured as the estimated total number of cycle stages made each year, from 0.8 billion stages in 2013 to 1.6 billion stages in 2025, and to work towards developing the evidence base over the next year.
- increase walking activity, where walking activity is measured as the total number of walking stages per person per year, to 300 stages per person per year in 2025, and to work towards developing the evidence base over the next year.
- increase the percentage of children aged 5 to 10 that usually walk to school from 49% in 2014 to 55% in 2025.

By 2040 the Governments ambition is to deliver:

BETTER SAFETY – ‘A safe and reliable way to travel for short journeys’
<ul style="list-style-type: none">• streets where cyclists and pedestrians feel they belong, and are safe• better connected communities• safer traffic speeds, with lower speed limits where appropriate to the local area• cycle training opportunities for all children
BETTER MOBILITY – ‘More people cycling and walking – easy, normal and enjoyable’
<ul style="list-style-type: none">• more high quality cycling facilities• more urban areas that are considered walkable• rural roads which provide improved safety for walking and cycling• more networks of routes around public transport hubs and town centres, with safe paths along busy roads• better links to schools and workplaces• technological innovations that can promote more and safer walking and cycling• behaviour change opportunities to support increased walking and cycling• better integrated routes for those with disabilities or health conditions
BETTER STREETS – ‘Places that have cycling and walking at their heart’
<ul style="list-style-type: none">• places designed for people of all abilities and ages so they can choose to walk or cycle with ease• improved public realm• better planning for walking and cycling• more community-based activities, such as led rides and play streets where local places want them• A wider green network of paths, routes and open spaces

Following the publication of the CWIS, government guidance recommended that local authorities should develop Local Cycling and Walking Infrastructure Plans (LCWIPs) for their area. While the preparation of an LCWIP is non-mandatory, the Department for Transport (DfT) has advised that Local Authorities who have plans will be well placed to make the case for future investment.

LCWIPs provide a new strategic approach to identifying cycling and walking improvements at the local level. They aim to enable a long-term approach to forming local cycling and walking networks, ideally over a 10 year period, and form a fundamental part of the Government's strategy to increase the number of trips made on foot or by bicycle.

Peterborough City Council (PCC) aims to support the Government's ambition, and this document provides the first iteration of the LCWIP for Peterborough. By taking a strategic approach to improving environments for cycling and walking, this LCWIP will assist PCC to:

- identify cycling and walking infrastructure improvements for future investment in the short, medium and long term
- ensure that consideration is given to cycling and walking within both local planning and transport policies and strategies
- make the case for future funding for cycling and walking infrastructure

No ring-fenced funding is currently available from Central Government, any funding for walking and cycling infrastructure will be generated through:

- Ad-hoc funding bids
- New developments S106
- PCC / Cambridgeshire and Peterborough Combined Authority (CPCA) capital and maintenance budgets CPCA
- Central Government funding streams

The DfT has published a technical guidance document which outlines the full process for developing an LCWIP. This document was used as a guide to develop the LCWIP for PCC and can be accessed using the following link:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/607016/cycling-walking-infrastructure-technical-guidance.pdf

The key outputs of this LCWIP are:

- 1) a network plan for cycling and walking which identifies the preferred routes for future development that have the greatest potential to increase the numbers of people choosing to walk and cycle in the future
- 2) a prioritised programme of conceptual high level infrastructure improvements for investment in the future
- 3) a report which sets out the underlying analysis carried out and provides a narrative which supports the identified conceptual improvements and network.

1.2 Why has Peterborough Produced a LCWIP?

PCC acknowledges the positive impact that increased numbers of people travelling by walking or cycling in the city would have on a range of factors, such as congestion, health and wellbeing, the environment and on communities. It is important to move away from a culture where the car is the

dominant mode of transport towards one where the car is one transport choice within a range of other realistic travel options. This LCWIP will contribute towards this goal.

Accessibility

Walking and cycling are the two most sustainable and accessible methods of transport and PCC's ambition is to make walking and cycling the first choice for shorter journeys in Peterborough or segments of longer journeys. Cycling and walking schemes support the vision of the Strategic Spatial Framework for Cambridgeshire and Peterborough by providing cheap, accessible and active forms of transport that address the health and social implications of inactivity experienced by communities. Social inclusion and access to employment opportunities are also reinforced through the development of spaces that connect people with movement and place.

Behaviour Change

Peterborough recognises that network planning allows for behaviour change planning. In order to achieve the ambitious Government targets noted in section 1.1 a tailored package of behaviour change interventions, alongside the provision of high quality infrastructure is recommended. PCC has been at the forefront of a number of successful behaviour change programmes for many years, working with schools, businesses and the community through the sustainable travel initiative, branded locally as Travelchoice.

Since 2004 behavioural change campaigns have been running across the city, to encourage people to adopt sustainable modes of travel have realised a cumulative increase of 18% in cycling, scooting and walking trips to local primary schools, a reduction of 11% in single occupancy car travel by staff across range of businesses and a 7% increase in people opting to car share for commuting journeys. This LCWIP will enable behaviour change interventions to be tailored and complementary to any improvements to infrastructure in the future.

Climate Action

The United Nations Intergovernmental Panel on Climate Change (IPCC) has warned that a rise in temperatures of just 1.5 degrees could lead to ecological, environmental and humanitarian disaster. The Panel concludes we require rapid, far reaching and unprecedented changes in all aspects of society to avoid this.

Active travel plays a vital role in achieving reductions in carbon. Around a quarter of the UK's greenhouse gas emissions come from transport, and in 2017 over 90% of total domestic transport greenhouse gas emissions were from road transport. Road transport is the single biggest contributor to poor air quality and is responsible for some 80% of roadside nitrogen dioxide concentrations (Department for Transport, Transport Statistics Great Britain 2017, November 2017, page 13)

PCC recognises the very real challenge of climate change, the emergency we face and its impact on health, safety and wellbeing of our residents and people around the world. The On the 26th July 2019, PCC declared a 'Climate Emergency' and committed to reduce organisational carbon emissions to net-zero by 2030. PCC have also committed to lead by example and work with residents, young people and businesses across Peterborough to help the city achieve the same. Leader of the Council, Councillor John Holdich said that he was, "in no doubt that action taken locally can make a difference. A local contribution to the global problem may be small, but it helps. But it also sends a message. A message that Peterborough acknowledges that humans must change their ways. A message that we are with you, will support you, will help you, if you care about the environment and want to address this emergency that we now face."

Air Quality

Whilst the work undertaken by the Pollution Control team in Peterborough demonstrates that there are currently no air quality exceedances in Peterborough, it is recognised that as one of the UK's fastest growing cities this could change in the foreseeable future. This is evidenced by data released by the DfT who collate road traffic statistics to provide estimates of the vehicle miles travelled each year in Great Britain by vehicle type, road category and region. Data for Peterborough shows that since 2013 the number of miles travelled on all Peterborough roads has increased from 1.08 billion to 1.24 billion in 2017 representing a 15% increase. This compares to a 12% increase in road traffic across the East of England (source: <https://roadtraffic.dft.gov.uk/regions/7>) and an 8% increase across Great Britain (source: <https://roadtraffic.dft.gov.uk/summary>).

Poor air quality has significant impacts on human health. There is increasing scientific evidence and public recognition that air pollution is associated with adverse health impacts throughout the human life cycle, contributing to heart disease, stroke, chronic obstructive pulmonary disease and lung cancer. Particulates are known to have negative health impacts, even at very low concentrations. Every car journey which is replaced by a walking or cycling trip directly reduces harmful emissions, and therefore enabling people to walk and cycle plays a key role in tackling poor air quality.

Economic Development

PCC recognises that cycling and walking schemes can enhance housing and development by providing areas for physical activity and social inclusion. Research by Transport for London (TfL) as part of their Liveable Neighbourhoods project in 2019 has shown that house prices can increase in areas that provide high quality infrastructure for cycling and walking. Revitalisation of local high streets can be realised through the delivery of spaces and streets that prioritise active travel.

PCC's LCWIP takes a long-term approach to developing a comprehensive local cycling and walking network, and will assist in achieving three fundamental objectives:

- 1) serving the highest possible levels of walking and cycling.
- 2) facilitating the highest possible levels of short journeys to be made by walking and cycling.
- 3) provide for areas with high levels of growth and development.

The Peterborough Local Plan (adopted July 2019) identifies the need to build 17,470 new homes and create 17,600 new jobs by 2036. In addition, a new University of Peterborough will have capacity for 12,500 undergraduate students, with 8,000 students and 1,250 staff forecast by 2035. The changing and growing landscape of Peterborough makes a compelling case for strategic planning of the current and future walking and cycling networks. Research internationally and from London suggests that businesses are more successful if they are in areas where pedestrians are prioritised. This is likely because if places are pleasant to spend time in, then people are more likely to stay, and spend money in shops, restaurants and other facilities. ('Economic Benefits of Walking and Cycling', TfL: <https://bit.ly/2gQhfHR>).

Peterborough has an extensive and well integrated road network, linked by a system of parkways. However congestion and delay are forecast to increase, particularly in peak periods and so it is vital that walking and cycling are recognised as desirable choices for shorter journeys or as part of a longer journey. By removing short trips off the road network users that have to travel by car will experience less congestion and quicker journey times.

The majority of journeys in Peterborough are less than 3 miles long, and so there is a huge potential to increase active and sustainable travel modes if the infrastructure is in place. One way to alter

peoples travel habits is to provide safe environments in which to navigate the city by foot or bicycle, and so good quality cycling and walking infrastructure needs to be built. The LCWIP will enable PCC to tackle many of the crucial infrastructure related issues that are currently preventing people from making these journeys by walking and cycling in Peterborough.

Covid-19

PCC has responded to the challenges brought about by Covid-19 by installing temporary infrastructure measures to support increased levels of walking and cycling and to facilitate safe social distancing in line with guidance. Given the dramatic short-term impact on public transport capacity, PCC will continue to work together with the CPCA to identify how elements of this LCWIP can be accelerated to ensure that walking and cycling infrastructure is a viable alternative to those who cannot travel by public transport while social distancing is still in place. It is important that the city works to enhance the opportunities that arise from ‘the new normal’, one of which is the potential for increased walking and cycling trips and the benefits that this change could bring to our health, the economy and the environment.

Cross Party Cycling and Walking Group

A PCC Cross Party member Walking and Cycling Working Group was established in November 2020. The overarching purpose for the Working Group is to consider measures that can be taken to support active travel across the city and to help speed up actions relating to delivering cycling and walking measures in Peterborough. The Working Group have been integral to the creation of the LCWIP for Peterborough and will continue to inform its further development and implementation in the future.

1.3 LCWIP Structure

Due to the differing nature of cycling and walking modes of travel for everyday journeys to access employment, education, retail, and leisure opportunities, separate approaches have been taken when planning and identifying improvements. This LCWIP has thus been split into 6 stages as detailed in Table 1.1 below:

Table 1.1 LCWIP stages

Stage	Name	Description
1	Determining Scope	Establish the geographical scope of the LCWIP and identification of the existing walking and cycling network.
2	Gathering Information	Identify existing patterns for cycling and walking and potential new journeys. Review existing conditions and identify barriers. Review related transport and land use policies.
3	Network Planning for Cycling	Identify origin and destination points and cycle flows. Convert flows into a network of routes, audit routes and determine the type of improvements required.
4	Network Planning for Walking	Identify key trip generators, core walking zones and routes. Audit existing provisions and determine the type of improvements required.
5	Prioritising Improvements	Prioritise improvements to develop a phased programme for future investment.

6	Integration and Application	Integrate outputs into local planning and transport policies, strategies and delivery plans.
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This LCWIP provides a foundation for PCC to develop and is an ideal opportunity to challenge the existing and future road layout and to determine the priorities moving forward, particularly the role of active travel in facilitating increased demand on the network.

2. Determining Scope

2.1 Establishing the Geographical Extent

The scope of this LCWIP covers the urban and suburban areas of the City of Peterborough. In addition to the City Centre. Peterborough contains a number of destination hubs that are likely to host high numbers of walking and cycling trips. It is deemed suitable to consider these “sub areas” alongside the City Centre as they may have the potential to grant a high number of new trips. All areas within Peterborough fall under the same authority of PCC.

Cycling trips have been limited to distances of 5km, connecting attraction areas (such as shopping centres, the City Centre, and employment areas) and residential areas.

Walking trips have been limited to 2km distances, and branch out from the identified Core Walking Zones (CWZs).

2.2 Peterborough’s Existing Walking and Cycling Network

Although the City Centre area is very walkable, other areas are less amenable, reflecting the previous highway design approach where the needs of motor vehicles were put first among other road users, and pedestrians were segregated or neglected. The main issues concerning the current walking network provisions are:

- Obstructions – poorly located street furniture, bus shelters, traffic signs etc.
- Temporary obstructions – construction site hoardings, traffic regulation signs etc.
- Excessive guard railing and bollards
- Illegal parking on footways
- Cycling on footways
- Maintenance – cleanliness, soft landscaping, graffiti, street furniture
- Lack of, or poorly maintained dropped kerbs, tactile paving and colour contrast
- Lack of crossing opportunities
- Lack of signalised junctions
- Fear of safety, lack of surveillance and lighting
- Convoluted routes

As part of the New Town phase of development in the late 1970s and early 1980s Peterborough built up an extensive network of over 250km of dedicated cycle-way’s, which are mainly segregated routes. However much of this infrastructure is now coming to the end of its serviceable life and requires maintenance and significant improvement. The main issues identified with the current cycle network provisions are:

- Lack of dedicated cycling space
- Illegal cycling on footways
- Narrow shared use footways
- Lack of space for comfortable cycling on-carriageway
- Low quality cycling infrastructure
- Poor route continuity
- Lack of support for cyclists at junctions
- Clarity and consistency of signage
- Lack of secure cycle parking
- Maintenance issues - cleanliness, soft landscaping, graffiti etc.

- On street and illegal parking
- Fear of safety, lack of surveillance and lighting

The Primary Cycle Network (PCN) is a series of eleven key strategic cycle-way's that aim to provide routes that are:

- Well connected
- Continuous
- Safe

The PCN links all major townships to the City Centre and other important education and employment sites. Encapsulating the entire network is the Green Wheel which is 70km of cycle routes which are:

- Sign-posted
- Mostly traffic free
- In rural locations
- That take in some of Peterborough's most picturesque countryside and villages

The Peterborough Cycle Map can be accessed using the following link:

<https://travelchoice.org.uk/resources/consectetur-adipiscing-elit-sed-do-eiusmod-tempor-2/>

3. Gathering Information

3.1 Overview

The LCWIP is evidence-led and based on data that evaluates a number of existing and potential trips that could feasibly be made on foot or by bicycle if conditions were to be improved. A range of tools, were used to examine the data to inform the LCWIP. These are explored further in this section of the document.

Information was gathered under the following themes:

- **Transport network** – including the existing walking and cycling network, along with synergies with other planned and proposed transport and land use schemes that potentially could have an impact on walking and cycling
- **Travel patterns** – data about existing walking and cycling trips, and journeys that people currently make using other modes of transport. This information was collected to identify where cycling and walking might be able to form all or part of a journey
- **Location of significant trip generators** – location and size of existing and planned trip generators, such as key employment sites, transport interchanges, education facilities and housing developments
- **Perception of existing facilities** – qualitative information was gathered to ascertain people’s concerns about cycling and walking in Peterborough along with feedback on what infrastructure they would like to see in the city.

It should be noted that Peterborough holds only a limited local data set to inform the development of the LCWIP. The majority of data used is predominantly based on the 2011 Census. Due to its age, this means that the data quality is decayed, and doesn’t take into account developments, regeneration and infrastructure changes that have occurred since the census was undertaken. Additionally, the data used includes only commuting trips, not business or leisure. These trips are however a good starting point in which to build on in the future and have the most potential to increase walking and cycling trips in the short term. Acquiring new data would involve a costly (both monetary and temporal) data collection exercise, to be carefully considered for future reviews and updates.

3.2 Propensity to Cycle Tool (PCT)

The DfT Propensity to Cycle Tool (PCT) was used for analysing existing and potential cycling trips. The PCT is designed to assist transport planners and policy makers when prioritising investments and interventions to promote cycling.

The PCT contains an interactive map that highlights the current and potential future distribution of commuter cycling trips under different potential future growth scenarios. This was used to inform the LCWIP as it provides numerical and graphical outputs. Examples of outputs include, estimated numbers of cyclists in an area, estimated number of cyclists along straight ‘desire’ lines, and estimated number of cyclists mapped to the current network.

4. Network Planning for Cycling

4.1 Overview

This section describes the methodology adopted for the Network Planning for Cycling stage of Peterborough's LCWIP. During this stage an analysis of data and local knowledge was completed so that key routes could be identified. Once identified, physical route audits were undertaken to determine what high level infrastructure improvements could be utilised to make the routes more attractive to cyclists in the future.

4.2 Peterborough 'CycleFriendly' Report

As part of the Local Sustainable Transport Fund programme, Peterborough produced a CycleFriendly report in 2012. The aim of the report was to increase cycling from the city periphery into the City Centre through the identification of infrastructure improvements. The project reviews the infrastructure available for cycling, identifying physical barriers and suggesting improvement measures in order to prioritise cycling in the existing road user hierarchy. Although now dated in some areas, measures identified in the Cyclefriendly report were considered as part of the LCWIP process. (A copy of the CycleFriendly report can be obtained by contacting - travelchoice@peterborough.gov.uk).

4.3 Trip Generators

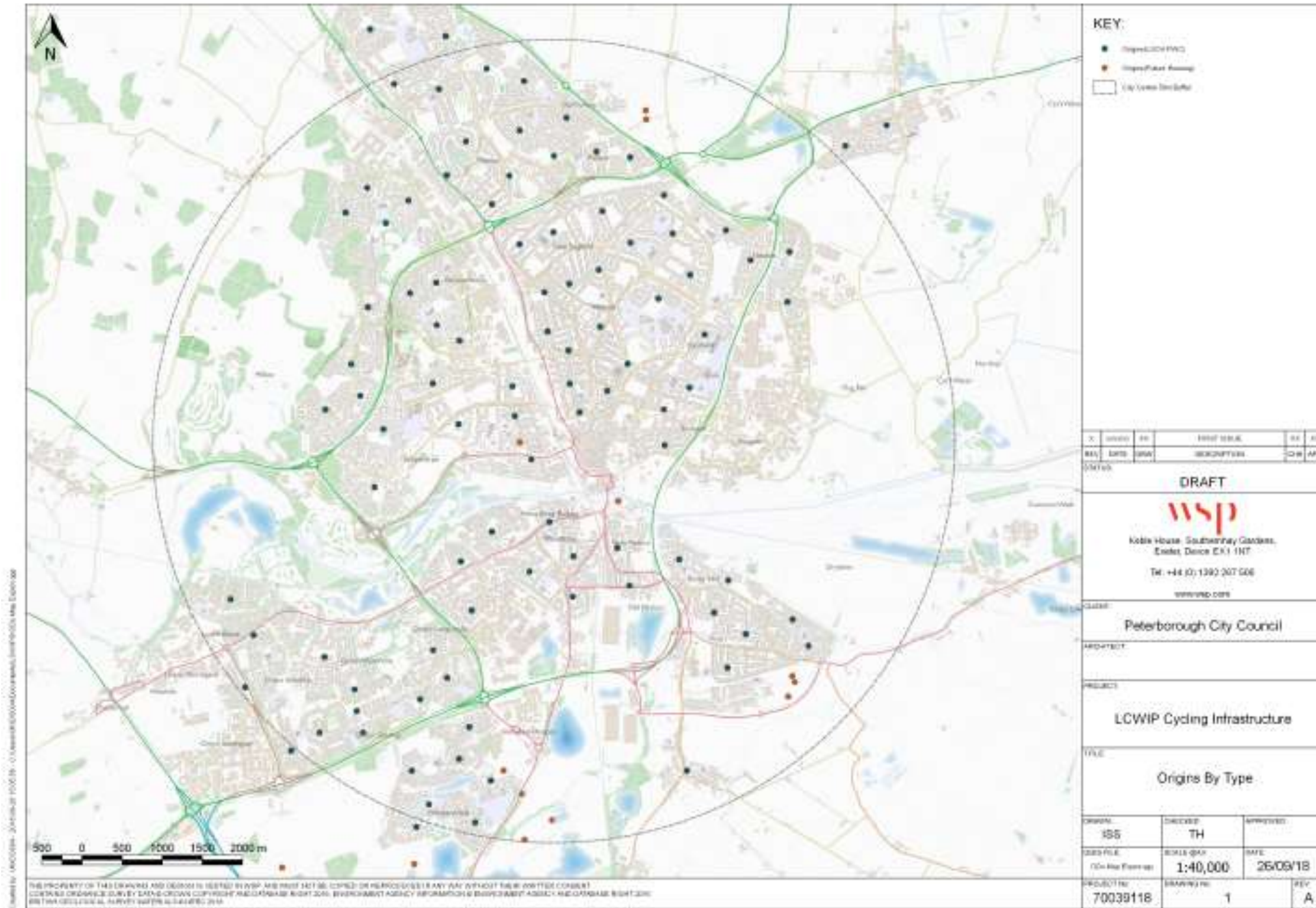
All trips have an origin and a destination. The LCWIP guidance states that identifying demand for a planned network should begin by mapping the main trip attractors across the city.

A number of significant trip attractors have been identified in Peterborough such as:

- The City Centre
- Parks & open spaces
- Large housing developments / residential areas (current and planned)
- Key employment sites
- Transport interchanges (train and bus station)
- Education facilities (schools, colleges, other higher education centres)
- Hospital sites
- Retail parks
- Community facilities
- Football stadium
- Leisure and tourist attractions

The origin and destination points are plotted in Figures 1 and 2 below.

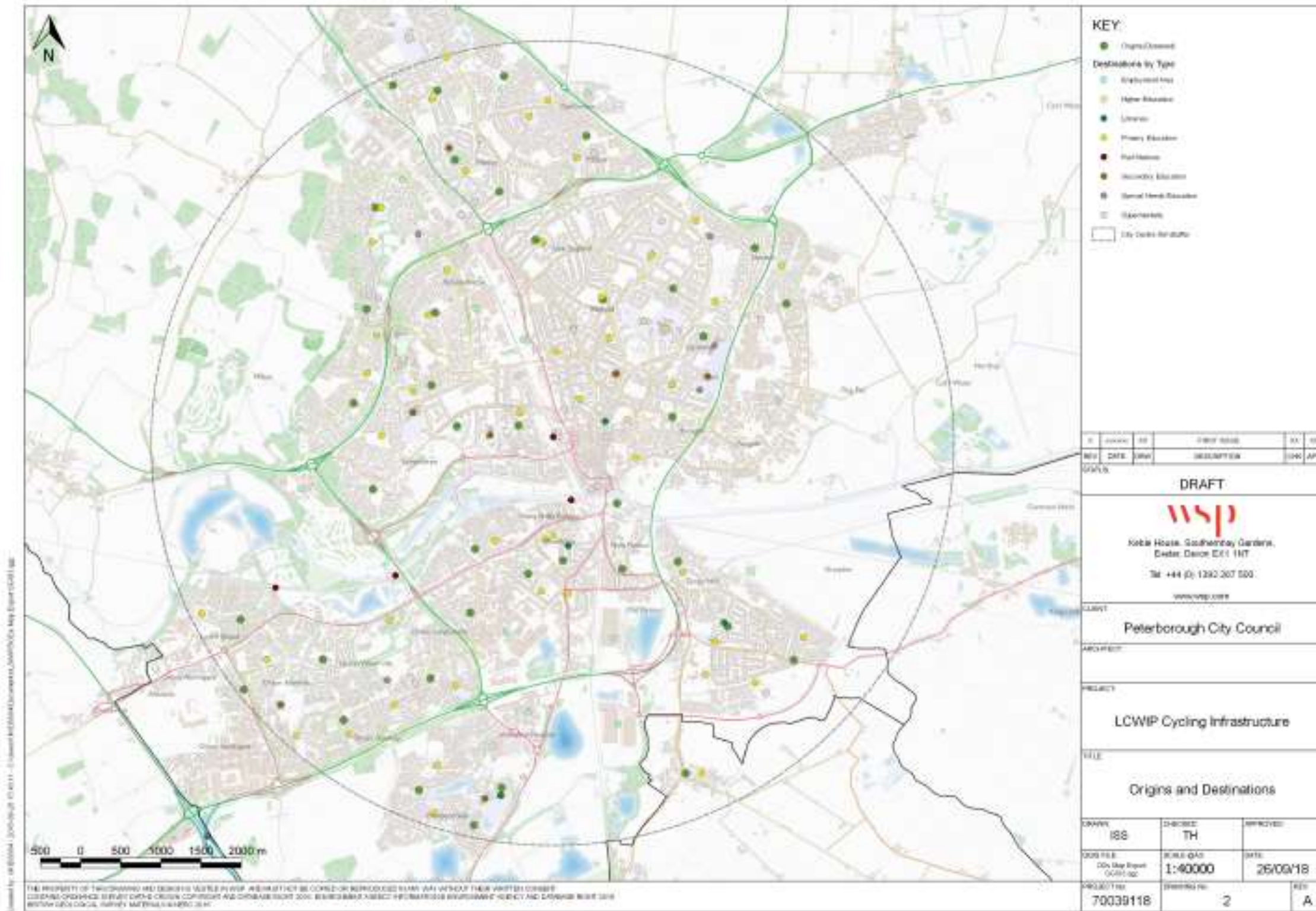
Figure 1 Origins by Type.



Origins by type have been determined using the following criteria:

- LSOA population weighted centroids from 2011 Census data, each centroid representing approximately 1500 people
- Limited to locations within 5km of the city centre (5km is taken as an approximate cycling distance that most people would be willing to undertake)
- Future Residential Developments - points represent future developments filtered to only include significant future potential origins (taken as 100 units and over)

Figure 2 Key Origins and Destinations.



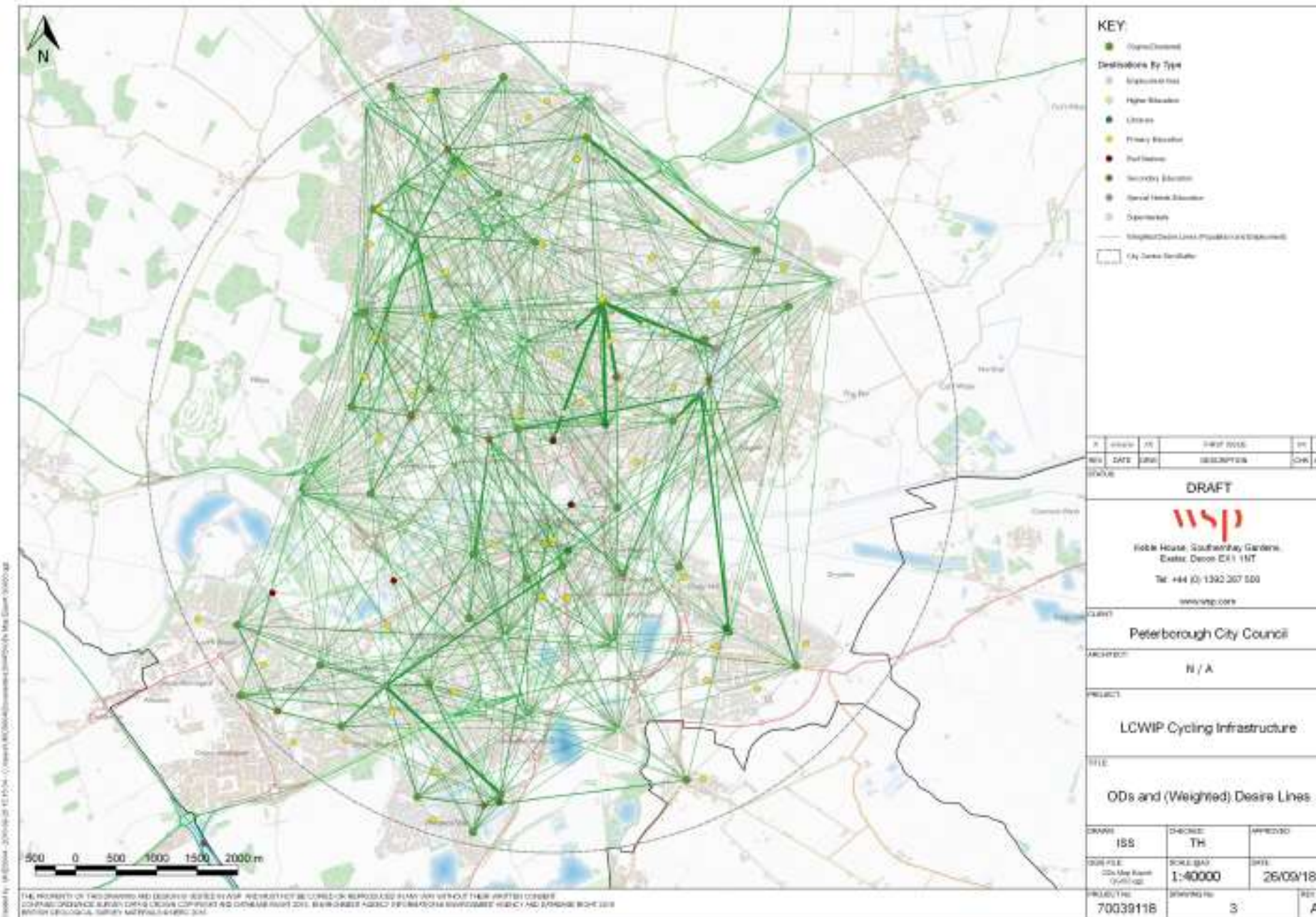
Origins and destinations have been determined using the following criteria:

- Origins are clustered, within a 550m radius of each other
- Destinations are split into two categories:
 - Class 1 attractors (town centres and key employment areas)
 - Class 2 attractors (all other destinations)

4.4 Identifying Desire Lines

Desire lines are defined as indicative straight flow lines between origin and destination points that do not need to follow existing links to roads or cycle routes. The LCWIP guidance recommends that once the origin and destination points have been identified, desire lines should be plotted between them to identify the principal movements to create the “best” network linking origins and destinations directly. The desire lines plotted for the Peterborough LCWIP are as shown in Figure 3 below.

Figure 3 Origins and Destinations with Desire Lines.

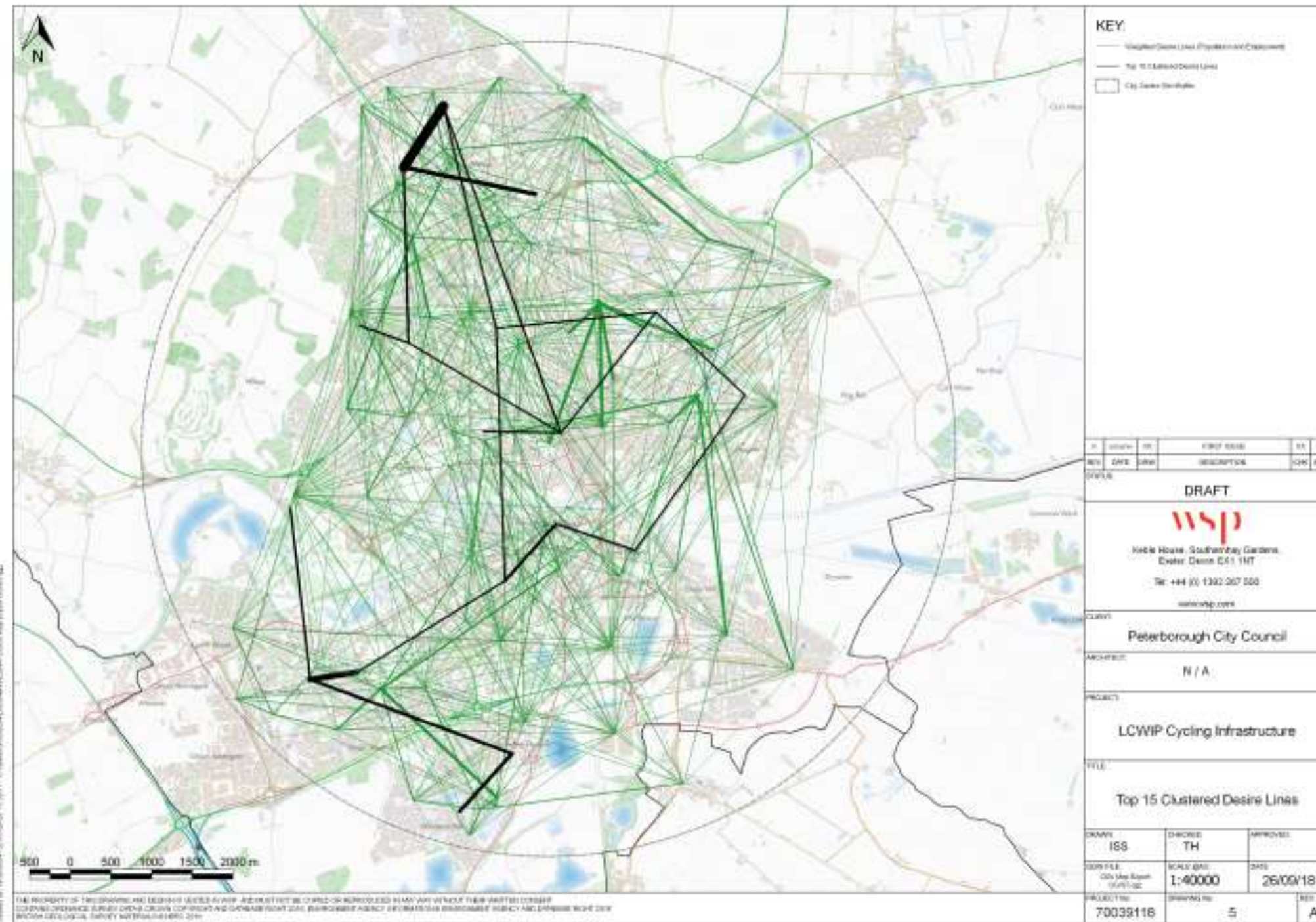


Origins and destinations have been determined using the following criteria:

- Desire lines are accorded relative weight using populations (origins) and jobs/proximities (destinations)
- Origins are weighted, taking 2.4 people per unit for the future developments
- Destinations are weighted by job numbers if available, or if data provided as polygon: 50% of area assumed as usable floor-space with 1 job per 30m² in this area
- All origin clusters connected to all class 1 attractors in the study area (town centres and key employment areas) and then the closest of each type
- Connections of over 5km filtered out (5km is taken as an approximate cycling distance that most people would be willing to undertake)

Once the desire lines were identified it was necessary to cluster trip generators in close proximity to each other to simplify the analysis and provide focus to identify the routes that estimate the highest number of potential trips. The priority desire lines effectively form corridors within which preferred route alignments and improvements will be identified. Figure 4 below, shows the top 15 clustered desire lines, overlain with the un-clustered desire lines.

Figure 4 Top clustered desire lines

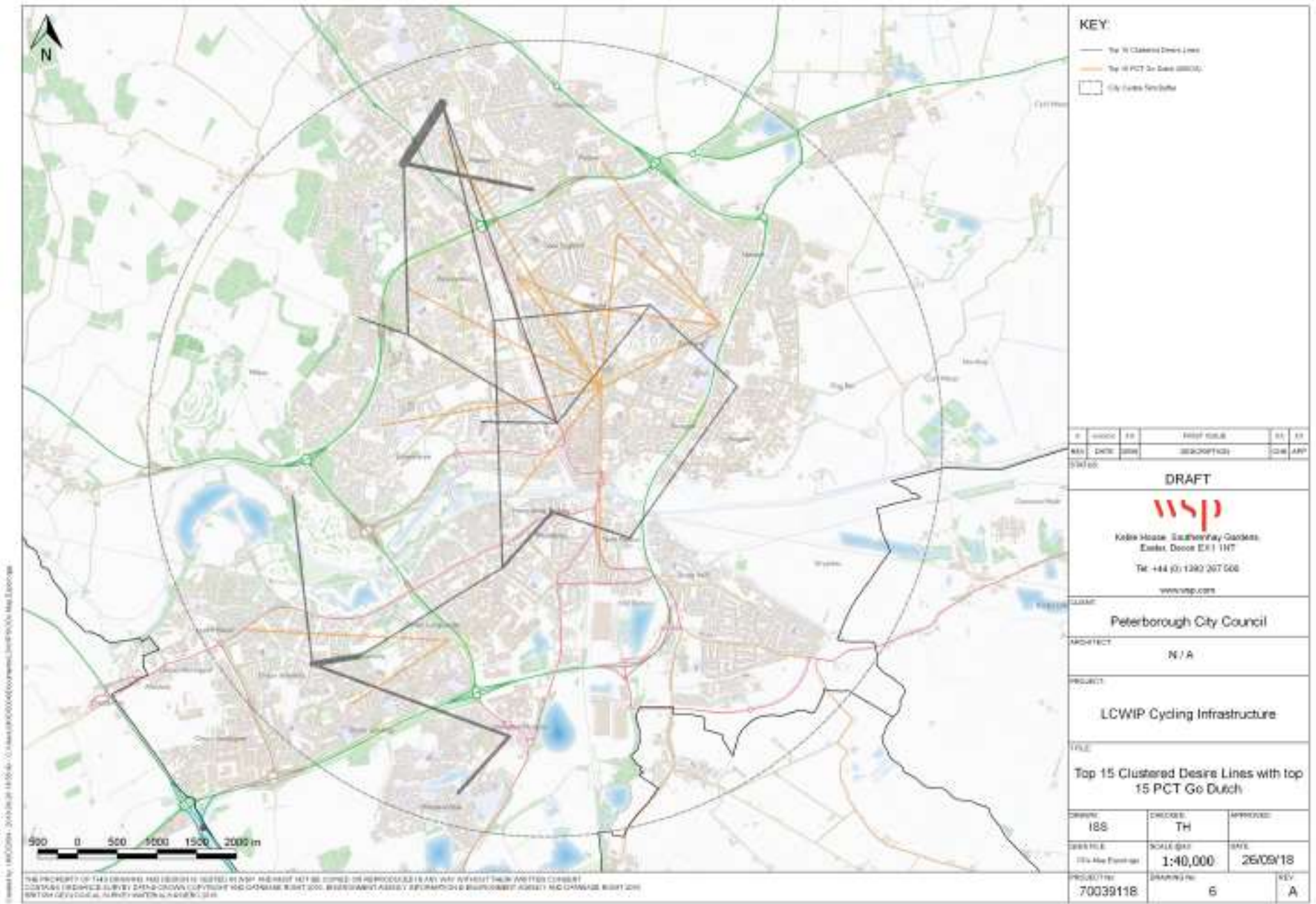


The final stage when considering desire lines is to forecast future commuter cycle flows using the Propensity to Cycle Tool (PCT). The PCT uses 2011 census journey to work data to forecast future cycle flows across a number of different scenarios, whilst also considering factors such as 'hilliness' and deprivation.

The PCT has been used to produce desire lines for the "Go Dutch" scenario. The Go Dutch scenario represents how cycling trips would be distributed across Peterborough, should its attitudes and provisions reflect those of a similar geographical area of the Netherlands. The Netherlands boasts one of the greatest rates of cycling trip rates in the world, and so is used as an example for authorities to understand the possible realistic increase in number of cycling trips that could be achieved.

The orange lines on Figure 5 show the top 15 desire lines for a Go Dutch Scenario, compared to the top 15 2011 Census desire lines.

Figure 5 Top clustered desire lines with top PCT 'Go Dutch' Lines



Both sets of desire lines were compared in order to ascertain the top 15 cycling routes. Figure 5 generally shows that trips converge is around the City Centre, but also that Fengate, the Orton Centre, and Peterborough City Hospital are big attractors of trips.

The LCWIP is a living document, which will be developed over time to include a more comprehensive network plan. The guidance acknowledges that it will take considerable time to develop a dense cycling network to fully facilitate journeys to a range of destinations. The scope of this iteration is limited by the number of corridors that could be audited. This stage of the LCWIP has concentrated on the primary corridors only, connecting strategic origins and destinations. Additional corridors will be identified and explored to enhance and expand the network in future iterations of the LCWIP.

The primary corridors that have been selected are based on data showing high flows of forecast cyclists along desire lines that link broad residential areas to significant trip attractors. These include:

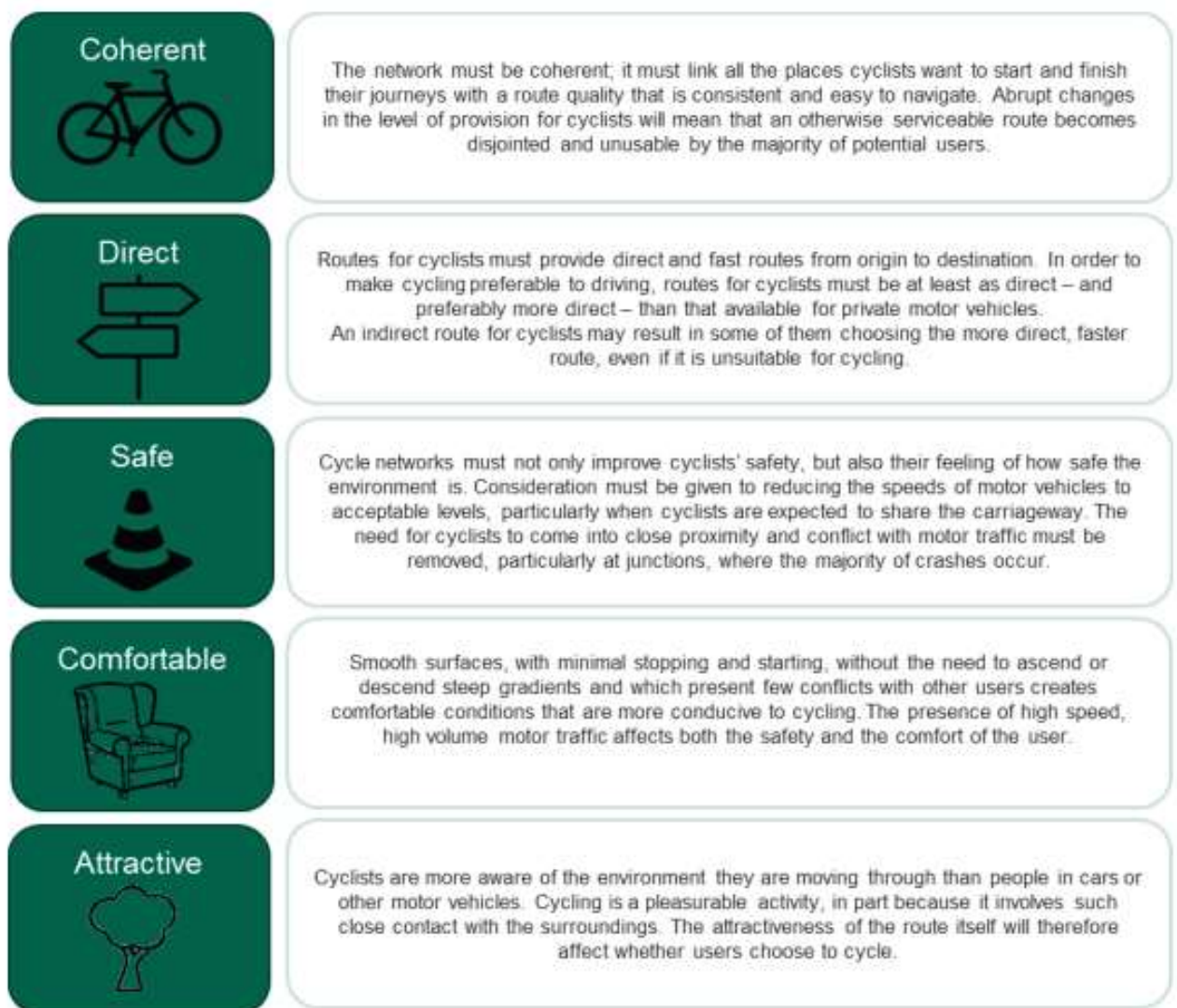
- Movements to and from the City Centre, which have a high concentration of economic activity and connections to transport interchanges (rail and bus stations);
- Connections to significant employment sites, retail centres, community hubs, the hospital and large education sites.

4.5 Core Design Outcomes and LTN 1/20

Core Design Outcomes

It is important to consider the attributes of the existing transport network and its suitability for cycling before converting desire lines into preferred routes to create a cycle network. Based on established best practice both internationally, (Dutch Design Manual for bicycle traffic (CROW): <http://www.crow.nl/publicaties/design-manual-for-bicycle-traffic>) and nationally, (TfL research points to safety, traffic and facilities being key barriers: <http://content.tfl.gov.uk/analysis-of-cycling-potential.pdf>) good routes for cycling realise the core design outcomes suggested by the Cycling Level of Service (CLOs) tool in the London Design Standards, (<https://tfl.gov.uk/corporate/publications-and-reports/streets-toolkit#on-thi-page-1>), as illustrated in Figure 6 below. The core design outcomes will be used to assess the routes and inform the improvements needed as part of the LCWIP route identification and audit process.

Figure 6 Core design outcomes for cycling.



Department for Transport Local Transport Note (LTN 1/20)

In July 2020 the Department for Transport published new national guidance for highway authorities and designers (LTN 1/20) to help cycling become a form of mass transit in many more places

(https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/951074/cycle-infrastructure-design-ltn-1-20.pdf)

It states that cycling must no longer be treated as marginal, or an afterthought and must be seen as a means of everyday transport. The guidance sets out the much higher standards that are expected, and describes some of the failings common in the past, which will be strongly discouraged in future.




All proposed schemes will be checked by a new inspectorate against the summary principles before funding is agreed, and that finished schemes will be inspected as appropriate to ensure that they have been delivered in compliance with them. LTN 1/20 standards have been developed to reflect the latest developments and best practice in cycle infrastructure design, including proven design elements pioneered by Transport for London and by the Cycle Ambition Cities and in Wales under the Welsh Active Travel Design Guidance.

The design options include segregation from traffic, measures for cycling at junctions and roundabouts, and updated guidance on crossings, signal design and the associated traffic signs and road markings.

It notes that Government funding for local highways investment where the main element is not cycling or walking, there will be a presumption that schemes must deliver or improve cycling infrastructure to the standards outlined in LTN 1/20.

There are five core design principles which represent the essential requirements to achieve more people travelling by cycle or on foot, based on best practice both internationally and across the UK. Networks and routes should be:

Figure 7 LTN 1/20 Core design principles

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

There is an expectation that local authorities will demonstrate that they have given due consideration to LTN 1/20 when designing new cycling schemes and, in particular, when applying for Government funding that includes cycle infrastructure. The LTN 1/20 guidance will be used to inform the infrastructure improvements at a high level needed for each identified route contained in this LCWIP, and in the further development of feasibility studies, concepts and designs prior to construction.

Further information on the LTN 1/20 design standards and various tools for appraisal of schemes and guides on best practice design can be found using the following link - https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/951074/cycle-infrastructure-design-ltn-1-20.pdf .

4.6 Route Selection

Stakeholder feedback and local knowledge were utilised to convert the top priority clustered desire lines (as detailed in Figure 5 above) into the most direct routes. The preferred routes were then each assessed against the core design outcomes and their ability to cater for increased levels of cycling (and adjusted where required). Figure 8 below illustrates the routes identified to progress to the detailed audit stage of the LCWIP (Table 4.1 details the route references and descriptions).

Figure 8 Overview of the 15 identified routes as a result of desire line analysis

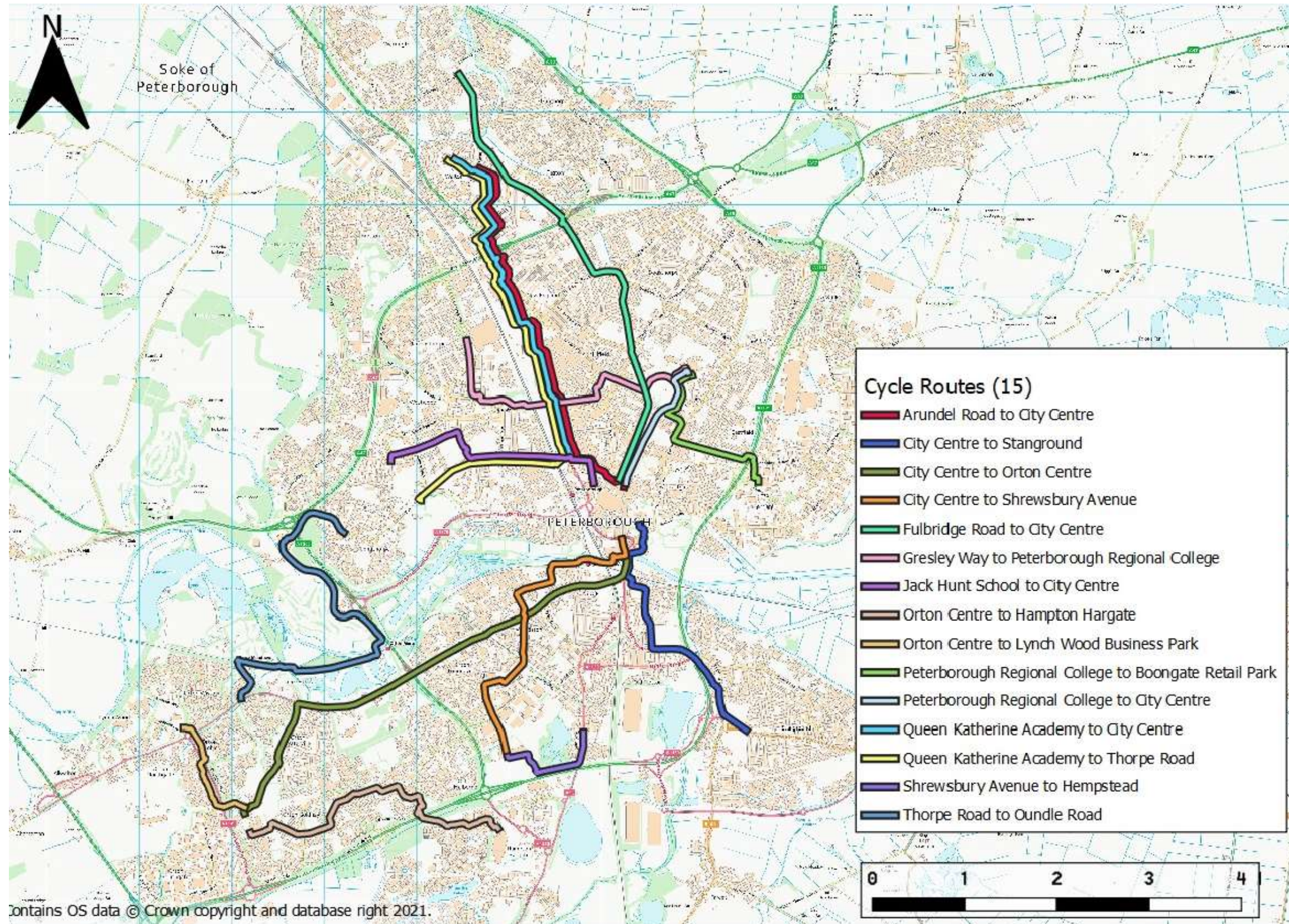


Table 4.1 Route Reference and descriptions

Route Reference	Route description
C01	Arundel Road to City Centre
C02	City Centre to Stanground
C03	City Centre to Orton Centre
C04	City Centre to Shrewsbury Avenue
C05	Fulbridge Road to City Centre
C06	Gresley Way to Peterborough Regional College
C07	Jack Hunt School to City Centre
C08	Orton Centre to Hampton Hargate
C09	Orton Centre to Lynch Wood Business Park
C10	Peterborough Regional College to Boongate Retail Park
C11	Peterborough Regional College to City Centre
C12	Queen Katherine Academy to City Centre
C13	Queen Katherine Academy to Thorpe Road
C14	Shrewsbury Avenue to Hempstead
C15	Thorpe Road to Oundle Road (inc link to Bretton Way via off-road route)

Individual route maps are contained in Appendix A.

4.7 Route Selection Tool (RST) and Route Audits

Each of the 15 preferred routes identified underwent a site audit using the Route Selection Tool (RST) as suggested in the LCWIP guidance. The primary function of the RST is to compare an existing and a potential new route (including proposed improvements) against the core design outcomes, in terms of qualities such as comfort, safety, and directness. The RST methodology can be found using the following link:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/602528/cycling-walking-infrastructure-tools.pdf

The RST has been used for this LCWIP to compare a route with a potential improved route. By taking the score of the route as audited, high level improvements can be identified that should attract more trips to the route. The score of the potential route is thus the score of the current route with the high-level improvements added in.

The RST splits each route into sections and uses a range of criteria to assess how well the complete route currently and potentially meets the core design outcomes, using a scoring system for each criteria (from 5 being the highest, to 0 being the lowest). The criteria noted are:

- directness
- gradient
- safety
- connectivity
- comfort

RST score summaries for each route are contained in Appendix B.

4.8 Establishing Cycling Infrastructure Improvements

In order to increase levels of cycling, the quantity and quality of provisions in Peterborough require significant improvement in terms of:

- Direct and joined up routes that improve access to trip generators and destinations
- Provision of proportional space
- Best practice design for route widths and junctions
- Safe crossing points
- Higher standards of safety and visibility including signage / wayfinding, surveillance and lighting
- On-road sections with segregation from traffic
- Data collection and monitoring.

The RST was used to inform conceptual, high level infrastructure improvements for each of the routes during the audit stage. The proposals are based on good practice emerging from the Cycling Cities programme, and reflect the DfT LCWIP technical guidance and the latest cycling infrastructure design guide.

The proposals are intended to appeal to new cyclists and to encourage less confident cyclists to make more cycling journeys. Where possible, the proposed facilities are separated from traffic, especially where traffic volumes are high or average vehicle speeds are greater than 30mph. If it can be achieved, a minimum of 300mm buffer between the cycle way and vehicles will be applied to provide additional protection from passing vehicles and doors opening from parked cars. The buffer will also assist pedestrians crossing the cycleway. A summary of the high level improvements identified for each route are noted in Table 4.2 below:

Table 4.2 High level improvements noted at the route audit stage

Route Reference	High level description of infrastructure improvements noted during the audit stage
C01	Lighting and wayfinding signage required for whole route. Surveillance, signalised junction and creation, strategic cycle way installation, resurfacing and signage
C02	Declutter and obstacle removal. Lighting , surveillance under Parkway, crossing island x1, widening pavement, segregated cycle lanes, signage
C03	Segregated cycleway, mixed strategic cycle route, declutter x1, lighting , surveillance, signage
C04	Lighting, surveillance and mixed strategic cycle route including signage
C05	Remodel of 2 roundabouts, update pedestrian bridge to include cycles, creation of cycle route through Fulbridge Rec, segregated cycle lanes, widen pavement move bus stop back, resurfacing, signage
C06	Segregated mixed strategic cycle route, repainting, resurfacing, signage, surveillance and lighting throughout, advance stop line and priority crossing (junction remodel)
C07	Mixed strategic cycle route, resurfacing, signage
C08	Surveillance, lighting (1.35km), mixed strategic cycle route, paint segregated cycle lane, signage
C09	New strategic cycle route, lighting, surveillance, shared use, signage.
C10	Through Central Park - signage / resurfacing / lighting, cycle lane marking, mixed strategic cycle route (0.5km), 2 major junction remodelling / priority crossings
C11	Through Central Park - resurfacing, signage, mixed strategic cycle route, 1 junction remodel / priority crossing, painting

C12	Lighting, signage and painting required for whole route. Surveillance. Signalised junction and continuation of segregated shared use pavement, resurfacing, signage, wayfinding
C13	Lighting, signage, surveillance, segregated cycle lane and resurface (2.8km), signalised crossing at 1 junction. New bridge / update to existing bridge (bolt on bridge for pedestrians / cyclists - Mayors Walk). Remodel of 6 parking bays and conversion of 1km of pavement into segregated shared use.
C14	Lighting, surveillance and resurfacing
C15	Bi-directional cycle lane - segregated from the road inc priority at side roads, installation of up to 3 controlled crossings/zebra, footpath widening, lighting, maintenance and resurface of off road connections, signage. Maintenance of off road link to Bretton Way inc, resurfacing, removal of debris, lighting and signage.

A full feasibility study for each route / scheme / work package will be required to determine the precise interventions needed throughout the corridor, to define the exact routes and more accurate costings. This should include engagement with communities to co-create and design spaces and routes that serve the people living and working in Peterborough.

4.9 Economic Appraisal – Cycling Schemes

To assist the appraisal and prioritisation process, a Benefit-to-Cost Ratio (BCR) calculation has been completed for each of the routes using the high level infrastructure design concepts identified using the RST.

The purpose of this exercise was to calculate the quantifiable benefits that would arise from upgrading the cycle infrastructure on the routes identified. The key benefits resulting from the upgrades would be:

- Improved safety for trips using active modes
- Improved uptake of active modes of travel
- Reduced traffic congestion as a results of less driving commuters

The economic assessment is an evaluation of the benefits likely to be received by infrastructure improvements against the costs incurred by the Government. The evaluation follows the principles set out by the Treasury in its 'Green Book' and has been undertaken in accordance with the approach set out by the DfT in its web-based Transport Analysis Guidance (WebTAG, updated 1 May 2019).

Both cycling and walking schemes have been processed through the Active Mode Appraisal Toolkit (AMAT).

The PCT has been used to ascertain the number of trips currently using the existing infrastructure, and how many trips would use it in a "Government Target" scenario (to double the number of cycling trips in Great Britain). The PCT uses this as a basis to calculate where new cycling trips would be most likely to come from, when considered alongside other factors (for more information, visit the PCT at www.PCT.bike). The high level conceptual improvements identified during the LCWIP are assumed to serve the Government target, and thus increase the number of cycling trips by the difference between the current trips and the PCT Government scenario.

The cost for implementing new infrastructure has been estimated from recently built schemes in Peterborough and Cambridgeshire. The schemes themselves have been identified using a

combination of desktop assessments, cycling and walking audits, and previous reports. It should be noted that the identified schemes are high level, and do not exhaust the possibilities of each route.

The BCR of each of the schemes is the ratio of Present Value of Benefits (PVB) to the Present Value of Costs (PVC). The DfT uses the following categories to determine the Value for Money that BCRs represent:

- Low Value for Money if BCR = 1.0 to 1.5
- Medium Value for Money if BCR = 1.5 to 2.0
- High Value for Money if BCR – 2.0 to 4.0
- Very High Value for Money if BCR >4.0

The PVB and the PVC are calculated over an appraisal period of 20 years and all values are deflated and discounted to the DfT base year of 2010. Figures for the PVBs and PVCs, along with a BCR for each of the schemes are summarised in the Table 4.3 below:

Table 4.3 Cycling Schemes PVBs, PVCs and BCRs

Route Reference	PVC (£,000s)	PVB (£,000s)	BCR
C01	884	7,295	8.25
C02	126	2,704	21.39
C03	905	1,940	2.14
C04	884	2,046	2.31
C05	1,841	5,498	2.99
C06	1,464	5,514	3.77
C07	1,053	7,292	6.92
C08	512	1,156	2.26
C09	1,721	3,823	2.22
C10	980	4,962	5.06
C11	712	1,991	2.80
C12	799	7,295	9.13
C13	1,525	5,517	3.62
C14	154	1,565	10.16
C15	1,681	4,228	2.51

All cycling schemes have BCRs that represent either high value or very high value for money. These values will be used as part of the prioritisation exercise found in section 6.

The spreadsheet model used to calculate the BCR's is available on request.

5. Network Planning for Walking

5.1 Overview

This section describes the methodology adopted for the Network Planning for Walking stage of Peterborough's LCWIP. During this stage an analysis of data and local knowledge was completed so that key routes and core zones could be identified. Once identified, physical route audits were undertaken to determine what high level infrastructure improvements could be utilised to make the routes more attractive to pedestrians in the future.

Many of the benefits of walking and cycling are shared, and most often improvements for one will affect the other as large parts of the two networks overlap. Pedestrians and cyclists are often in close proximity and may share routes and crossings. However, walking trips are generally shorter than cycling trips, with longer trips being facilitated through access to transport interchange.

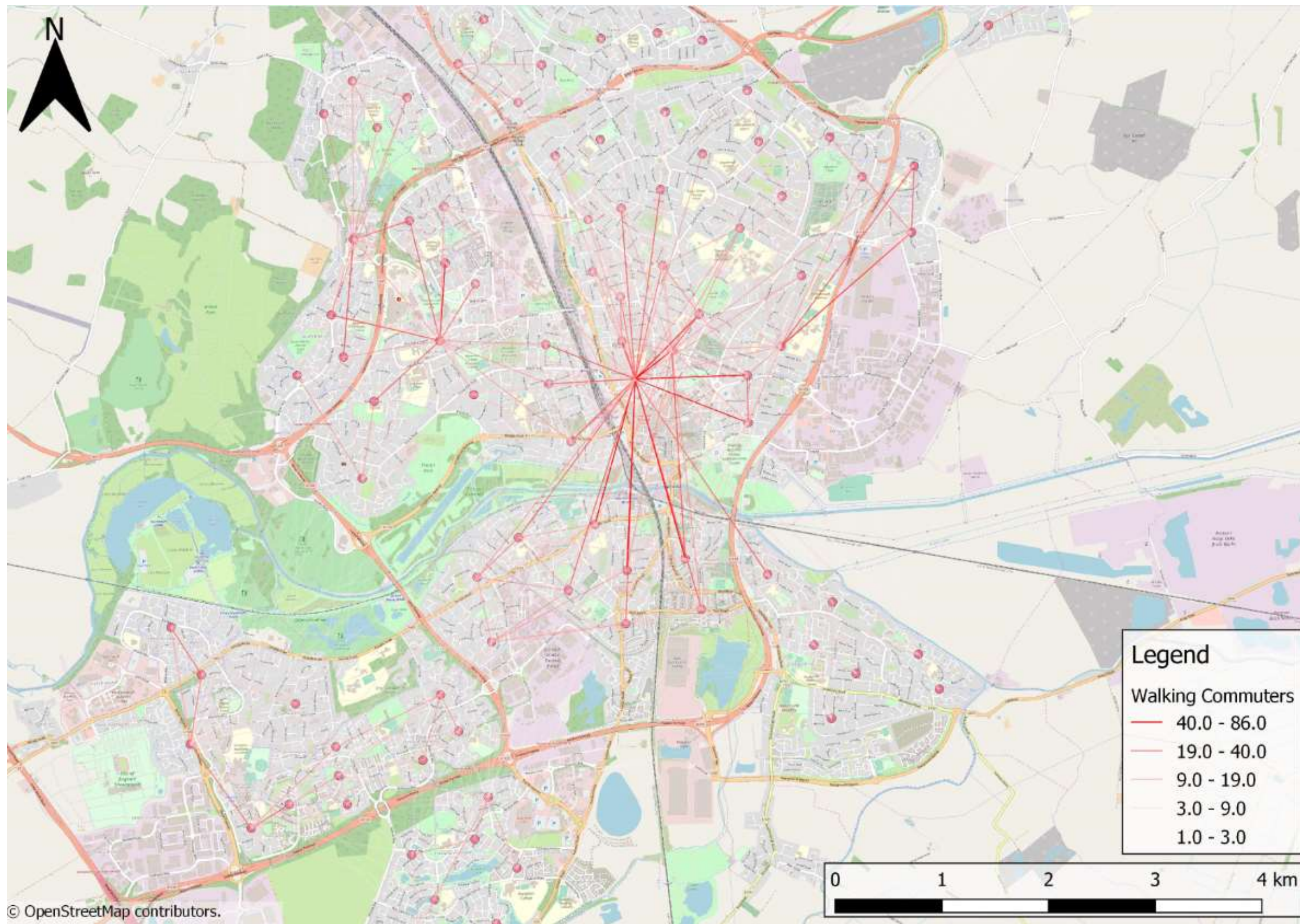
5.2 Peterborough 'WalkFriendly' Report

As part of the Local Sustainable Transport Fund programme, Peterborough produced a WalkFriendly report in 2012. The aim of the report was to increase walking from the city periphery into the City Centre through the identification of infrastructure improvements. The project reviews the infrastructure available for walking, identifying physical barriers to walking and suggesting improvement measures to address such barriers. Although now dated (in some areas), the Walkfriendly report has been used to inform the LCWIP where relevant (A copy of the Walkfriendly report can be obtained by contacting - travelchoice@peterborough.gov.uk).

5.3 Trip Generators

The below map (Figure 9) has been produced to understand the demand on the network. It uses 2011 Commuter Census data to indicate high flows of walking commuters between census areas.

Figure 9 Walking Origin and Destination



Utility trips typically have common journey destinations, such as the City Centre, educational establishments, workplaces, health, leisure and other facilities. The City Centre shows an abundance of flows, including routes to the north, south, and into Fengate. The area around the Hospital and Orton Centre also show high flows.

There are some limitations to consider with this data. For example, due to the age of the data, the area of Hampton does not show the volume of flows expected. This is likely due to the fact that Hampton has been developed in recent years since the 2011 Census. In addition, the flows observed are likely under-representing true volumes due to the fact they are based entirely on commuters. There are large gaps in the data for walking volumes attributed to retail and leisure, which would be explored when a more detailed feasibility study is undertaken for any of the routes following on from the LCWIP.

5.4 Barriers and Funnels for Walking Routes

The Barriers and Funnels have been considered on an individual basis for each desire line. Barriers in Peterborough typically include the parkways, the River Nene, and the railway line. Housing areas are generally quite permeable, with several cut-through paths featuring quite prominently across the city. Funnels typically include bridges and underpasses that traverse these barriers, with prominent funnels being Town Bridge and Crescent Bridge.

5.5 Core Walking Zones (CWZs) and Routes

Once the walking trip generators were established it was necessary to identify Core Walking Zones (CWZs). CWZs consist of a number of trip generators that are located close together. 3 CWZs were identified for this LCWIP iteration – the City Centre, the Bretton Centre (Bretton Gate / Peterborough City Hospital) and the Ortongate Centre.

For each of the CWZs identified, the important pedestrian routes that serve them were reviewed from an approximate maximum distance of 2km. Figure 10 below combines the origin and destination information, the census commuter data and the CWZs to highlight 15 key walking routes to progress to audit as part of this LCWIP (Table 5.1 details the route references and descriptions).

Figure 10 Core Walking Zones and route identification

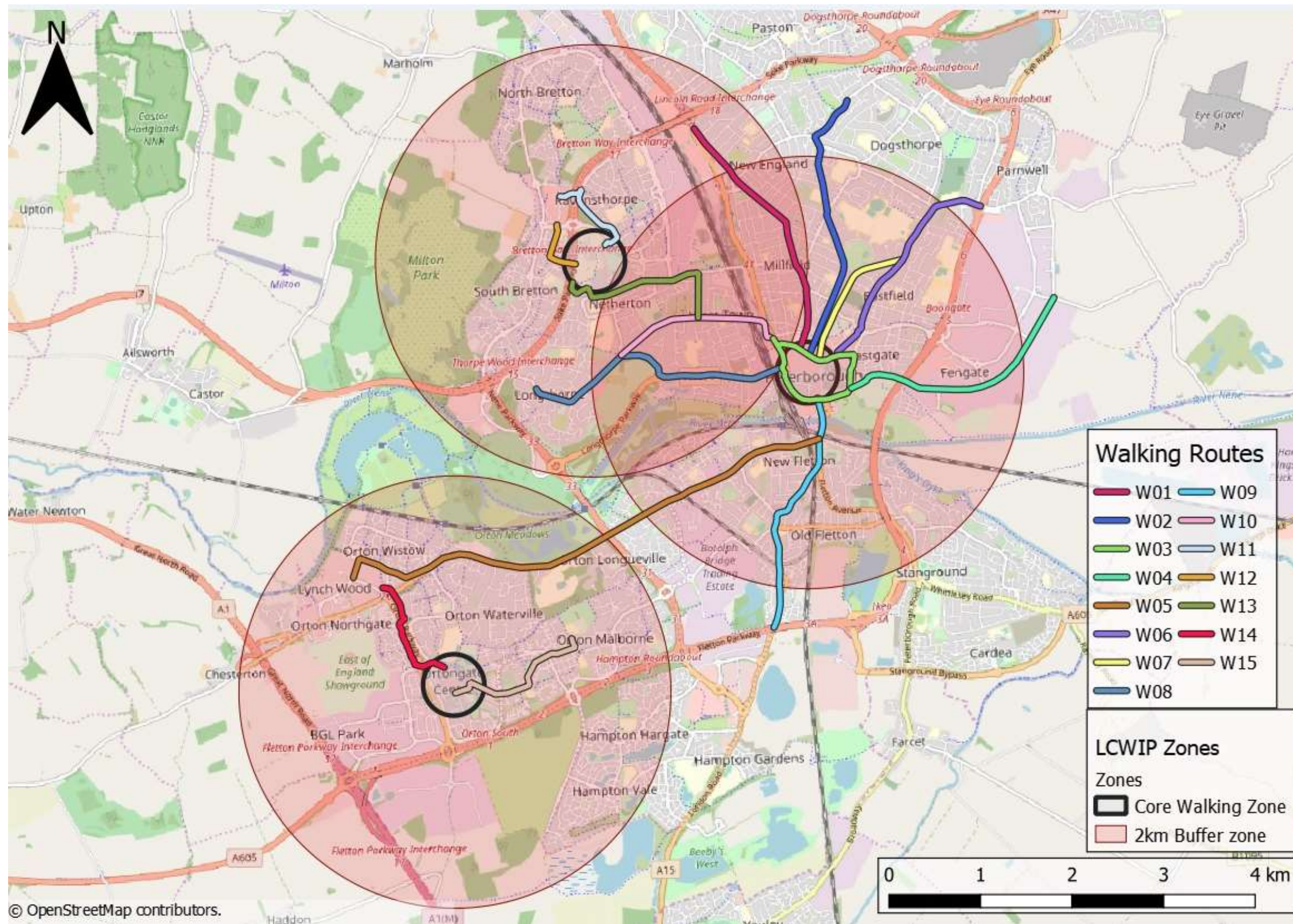


Table 5.1 details the walking route references and descriptions

Route Reference	Route
W01	Lincoln Road (Rhubarb Bridge to Westgate)
W02	Park Road (Bluebell Avenue to Westgate)
W03	City Centre Perimeter (Westgate / Bourges Boulevard to Vineyard Road / Bishops Road)
W04	Fengate (Gravel Walk / Vineyard Road to Vicarage Farm Road)
W05	Oundle Road (Lynch Wood Business Park to Town Bridge)
W06	Eastfield Road (Peterborough City Market to Frank Perkins Parkway Overbridge)
W07	Broadway (Long Causeway to Eastfield Road (via Broadway))
W08	Thorpe Road (Apsley Way to Crescent Bridge)
W09	London Road (Fletton Parkway Underbridge to Bridge Street)
W10	Mayors Walk (Audley Gate to Bourges Boulevard)
W11	Hartwell Way (Peterborough City Hospital to the Bretton Centre)
W12	South Bretton (Peterborough City Hospital to the Bretton Centre)
W13	Atherstone Avenue (Peterborough City Hospital to Mayors Walk)
W14	Orton / Lynch Wood (the Ortongate Centre to Lynch Wood)
W15	Orton (the Ortongate Centre to The Phoenix School)

5.6 Walking Route Audit Tool (WRAT)

As part of the Welsh Active Design Guidance (www.gov.wales) a Walking Route Audit Tool (WRAT) was developed to assist Local Authorities with the auditing of walking routes. The auditing methodology targets five core design outcomes for pedestrian infrastructure:

- Attractiveness – maintenance, fear of crime, traffic noise and pollution
- Comfort – condition, footway width, width on staggered crossings / pedestrian islands / refuges, footway parking, gradient
- Directness – footway provision, location of crossings in relation to desire lines, gaps in traffic (where no controlled crossings present, impact of controlled crossings on journey time, green man time)
- Safety – traffic volume, traffic speed, visibility
- Coherence – dropped kerbs, tactile paving, signage

In addition to the 5 core design outcomes, consideration was given to the needs of vulnerable pedestrians (for example, older, visually or mobility impaired, buggy users etc.)

WRAT methodology can be found using the following link:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/602528/cycling-walking-infrastructure-tools.pdf

Individual WRAT route summaries can be found in Appendix C

5.7 Establishing Walking Infrastructure Improvements

The WRAT was used to inform conceptual, high level infrastructure improvements for each of the routes during the audit stage. A brief summary of the improvements needed for each route are noted in Table 5.2 below:

Table 5.2 High level improvements noted at the route audit stage

Route reference	High level description of infrastructure improvements noted during the audit stage
W01	2 junction remodel, 3 pedestrian crossings, remove guard railing (0.25km), relocate bus shelter, resurfacing (2.8km), signage, upgrade street furniture, surveillance (1km)
W02	2 junction remodel, remove of guard railing (0.25km), widen footway (1km), removal / enforcement on-street (pavement) parking (0.25km), 1 pedestrian crossing, move 3 bus shelters to back of footway, signage and decluttering (1km), dropped kerbs / tactile paving (4 locations)
W03	General maintenance, increased signage, decluttering (whole route), 5 pedestrian crossing (new and upgrade), replace broken / uneven pavements (500m), 1 crossing island
W04	Refuge island crossing facility, 2x pedestrian crossing, widen footpath (100m), signage, decluttering
W05	Signage, removal of clutter, new pedestrian crossings or refuge island (potentially up to 8), widening / resurfacing (500m)
W06	Decluttering and maintenance (2km), 2x pedestrian phases need to be added to existing signalised junctions, 2x new pedestrian crossings
W07	2 pedestrian crossing, 2 junction remodel, widen footway, declutter (whole route)
W08	Remove lane on Crescent Bridge - remodel bridge, widen footway (1km), remodel junction, surveillance (1km), general subway maintenance
W09	Signage, declutter, resurfacing (on bridge x100m, x100m), potentially 3 new pedestrian crossings
W10	Junction remodel, widen footway (0.8km), painting / general maintenance (1.5km), signage, lighting (in subway)
W11	Lighting, new pedestrian crossing, walkway over Bretton Gate and around Hartwell Way (x2, 700m), underpass maintenance
W12	Signage, underpass lighting (x20m), wayfinding totem
W13	Pedestrian crossing, lighting, potentially 3 pedestrian refuge island
W14	New footway (190m), signage, general maintenance, 1 wayfinding totems
W15	New footway (140m), pedestrian crossing (x1)

A full feasibility study for each route / scheme / work package will be required to determine the precise interventions needed throughout the corridor, to define the exact routes and more accurate costings. This should include engagement with communities to co-create and design spaces and routes that serve the people living and working in Peterborough.

5.8 Economic Appraisal – Walking Schemes

To assist the appraisal and prioritisation process a Benefit-to-Cost Ratio (BCR) calculation has been completed for each of the routes using the high level conceptual infrastructure design ideas identified using the WRAT at the route audit stage.

The purpose of this exercise was to calculate the quantifiable benefits that would arise from upgrading the pedestrian infrastructure on the routes identified. The key benefits resulting from the upgrades would be:

- Improved safety for trips using active modes
- Improved uptake of active modes of travel
- Reduced traffic congestion as a result of less driving commuters

The economic assessment is an evaluation of the benefits likely to be received by infrastructure improvements against the costs incurred by the Government. The evaluation follows the principles set out by the Treasury in its 'Green Book' and has been undertaken in accordance with the approach set out by the DfT in its web-based Transport Analysis Guidance (WebTAG, updated 1 May 2019).

Both cycling and walking schemes have been processed through the Active Mode Appraisal Toolkit (AMAT).

Walking trips have been calculated using the commuting trip data identified in the 2011 Census. As such, only commuting trips are considered as part of the assessment, and it is reasonable to assume that more benefit could be calculated should more up-to-date data be collected.

The increased number of walking trips as a result of the improved infrastructure is calculated using the "expected uplift in walking for a prospective scheme" values as reported in the "Valuing the Health Benefits of Transport Schemes" guidance from Transport for London (TfL).

The cost for implementing new infrastructure has been estimated from recently completed schemes in Peterborough and Cambridgeshire. The schemes themselves have been identified using a combination of desktop assessments, walking audits and previous reports. However, it should be noted that the identified schemes are high level, and do not exhaust the possibilities of each route.

The BCR of each of the schemes is the ratio of Present Value of Benefits (PVB) to the Present Value of Costs (PVC). The DfT uses the following categories to determine the Value for Money that BCRs represent:

- Low Value for Money if BCR = 1.0 to 1.5
- Medium Value for Money if BCR = 1.5 to 2.0
- High Value for Money if BCR = 2.0 to 4.0
- Very High Value for Money if BCR >4.0

The PVB and the PVC are calculated over an appraisal period of 20 years and all values are deflated and discounted to the DfT base year of 2010. Figures for the PVBs and PVCs, along with a BCR for each of the schemes are summarised in Table 5.3 below:

Table 5.3 Walking Schemes PVBs, PVCs and BCRs

Route Reference	PVC (£,000s)	PVB (£,000s)	BCR
W01	413	948	2.30
W02	262	622	2.37
W03	93	1,533	16.52
W04	42	197	4.71
W05	131	418	3.20
W06	192	402	2.09
W07	190	357	1.88
W08	40	89	2.22
W09	51	55	1.08
W10	241	346	1.43
W11	79	242	3.08
W12	20	123	6.24
W13	69	200	2.89
W14	13	56	4.19

W15	103	153	1.48
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Three of the conceptual high level schemes present low value for money, one present's medium value for money, 7 high value and 4 present very high value for money. Although, some schemes currently score as having low value for money, it is likely that more up-to-date data will display a greater level of benefit. The age and quality of the current data restricts the level of benefit that can be calculated. The current BCR results will form part of the prioritisation exercise found in section 6.

The spreadsheet model used to calculate the BCR's is available on request.

6. Prioritising Improvements

6.1 Overview

This section details the steps taken to prioritise the cycling and walking schemes for future development. Each of the schemes were assessed over a range of 4 factors:

- Economic – value for money and funding source
- Effectiveness – increased numbers of walking and cycling, network development contribution and integration
- Policy – improved transport connections and links to major trip generators along with improvements in safety
- Deliverability – scheme feasibility, timeframe for delivery, public and political acceptance and environmental constraints

The scheme prioritisation exercise was completed by performing an analysis on the full package of high level measures that would be required to bring the route up to a standard considered to deliver significant benefits to pedestrians and cyclists.

6.2 Prioritising Improvements

The prioritisation matrix (Table 6.1 below) details how each of the identified potential (high level) schemes have been assessed and scored for each of the following factors:

Economic

- **Value for money**

An indicative appraisal has been undertaken to help identify which improvements will be more likely to present high value for money. Each scheme can score a maximum of 3 points in this category. The schemes identified with a BCR of between 0 and 1.5 score 0 points. Schemes with a BCR between 1.5 and 2.0 score 1 point. Schemes with a BCR between 2.0 and 4.0 score 2 points and Schemes with a BCR above 4 score 3 points.

- **Proximity to a major development site**

Each scheme can score a maximum of 3 points. Schemes with no likely private sources of funding score 0. Schemes near sites that could possibly be developed in the future score 1 point. If the route serves a large proposed residential or employment site it will score 2 points. If there are committed S106 or private sources of funding already in place the scheme will score 3 points.

Effectiveness

- **Forecast increase in walking and cycling trips**

Priority is given to improvements that are most likely to have the greatest impact on increasing the number of people who choose to walk or cycle. Data to inform this category was collected from the DfT PCT (for cycling trips) and the values as reported in the “Valuing the Health Benefits of Transport Schemes” guidance from Transport for London (TfL) (for walking trips). Schemes scored 0 if less than 100 additional walking or cycling trips are forecast, scored 1 if between 100 and 200 additional trips are forecast, scored 2 if between 200 and 500 additional trips are forecast and score the maximum of 3 points if in excess of 500 additional trips are forecast.

The data identifies that cycling trips have a greater increase than walking trips as many of the additional trips come from mode shift. Cycling is naturally a better choice for replacing commuting trips (due to the distance of the trips) whereas walking would likely require a significant reduction in journey distance to be a viable replacement option.

- **Contribution of the scheme to the overall network development**

Only cycling schemes were assessed in this category. Peterborough already has an extensive network of cycle routes that circumnavigate the city. However they are not always well connected. This category prioritises schemes that will fill any gaps in the current cycle network, to enable more people to navigate the city by bicycle. Schemes that had no contribution to expand, enhance or link together sections of the existing cycle network scored 0. Schemes that partially addressed a missing link in the existing cycle network scored 1. If the scheme completed the majority of a missing link it was awarded 2 points and if the scheme completely joined up any missing links it was awarded 3 points. Integration of the scheme with existing cycle network

Only cycling schemes were assessed in this category. This category is predominately concerned with schemes that integrate with the existing cycle network but also provide new links to expand the cycle network routes. Schemes in isolation with no links or integration to the existing network score 0. Schemes with only 1 link to part of the network score 1 point. Any schemes that link with 2 existing routes on the network score 2 points and schemes with 3 or more links with existing routes score the maximum of 3 points.

Appendix D Shows a map of the existing cycle network overlaid with the identified cycle routes in this LCWIP.

Policy

- **Serves a major school or employment site**

Schemes can score either 0 or 1 in this category. Schemes that serve a major school or employment site score the maximum 1 point. If the scheme does not serve a major school or employment site then 0 points are awarded. It is noted that only one of the identified schemes does not serve a major school or employment site.

- **Improved transport connections**

Schemes can score a maximum of 3 points in this category. To encourage walking and cycling as part of a longer journey it is important to prioritise schemes that link to transport interchanges in the city, such as the bus and rail station. Schemes that have no connections to a transport interchange score 0 in this category. If schemes provide part of a journey to a transport interchange they are awarded 1 point. Schemes that cover the majority of the journey to a transport interchange score 2 points and schemes that link directly to a transport interchange score the maximum 3 points.

- **Improves Road Safety (RS) or makes Disability Discrimination Act (DDA) compliant**

To assess the schemes in this category a range of factors were considered. Initially an analysis of accident data was completed to identify if any of the routes are located on any accident hotspots (pedestrian and cyclist accident heat maps are included in Appendix E). The suggested schemes were then reviewed to ascertain what RS benefits the infrastructure improvements would realise. The existing infrastructure was reviewed to ascertain if any DDA implications were currently observed on the routes.

Schemes could score a maximum of 3 points in this category. Where no RS or DDA improvements were realised through the completion of the scheme, 0 points were awarded. If improvements were smaller scale, e.g. signage, lighting, tactile paving etc. a score of 1 was awarded. Any schemes that proposed significant improvements to RS or to make routes DDA compliant, e.g. the installation of crossing points, full segregation, removal of steps, pavement widening etc. were awarded 2 points. Any schemes on routes that currently have significant RS / DDA issues were awarded 3 points.

Deliverability

- **Timeframe**

Schemes can score a maximum of 3 points in this category. Schemes were awarded points broadly based on three delivery periods: short-term (typically less than 3 years), medium-term (typically less than 5 years) and long-term delivery (typically more than 5 years). An analysis of the high level suggested infrastructure improvements was completed to ascertain timeframes for delivery and points were awarded on the following basis;

Short-term delivery – 3 points

Medium-term delivery – 2 points

Long-term delivery – 1 point

The most points were awarded to schemes that could be delivered in the short-term as these schemes will realize the benefits in a shorter timeframe. This category is not to be perceived to discount schemes in the longer term as ultimately the final prioritisation filter was proportionately weighted using forecast increase in walking and cycling trips.

- **Scheme feasibility**

Each of the schemes were assessed by noting any land ownership issues or dependency on other planned schemes, that may have to be overcome in-order to execute the scheme identified in this LCWIP. Each scheme can score a maximum of 3 points. No schemes contained in this iteration of PCC's LCWIP scored 0 (where there was a land ownership issue that was unlikely to be overcome). 1 point was awarded to any schemes that were dependent on another scheme or land ownership issue that may cause a delay. Schemes that were dependent on another scheme or had a slight land ownership issue, but that was likely to be overcome without significant delay were awarded 2 points. Any schemes with no land ownership issues or dependency on other schemes were awarded the maximum 3 points.

- **Political and local acceptability**

Each scheme can score a maximum of 3 points in this category. Scores in this category were awarded as a result of an assessment carried out with various stakeholders from PCC and the general public. Schemes with a perceived high impact (that may cause delays, loss of parking, significant disruption etc.) were awarded 0 points. Any schemes where a perceived medium impact (slight delays and minimal disruption) were awarded 1 point. Low impact schemes (minimal perceived impact to residents but possible slight delays) were awarded 2 points. Where no impacts were expected the maximum 3 points were awarded.

- **Environmental constraints**

This category assessed the schemes for any environmental impacts. Each scheme can be awarded up to 3 points. Schemes that suffer from any environmental constraints that are unlikely to ever be overcome were awarded 0 points. Any schemes that are dependent on approvals from

environmental agencies and are likely to cause significant delay were awarded 1 point. Schemes that are dependent on approvals from environmental agencies but delay is not expected are awarded 2 points. All schemes where no environmental constraints exist achieved 3 points. Only one scheme identified in this iteration of the LCWIP achieved 1 point as a result of the removal of woodland on a small section of the route. All other schemes scored 2 or 3 points.

Table 6.1 Scheme Prioritisation Matrix Table of Results

Scheme description				Economic			Effectiveness			Policy			Deliverability			
Route Reference	Route	Origin	Destination	Estimated cost (£,000)	Value for money (AMAT) (BCR)	Proximity to a major development site	Forecast increase in walking and cycling trips	Contribution of the scheme to the overall network development	Integration with existing cycle route	Serves a major school / employment site	Improved transport connections	Improves road safety (RS) or makes DDA compliant	Timeframe	Scheme feasibility	Political / local acceptability (subjective assessment based on possible public reaction to schemes that may lead to delays, loss of parking etc.)	Environmental constraints
Cycle Routes																
C01	Arundel Road to City Centre	Arundel Road	City Centre	884	3	0	3	1	3	1	3	3	1	3	2	3
C02	City Centre to Stanground	Queensgate Shopping Centre	Old Fletton (Queens Road)	126	3	2	2	1	3	1	1	3	2	3	2	3
C03	City Centre to Orton Centre	Queensgate Shopping Centre	Orton Centre	905	2	0	2	3	3	1	1	2	2	3	1	3
C04	City Centre to Shrewsbury Avenue	Queensgate Shopping Centre	Woodston Industry (Pinnacle House, Shrewsbury Avenue)	884	2	0	2	1	2	1	1	1	2	3	3	3
C05	Fulbridge Road to City Centre	Fulbridge Road	Park Road	1,841	2	0	3	3	1	1	1	3	1	3	0	3
C06	Gresley Way to Peterborough Regional College	Gresley Road	Peterborough Regional College	1,464	2	0	3	1	2	1	0	2	2	3	2	2
C07	Jack Hunt School to City Centre	ThorpePark Road (Jack Hunt School)	Queensgate Shopping Centre	1,053	3	0	3	3	1	1	2	0	2	3	1	3
C08	Orton Centre to Hampton Hargate	Orton Centre	Hampton Hargate	512	2	2	1	1	2	1	0	1	2	3	3	3
C09	Orton Centre to Lynch Wood Business Park	Orton Centre	Lynchwood Business Park	1,721	2	2	2	1	3	1	0	0	2	3	3	3
C10	Peterborough Regional College to Boongate Retail Park	Peterborough Regional College	Boongate Retail Park	980	3	0	3	2	2	1	0	0	1	3	0	2
C11	Peterborough Regional College to City Centre	Peterborough Regional College	Queensgate Shopping Centre	712	2	0	2	2	1	1	1	1	1	3	1	2
C12	Queen Katherine Academy to City Centre	Queen Katherine Academy	Queensgate Shopping Centre	799	3	0	3	2	3	1	1	2	3	3	2	3
C13	Queen Katherine Academy to Thorpe Road	Queen Katherine Academy	Thorpe Road	1,525	2	1	3	2	1	1	1	2	1	3	0	3
C14	Shrewsbury Avenue to Hempstead	Woodston Industry (Pinnacle House)	Hempstead	154	3	1	1	1	2	1	0	0	3	3	3	3
C15	Thorpe Road to Oundle Road (inc off-road link to Bretton Way)	Thorpe Road	Oundle Road	2,500	2	3	2	2	3	1	2	3	3	3	3	3
Walking Routes																
W01	Lincoln Road	Rhubard Bridge	Westgate	413	2	0	2	n/a	n/a	1	3	3	1	3	2	3
W02	Park Road	Bluebell Avenue	Westgate	262	2	0	1	n/a	n/a	1	2	2	1	3	1	3
W03	City Centre Perimeter	Westgate / Bourges Boulevard	Vineyard Road / Bishop's Road	93	3	2	2	n/a	n/a	1	2	2	2	1	3	3
W04	Fengate	Gravel Walk / Vinyard Road	Vicarage Farm Road	42	3	1	0	n/a	n/a	1	0	0	2	3	3	3
W05	Oundle Road	Lynchwood	Town Bridge	131	2	2	1	n/a	n/a	1	0	0	2	3	3	3
W06	Eastfield Road	Peterborough City Market	Frank Perkins Parkway Overbridge	192	2	0	0	n/a	n/a	1	1	1	2	3	3	3
W07	Broadway	Long Causeway	Eastfield Road (Via Broadway)	190	1	0	0	n/a	n/a	1	1	0	2	3	3	3
W08	Thorpe Road	Apsley Way	Crescent Bridge Roundabout	40	2	2	0	n/a	n/a	1	3	0	1	3	1	3
W09	London Road	Fletton Parkway Underbridge	Bridge Street	51	0	2	0	n/a	n/a	1	2	1	2	3	3	3
W10	Mayor's Walk	Audley Gate	Bourges Blvd	241	0	1	0	n/a	n/a	1	1	0	2	3	3	3
W11	Hartwell Way	Peterborough City Hospital	Bretton Centre	79	2	0	0	n/a	n/a	1	0	0	1	3	1	1
W12	South Bretton	Peterborough City Hospital	Bretton Centre	20	3	0	0	n/a	n/a	1	0	0	3	3	3	3
W13	Atherstone Avenue	Peterborough City Hospital	Gresley Way	69	2	0	0	n/a	n/a	1	0	0	2	3	3	3
W14	Orton / Lynchwood	Ortongate Centre	Lynchwood	13	3	2	0	n/a	n/a	1	0	0	2	3	3	3
W15	Orton	Ortongate Centre	Pheonix School	103	0	0	0	n/a	n/a	1	0	0	2	3	3	2

6.3 Scheme Scores

The prioritisation exercise enabled each of the schemes to be scored. A maximum of 31 points are available for the cycle schemes and 25 points for the walking schemes – this is due to walking schemes not being scored in the categories concerning contribution to overall network development and integration with existing cycle network. Each of the scheme scores are highlighted in the table 6.2 below:

Table 6.2 Prioritisation Matrix scores for each scheme

Cycling Routes		Walking Routes	
Route Reference	Prioritisation Score	Route Reference	Prioritisation Score
C01	26	W01	20
C02	26	W02	16
C03	23	W03	21
C04	21	W04	15
C05	21	W05	17
C06	20	W06	16
C07	22	W07	14
C08	21	W08	16
C09	22	W09	17
C10	17	W10	14
C11	17	W11	9
C12	26	W12	16
C13	20	W13	14
C14	21	W14	17
C15	30	W15	11

Several of the schemes score identically, and as such a further prioritisation filter was applied so that a final priority list could be obtained. Final prioritisation was given to improvements that are predicted to generate the greatest amount of new trips by cycle or foot, as calculated for the economic appraisal.

6.4 Overall Prioritisation

Using the scores from the prioritisation exercise along with the figures for forecast increase in walking and cycling trips, the schemes have been put in order of greatest priority to least priority as per Tables 6.3 and 6.5 below:

Table 6.3 Scheme Priority Ranking - Cycling

Priority Ranking	Route Reference	Prioritisation Matrix Score	Forecast Increase in Cycling Trips (one way)
1	C15	30	803
2	C01	26	813
3	C12	26	813
4	C02	26	301
5	C03	23	216
6	C07	22	813
7	C09	22	426
8	C05	21	612

9	C04	21	228
10	C14	21	174
11	C08	21	614
12	C13	20	614
13	C06	20	614
14	C10	17	553
15	C11	17	222

Table 6.4 Scheme Priority Ranking – Walking

Priority Ranking	Route Reference	Prioritisation Matrix Score	Forecast Increase in Walking Trips (one way)
1	W03	21	370
2	W01	20	229
3	W05	17	101
4	W14	17	14
5	W09	17	13
6	W02	16	150
7	W06	16	97
8	W12	16	30
9	W08	16	21
10	W04	15	47
11	W07	14	86
12	W10	14	83
13	W13	14	48
14	W15	11	37
15	W11	9	58

Analysis of the results of the prioritisation exercises has shown that PCC should initially focus on routes C01 for cycling and W03 for walking. Routes C01 and C12 rank the same, this is expected as the majority of the route is identical (the only differences are initial origin and final destination points), which lends all the more reason to prioritise this route. Schemes C01 (and C12) and W03 deliver the highest combined benefits when assessed over a range of factors and are most likely to have the greatest impact on increasing the number of people who choose to walk and cycle. The routes should then be considered in order of priority as identified in Tables 6.4 (cycling schemes) and 6.5 (walking schemes) above.

6.5 Identifying Overlapping Routes

Both cycling and walking routes have overlaps, both between cycling routes and between walking routes, and between both walking and cycling routes.

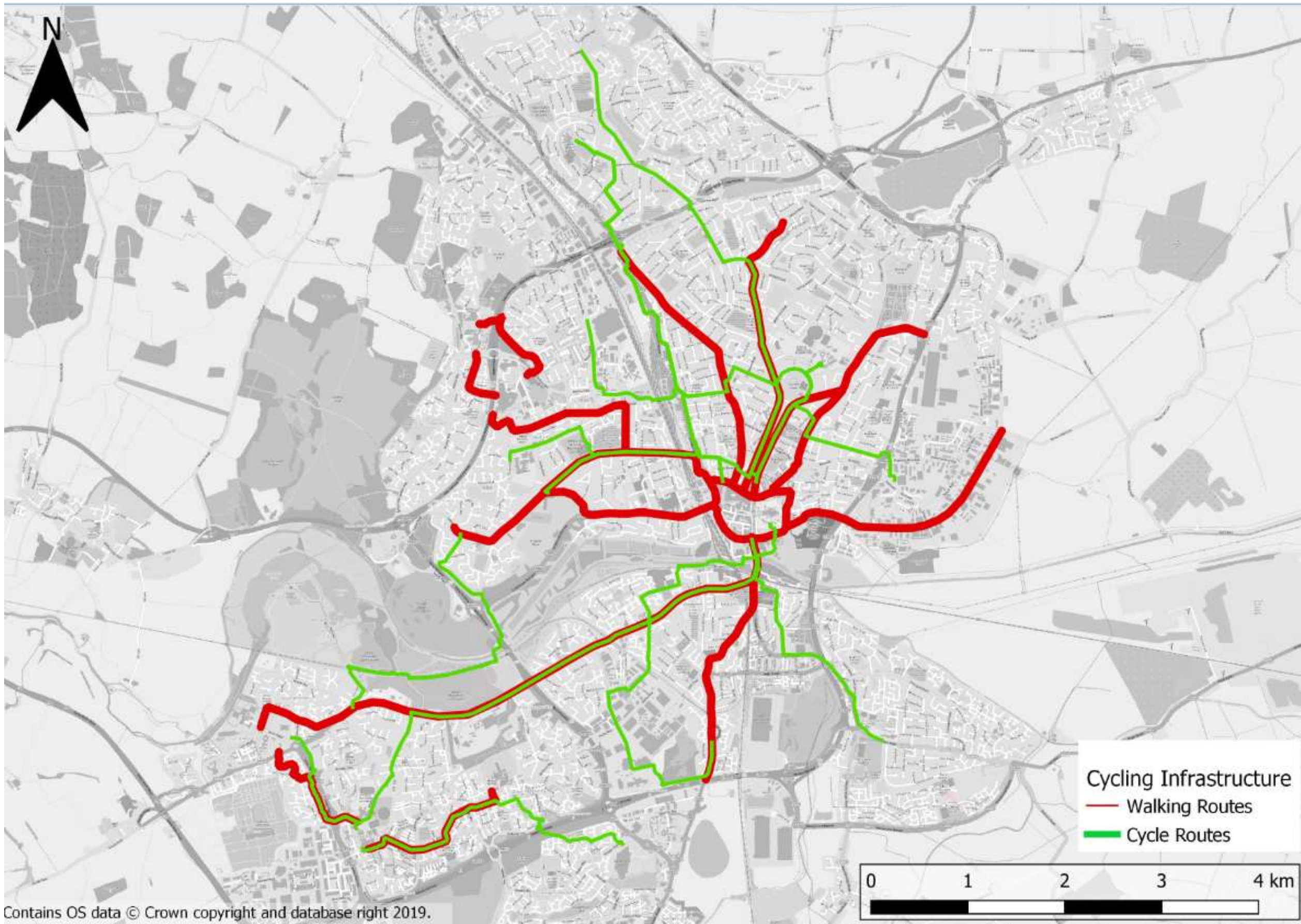
Several of the cycling routes identified in this LCWIP overlap in part or significantly with some of the walking routes identified. Figure 11 below highlights where each route overlaps. Any infrastructure improvements on the identified overlapping routes should be considered in tandem when completing a full feasibility study as cost savings and increased benefits can be achieved when a package of walking and cycling infrastructure improvements are implemented together.

Table 6.6 below summarises the 12 routes that have a significant proportion of overlap.

Table 6.5 Overlapping Walking and Cycling Routes

Walking Route	Cycling Route
W02	C05
W08	C07
W05	C03
W14	C09
W15	C08
W07	C11

Figure 11 LCWIP Walking and Cycle Routes Overlap



60

7. Integration, Application and Monitoring

7.1 Overview

The final stage considers how the LCWIP should be integrated into local policy, strategies and plans and involves:

Integrating the LCWIP within local policies and plans

Using the LCWIP to prepare bids, strategies and delivery plans

Reviewing and updating the LCWIP in line with plans and developments

7.2 LCWIP Integration and Application

The National Planning Policy Framework (NPPF) sets out how the planning system should help deliver sustainable development, and includes a set of core land-use planning principles which underpin planning decisions. The Framework is supported by planning practice guidance issued by the Department for Communities and Local Government.

Within the NPPF the policy on assessing the transport impact of proposals (paragraphs 108-110) has been amended to refer to highway safety as well as capacity and congestion in order to make it clear that designs should prioritise pedestrian and cycle movements, followed by access to high quality public transport as well as to reflect the importance of creating well designed places.

It is anticipated that the LCWIP will be a useful tool and used in a variety of applications, such as:

- Preparation of funding bids and business cases for future investment
- Preparation of walking and cycling strategies and action plans
- Allocation of funding within local delivery plans
- Preparation of Neighbourhood Plans
- Cycle and walking 'proofing' of major schemes

Consideration at the planning application stage for proposed land use changes and future developments

Preparation of Travel Plans, Transport Assessments and Transport Statements.

There are clear links between the LCWIP and other strategic planning and transport planning documents, such as the Local Transport Plan (LTP) for Peterborough and Cambridgeshire. The statutory duty to produce a new LTP is now the responsibility of the Cambridgeshire and Peterborough Combined Authority and a draft has been produced and a public consultation has been undertaken. It is envisaged that the LTP will be adopted in early 2020. The LTP will help PCC to address current and future transport issues by providing a framework for decisions on future investment.

The draft LTP affirms that PCC should be seeking a modal shift away from current high levels of car use towards greater use of all sustainable travel modes. Both Cambridgeshire and Peterborough should be places where significantly more people choose to walk and cycle, allowing them to live healthier lifestyles.

This LCWIP will enable PCC to identify and offer solutions for many of the crucial infrastructure related issues that are currently preventing people from cycling and walking in Peterborough.

7.3 Monitoring and Further Development

This LCWIP aims to provide the context and network planning to prioritise a list of walking and cycling routes that should be targeted for improvement. The schemes identified are purely indicative at this time, and more comprehensive designs and concepts will need to be determined by more detailed studies in the future.

All cycling and walking schemes will be prioritised for further development and delivery against the vision, aims, objectives and policies set out in the Cambridgeshire and Peterborough Combined Authority Local Transport Plan, as well as other regional priorities, including but not limited to: responding to Covid-19 recovery; climate change; air quality challenges; and the opportunity to co-deliver active travel schemes alongside other transport schemes.

The monitoring impact of these improvements will depend on the interventions identified. The LCWIP for Peterborough is the basis of a significant programme of infrastructure changes with ambitious aims and as such good monitoring will be essential to understanding what works, where it works and why it works.

The LCWIP is a live document and will be reviewed and updated periodically to reflect progress and the future development of the City. At this stage, the LCWIP has concentrated on the primary corridors, connecting origins to strategic destinations. The LCWIP will be developed over time to reflect any updated information and studies regarding walking and cycling.

8. Summary and Conclusions

Peterborough's size and flat terrain offers a great opportunity for local journeys, currently made by car, to be made by walking and cycling. Enabling more people to walk and cycle short journeys does not mean that everyone will be forced to walk and cycle, understandably not everyone can, however many more people could.

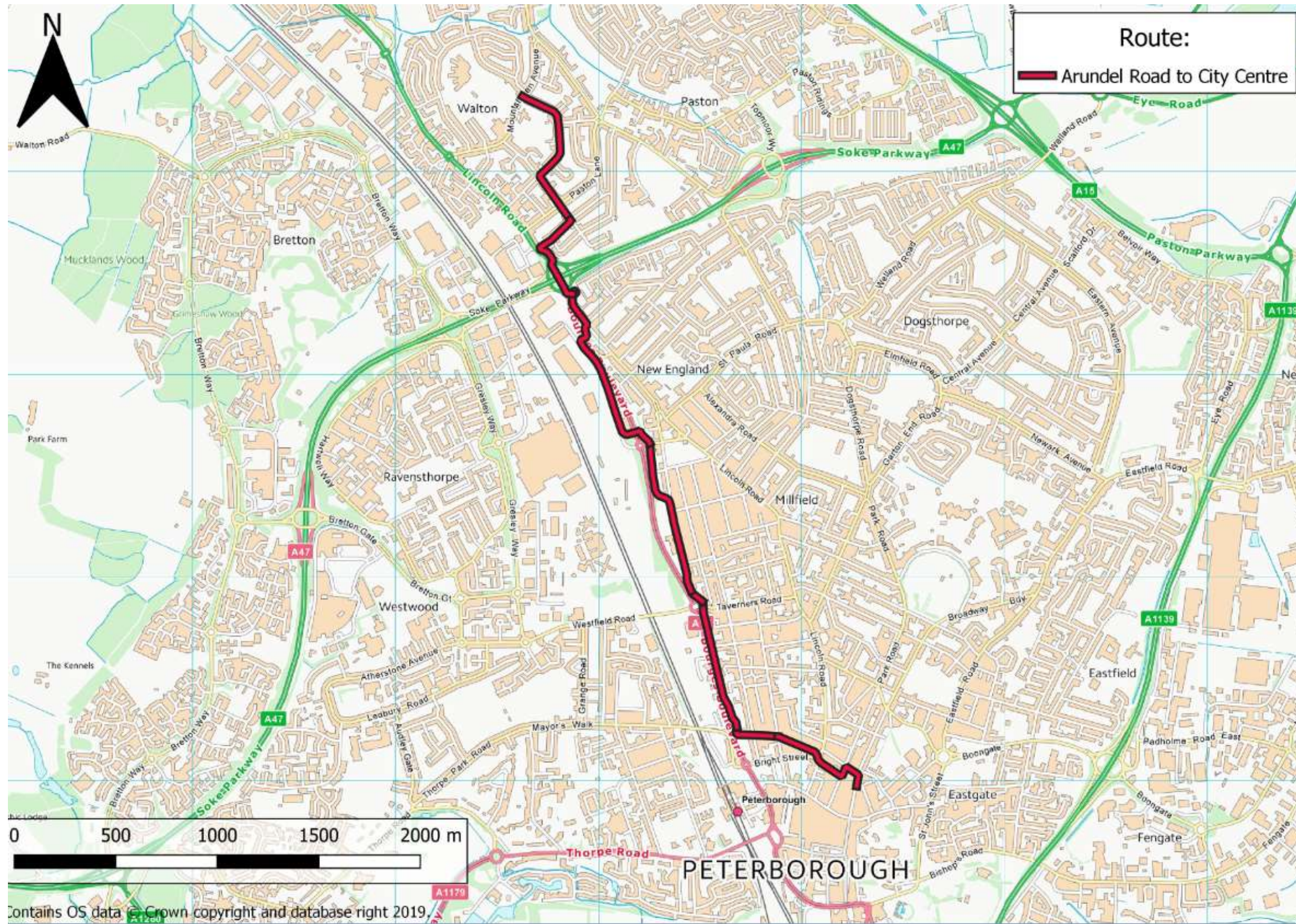
The majority of journeys in Peterborough are less than 5km long, and so there is a huge potential to increase active and sustainable travel modes if the infrastructure is in place. One way to alter peoples travel habits is to provide safe environments in which to navigate the city by foot or bicycle, and so good quality cycling and walking infrastructure needs to be built. The LCWIP will enable PCC to tackle many of the crucial infrastructure related issues that are currently preventing people from making these journeys by walking and cycling in Peterborough.

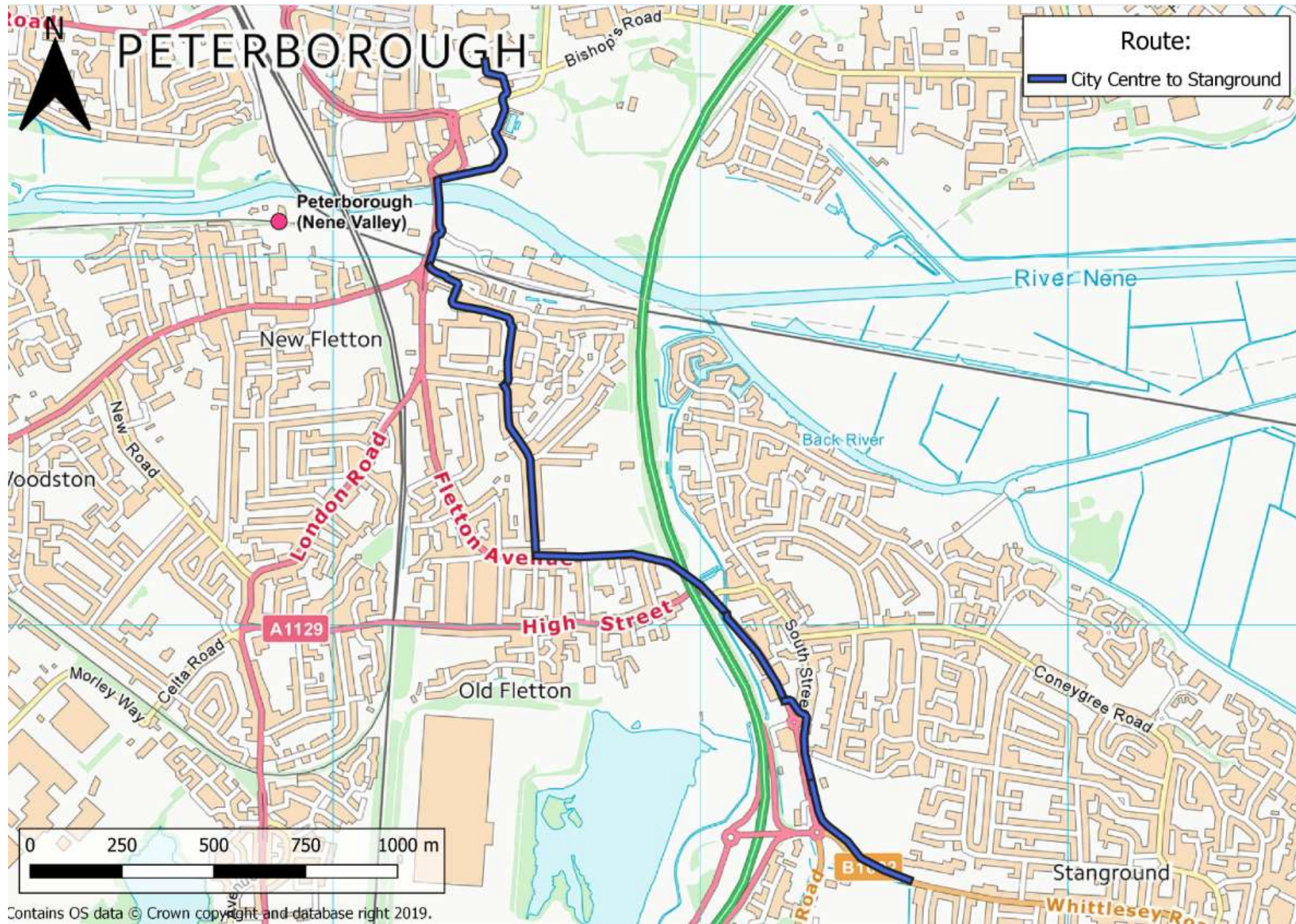
This document outlines the network planning for walking and cycling within Peterborough. It provides background information for identifying travel patterns for pedestrians and cyclists in the city. Strategic origin and destination desire lines have been identified for pedestrians and cyclists. Audits have been undertaken on 15 walking and 15 cycling routes to identify high level infrastructure improvements for future development. All routes and schemes have undergone a complex prioritisation exercise, where various factors have been examined to underpin justification of which routes and schemes to prioritise in the future.

Peterborough wishes to show it is serious about increasing the number of trips made by sustainable modes by developing this LCWIP and continuing to seek funding and opportunities to enhance the walking and cycling network in the future. PCC believe that increasing the number of people choosing to walk and cycle is essential to improving people's lives and creating a better city to live, work and visit. Through the development of the network and targeted behaviour change programmes the ambitious Government targets are within reach. Walking and cycling brings cheaper travel, better health, better air quality, increased productivity, increased footfall in shops, social inclusion and access to opportunity, less congestion and creates vibrant and attractive places and communities in which to live, work and visit.

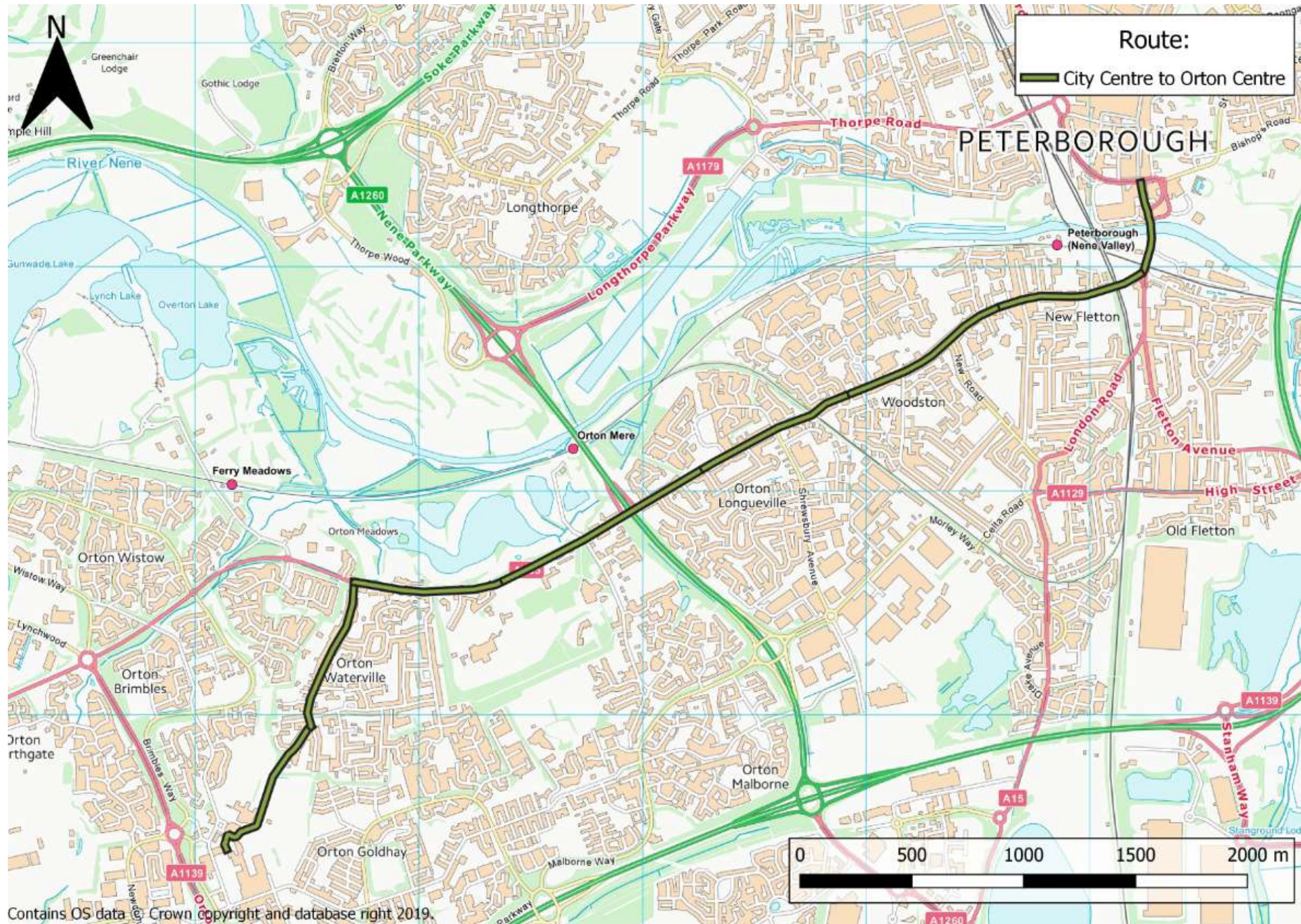
Appendix A

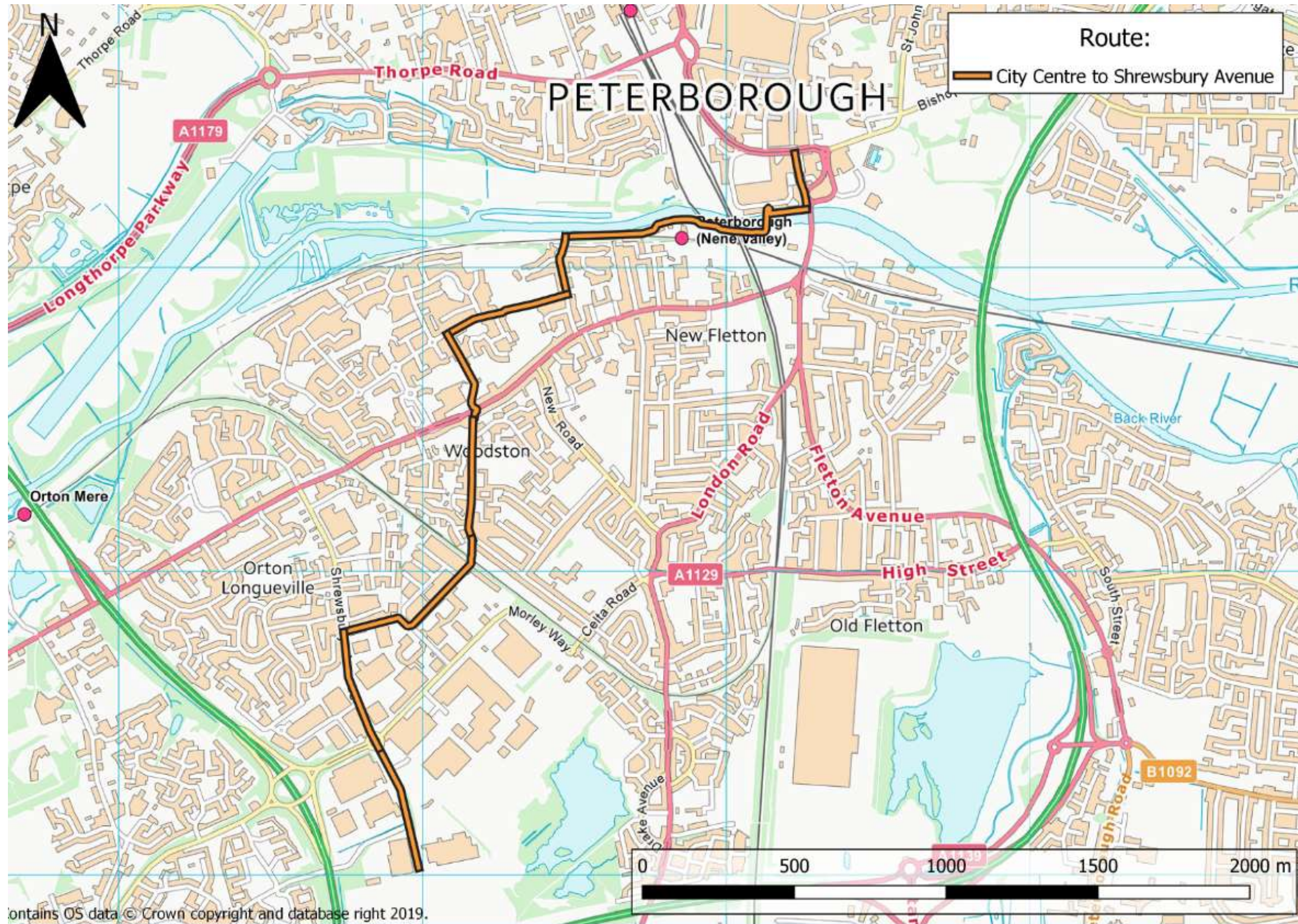
Individual Cycle Route Maps



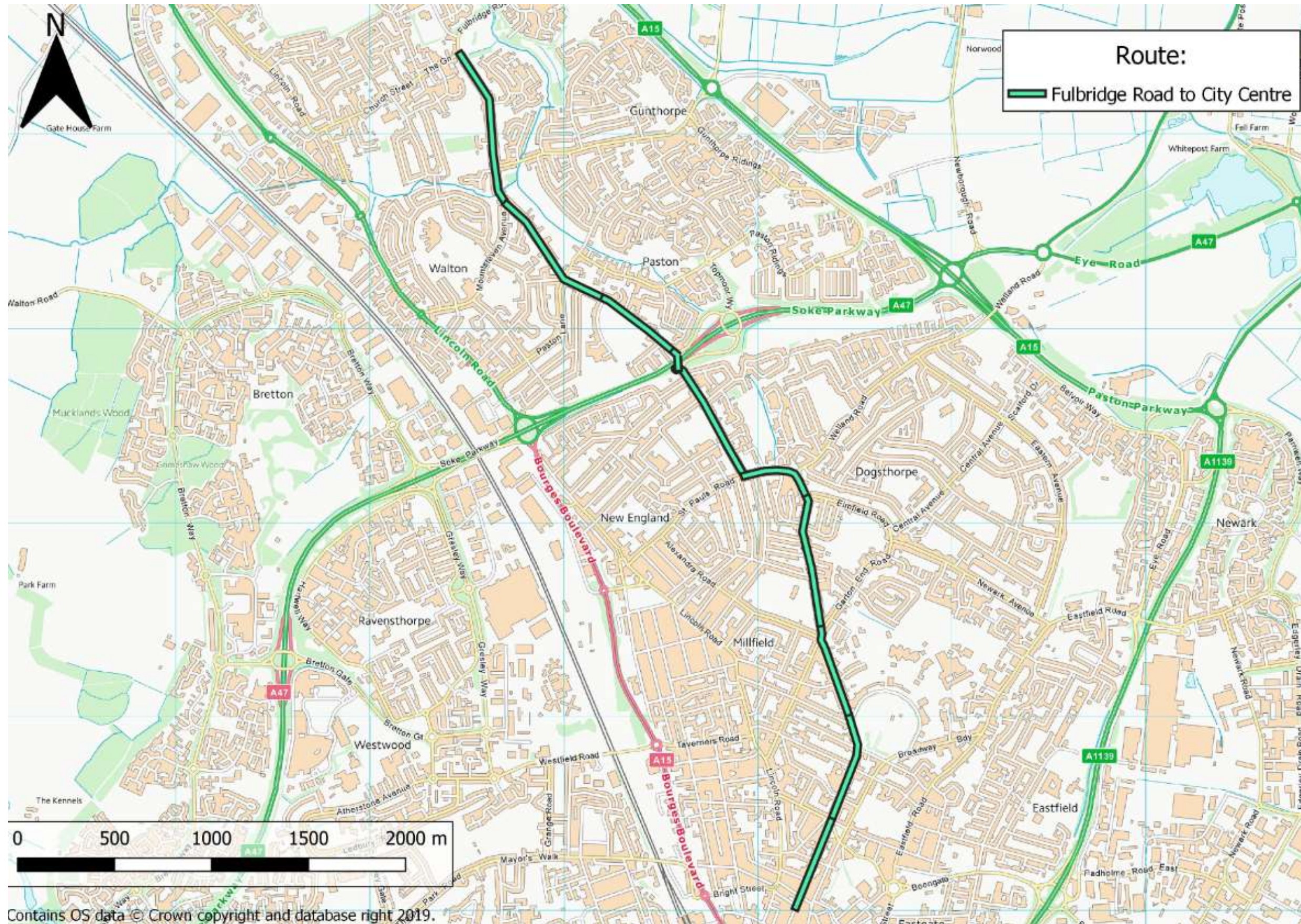


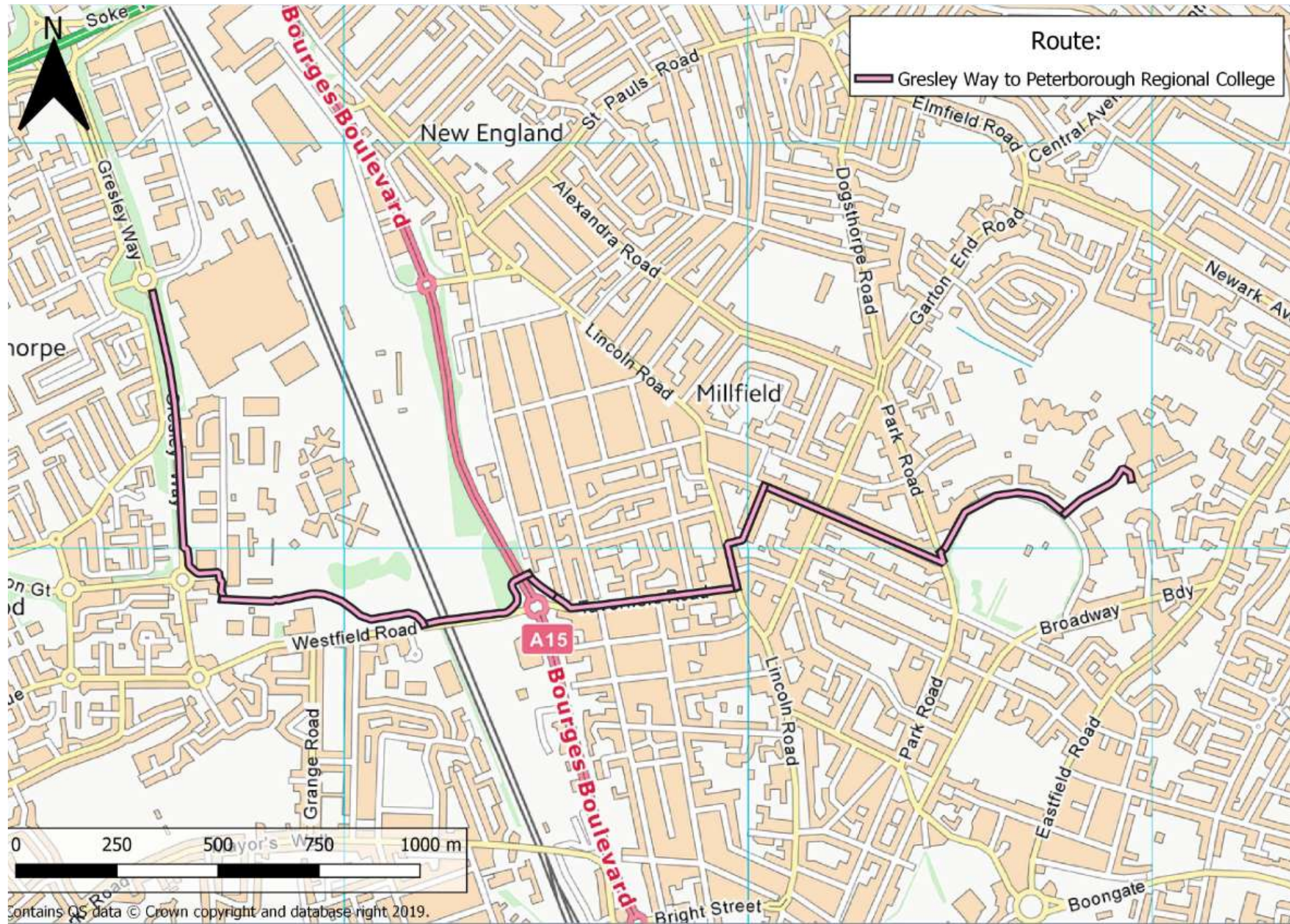
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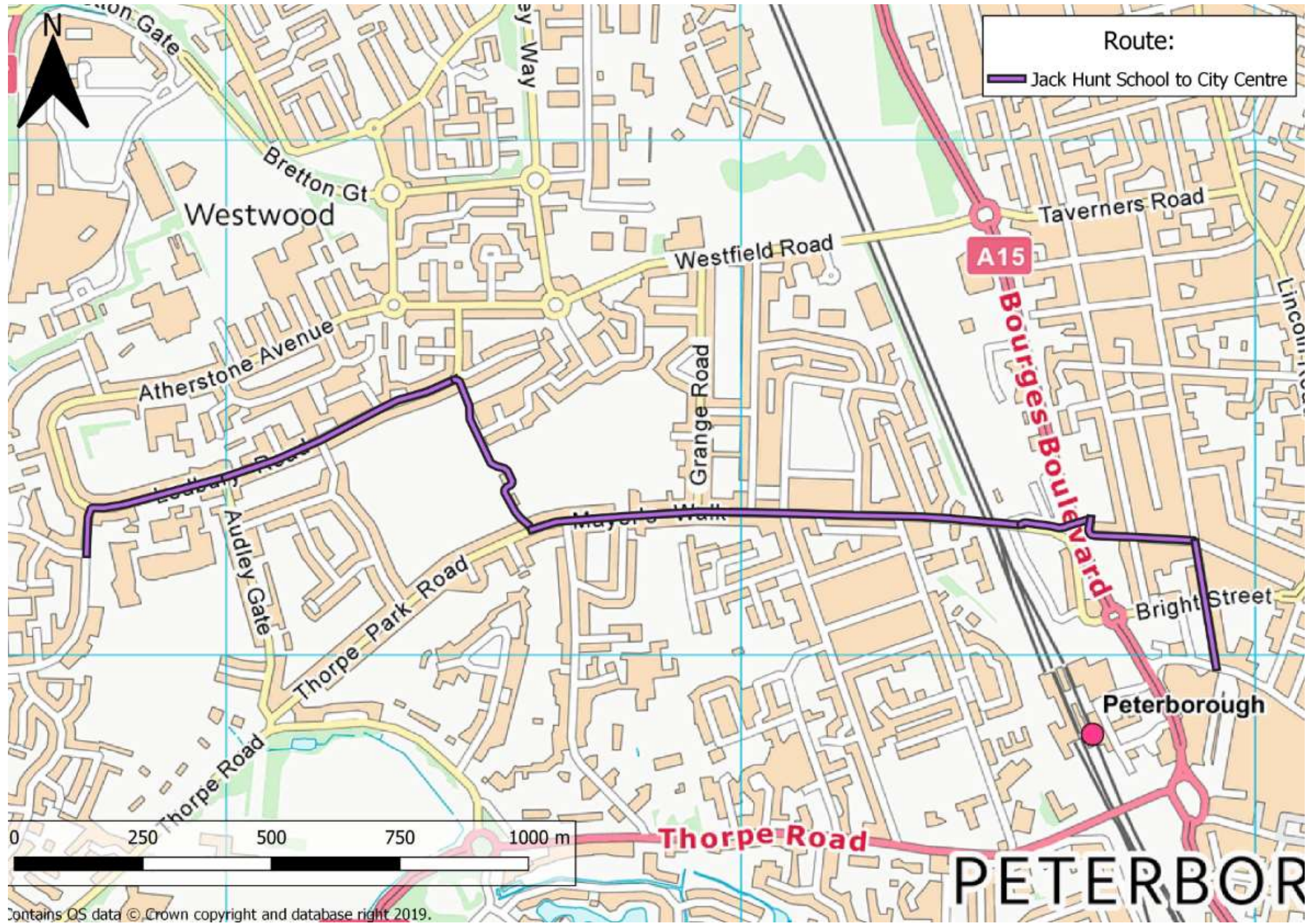
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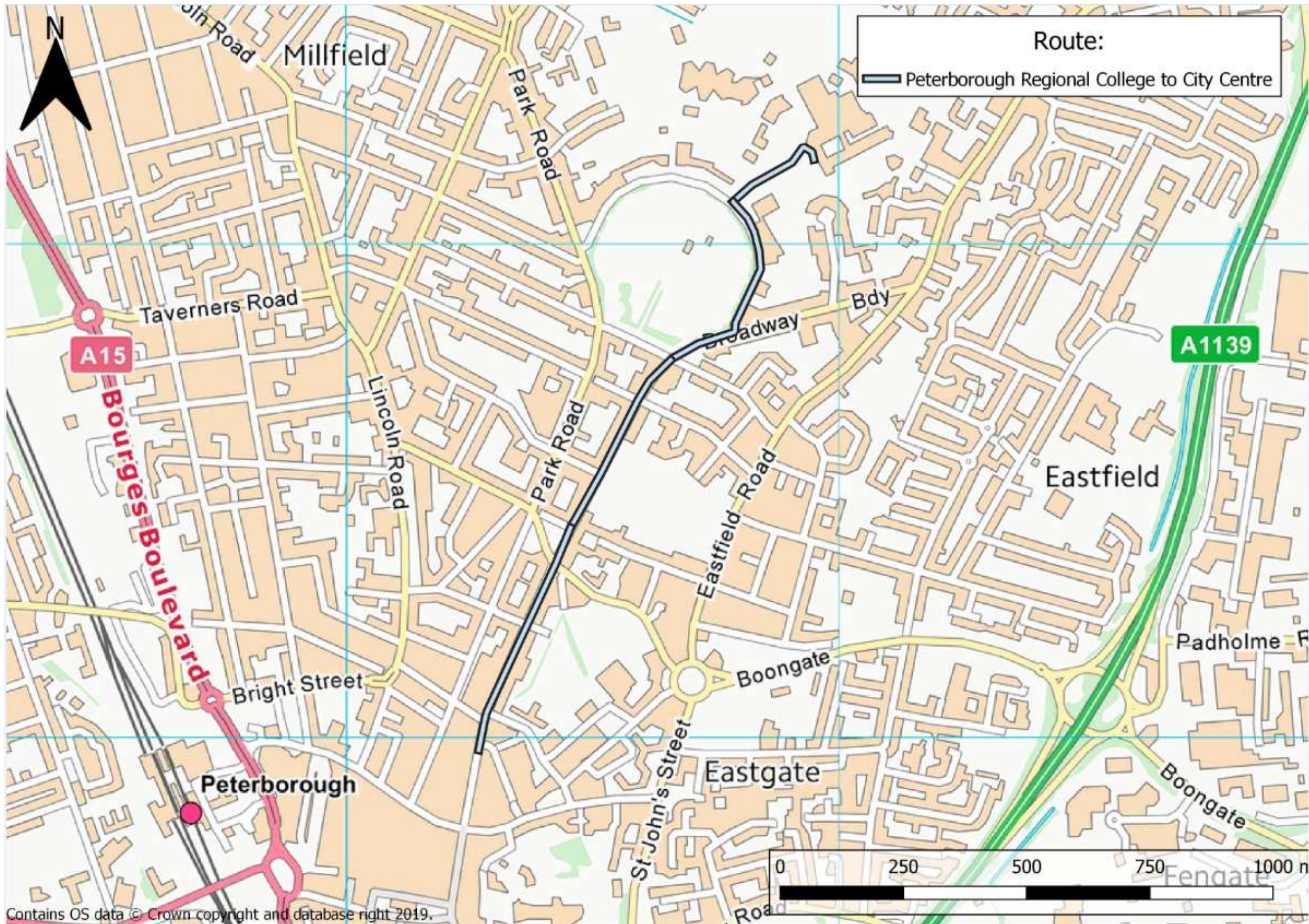
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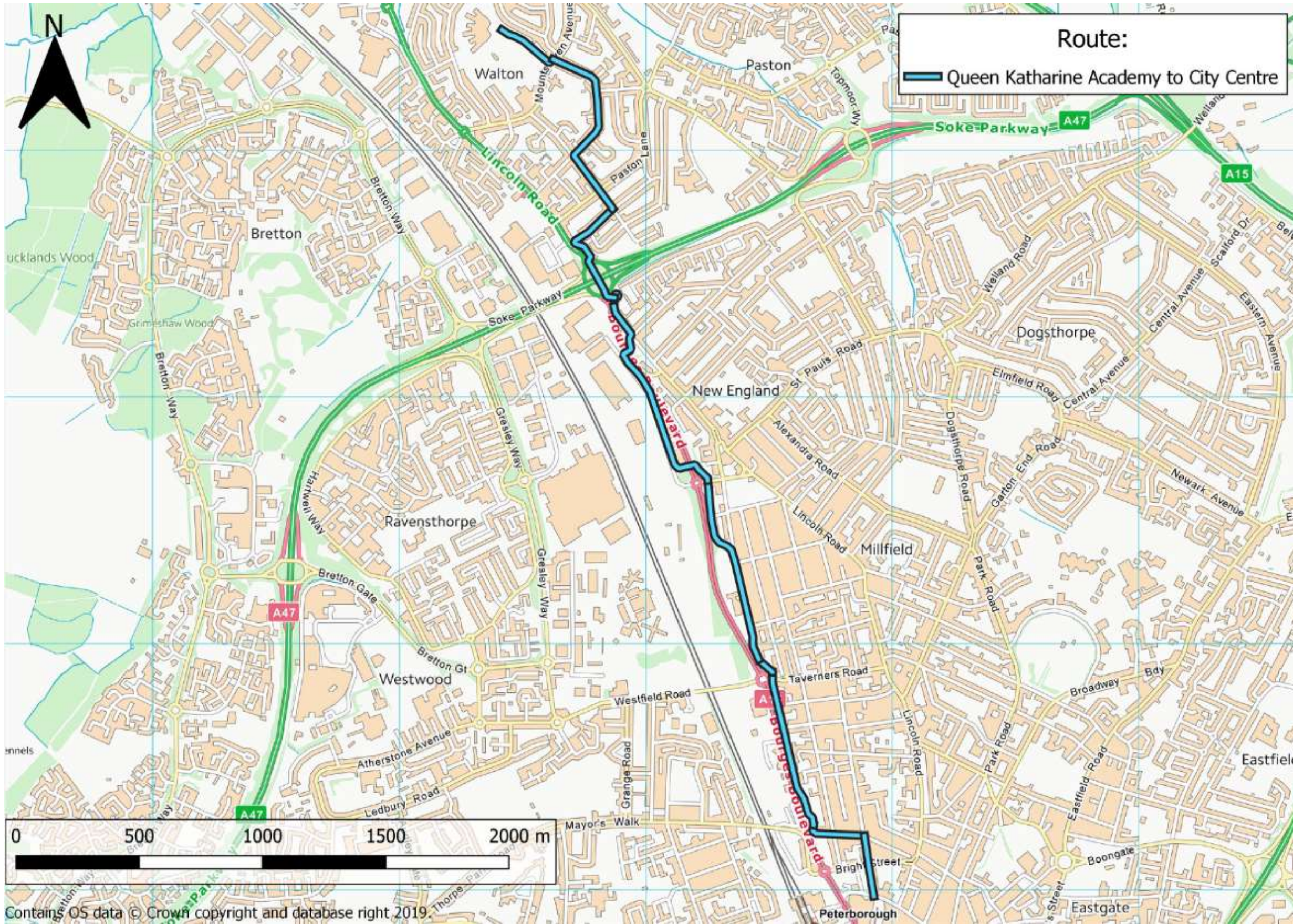
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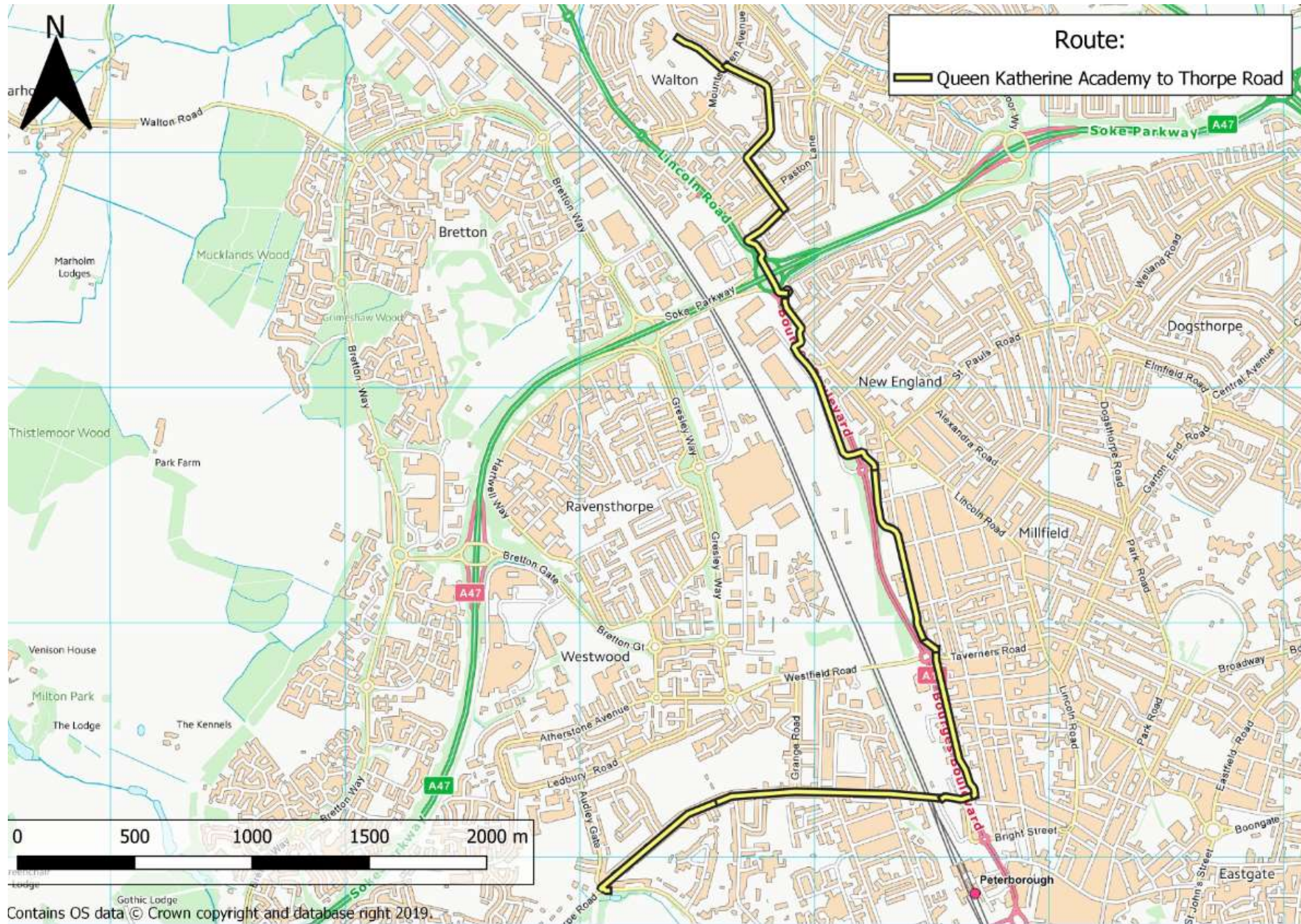
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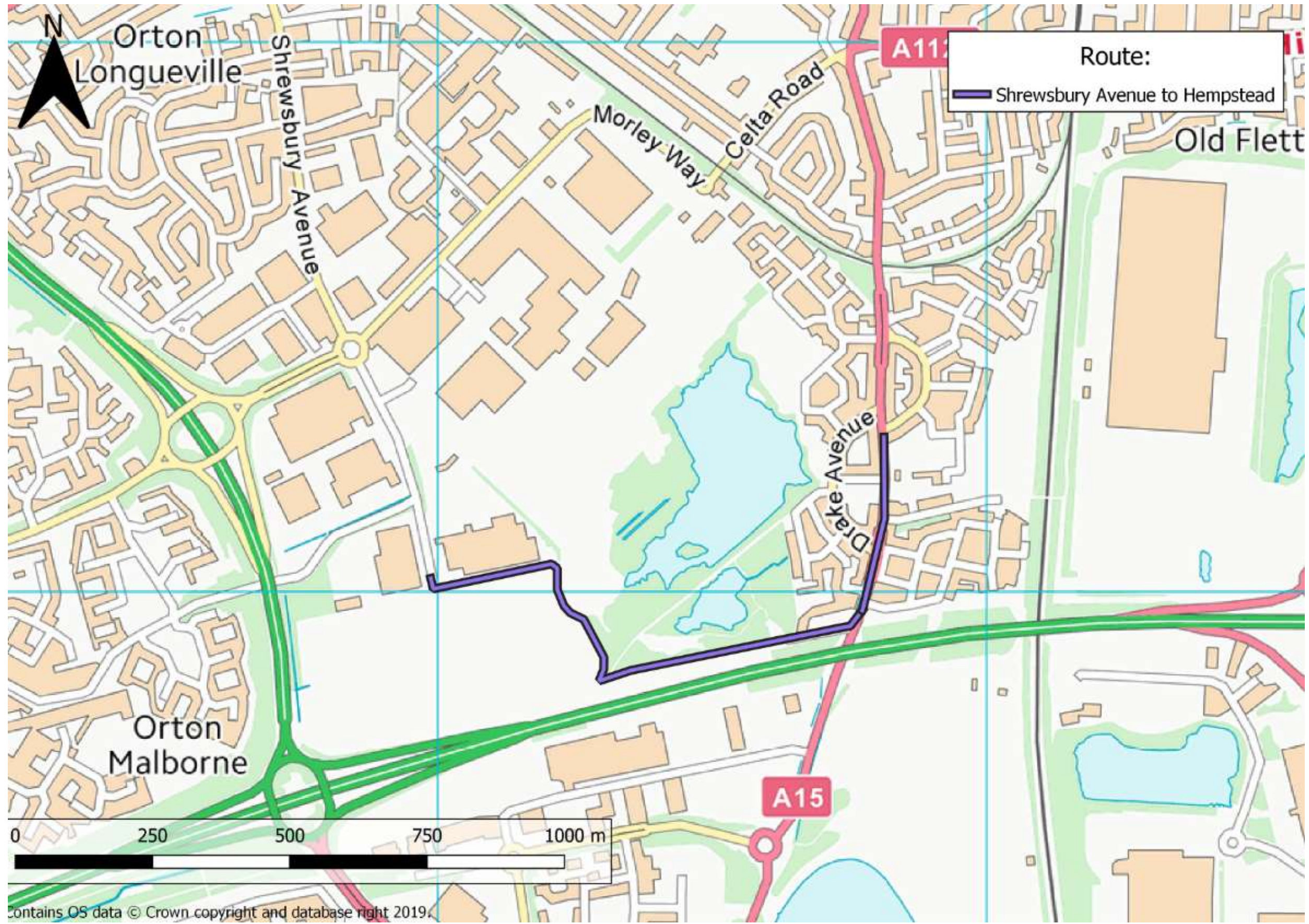


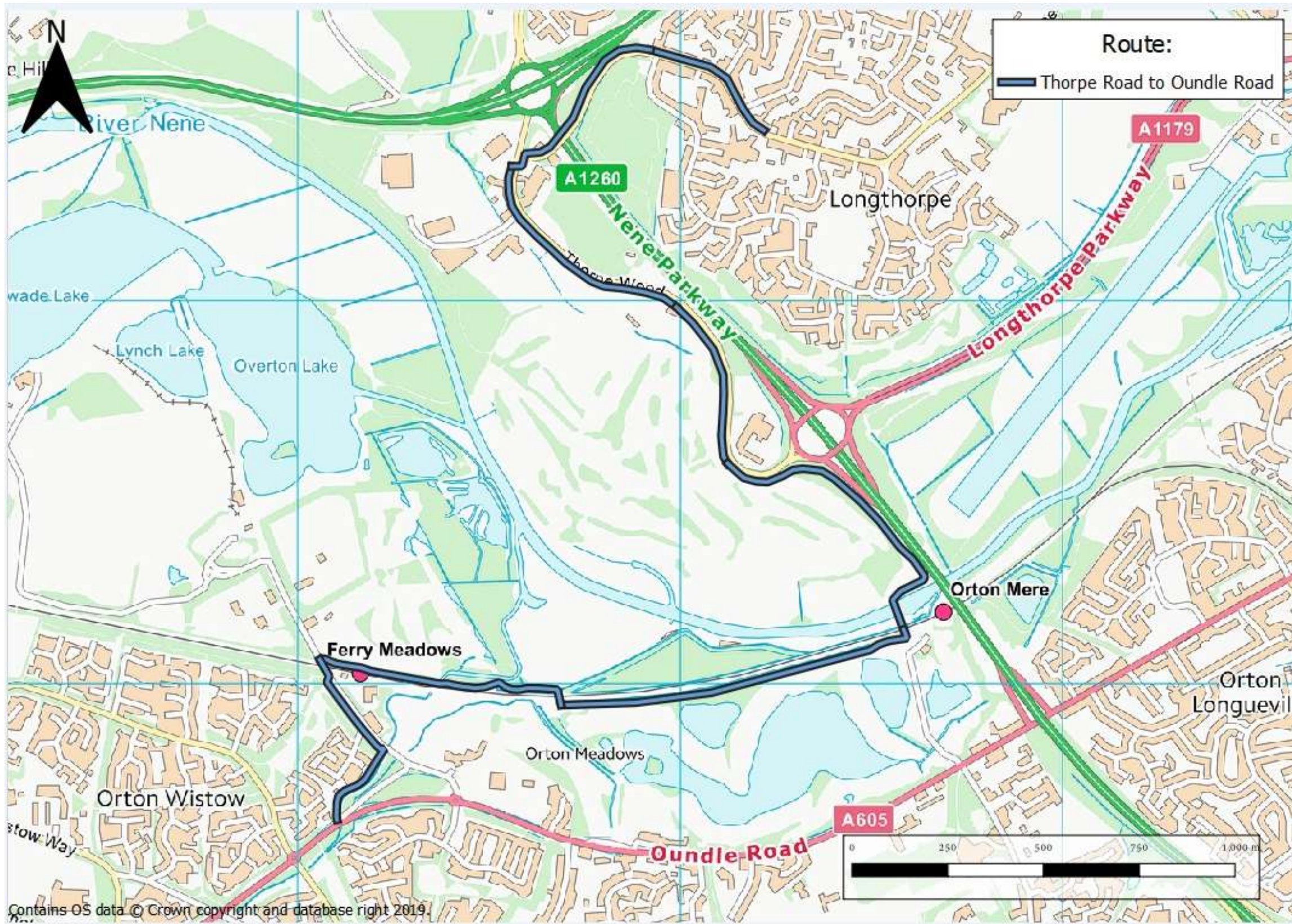
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Appendix B

Individual Route Selection Tool (RST)

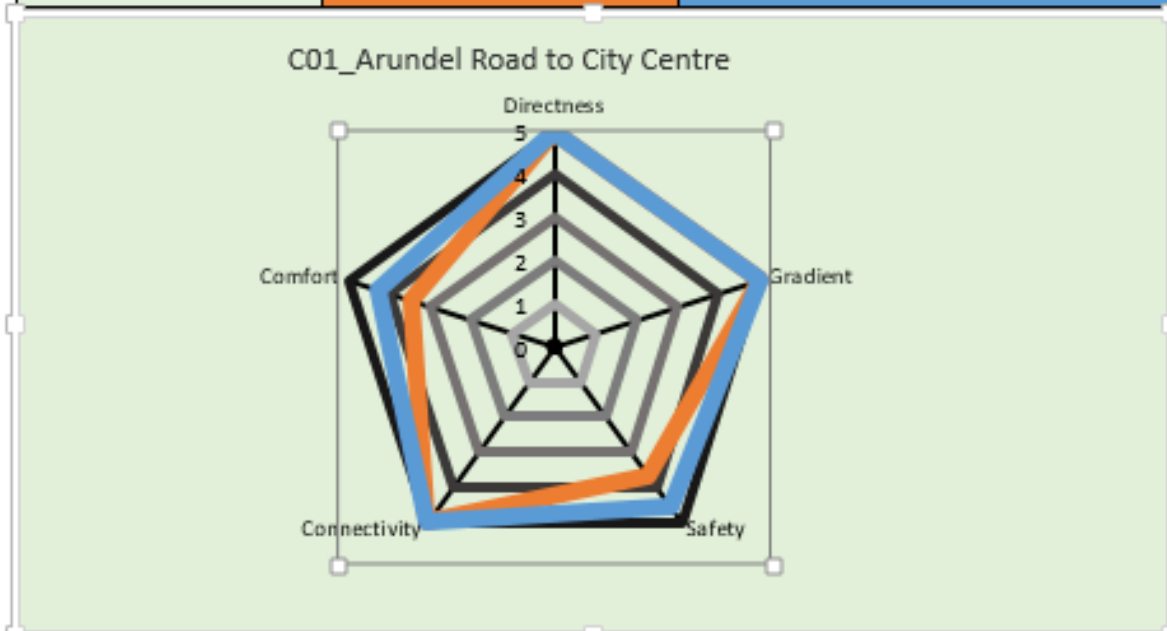
Score Summaries

Local Cycling and Walking Infrastructure Plan: Route Selection Tool

ROUTE SUMMARY

Route Name	C01_Arundel Road to City Centre
Overall Length	4.20
Name of Assessor(s)	Rebecca Presland
Date of Assessment	02 May 2019

Criterion	Performance Scores	
	Existing	Potential
Directness	5.00	5.00
Gradient	5.00	5.00
Safety	3.67	4.58
Connectivity	5.00	5.00
Comfort	3.48	4.30



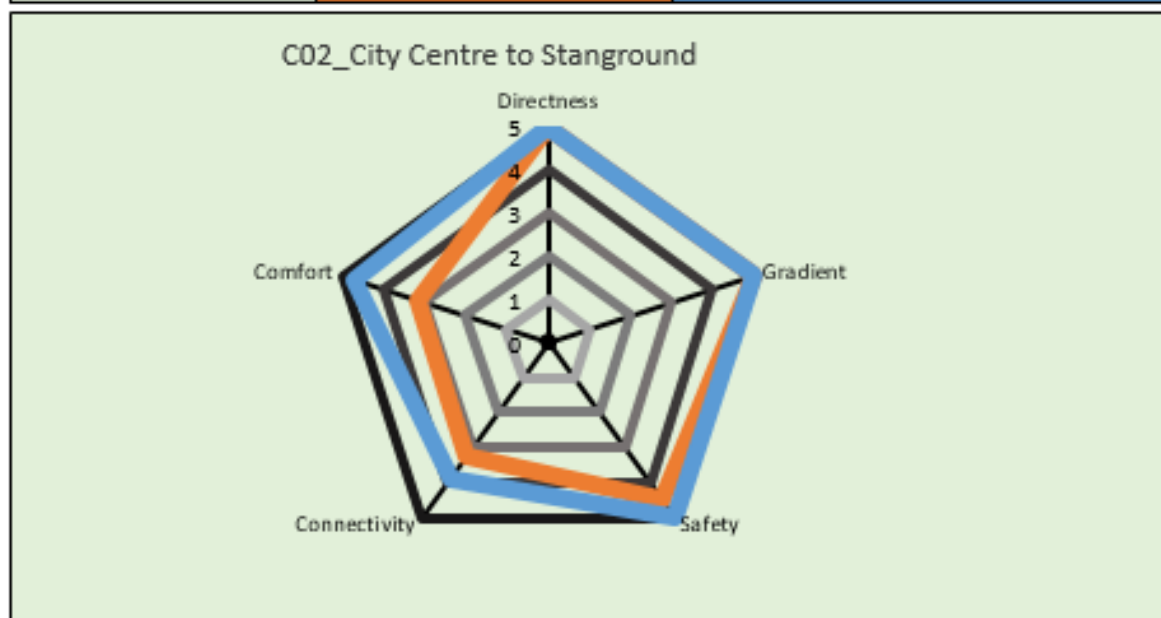
Number of Existing Critical	6
Number of Potential Critical	0
Description of Improvements	Lighting, signage and painting required for whole route. Surveillance required for approx 2km of route. Signalised junction required. Continuation of segregated shared use pavement required for approx 0.5km. Approx 1.5km of resurfacing required. Wayfinding 0.5km approx.
Indicative Cost	£884,000

C02

Local Cycling and Walking Infrastructure Plan: Route Selection Tool ROUTE SUMMARY

Route Name	C02_City Centre to Stanground
Overall Length	3.26
Name of Assessor(s)	Rebecca Presland
Date of Assessment	02 May 2019

Criterion	Performance Scores	
	Existing	Potential
Directness	5.00	5.00
Gradient	5.00	5.00
Safety	4.45	5.00
Connectivity	3.23	3.86
Comfort	3.14	4.69



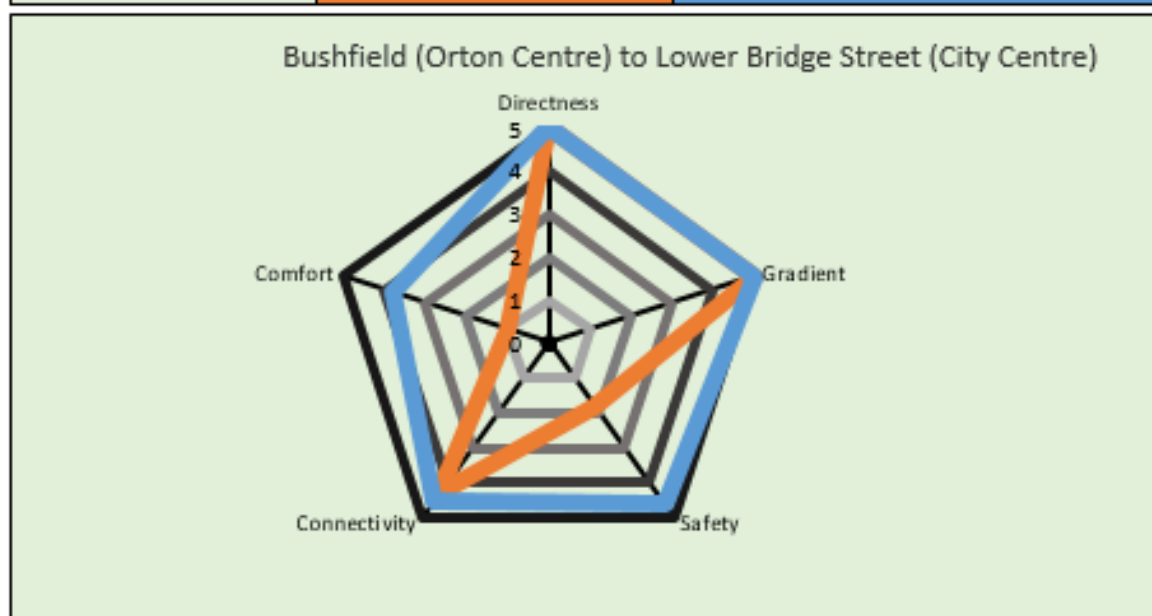
Number of Existing Critical	9
Number of Potential Critical	3
Description of Improvements	Increase permeability through declutter and obstacle removal. Lighting (0.4km), surveillance under parkway, Crossing island x1, Widening pavement (0.1km), painted cycle lanes (0.48km)
Indicative Cost	€126,000

Local Cycling and Walking Infrastructure Plan: Route Selection Tool

ROUTE SUMMARY

Route Name	Bushfield (Orton Centre) to Lower Bridge Street (City Centre)
Overall Length	5.5km
Name of Assessor(s)	Rebecca Presland
Date of Assessment	March 6th 2019

Criterion	Performance Scores	
	Existing	Potential
Directness	5.00	5.00
Gradient	5.00	5.00
Safety	1.81	4.58
Connectivity	4.33	4.52
Comfort	1.03	3.79



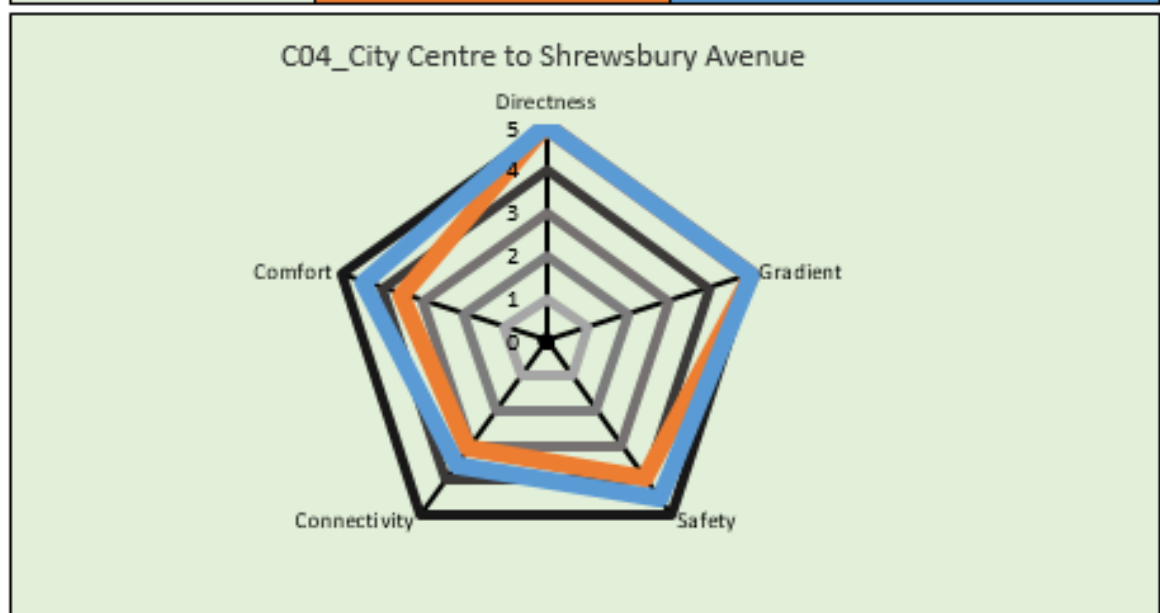
Number of Existing Critical	22
Number of Potential Critical	2
Description of Improvements	Painting / repainting cycleway (3.1km), Mixed strategic cycle route (0.8km), Declutter (x1), Lighting (0.5km), Surveillance (x1)
Indicative Cost	€905,000

Local Cycling and Walking Infrastructure Plan: Route Selection Tool

ROUTE SUMMARY

Route Name	C04_City Centre to Shrewsbury Avenue
Overall Length	3.86
Name of Assessor(s)	Rebecca Presland
Date of Assessment	02 May 2019

Performance Scores		
Criterion	Existing	Potential
Directness	5.00	5.00
Gradient	5.00	5.00
Safety	3.92	4.50
Connectivity	3.09	3.56
Comfort	3.53	4.48



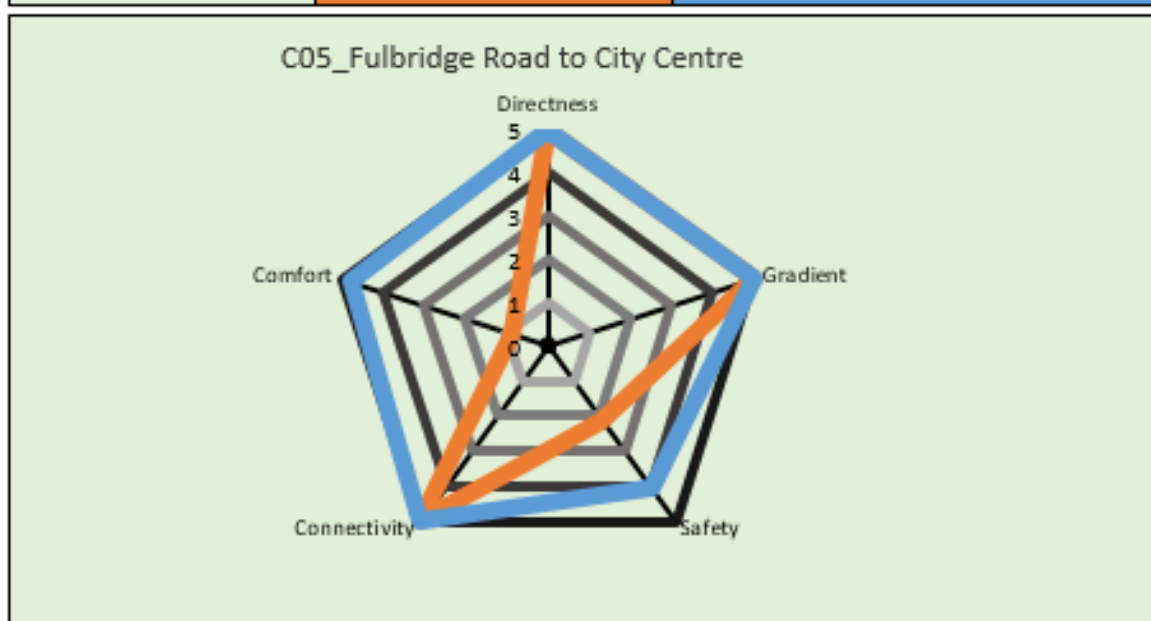
Number of Existing Critical	15
Number of Potential Critical	6
Description of Improvements	Candy Street etc - shared access. Lighting (1.52km), Surveillance (x3), paint segregated cycle lane (1.33km), Mixed Strategic cycle route (0.4km)
Indicative Cost	£884,000

Local Cycling and Walking Infrastructure Plan: Route Selection Tool

ROUTE SUMMARY

Route Name	C05_Fulbridge Road to City Centre
Overall Length	5.43
Name of Assessor(s)	Rebecca Presland
Date of Assessment	02 May 2019

Criterion	Performance Scores	
	Existing	Potential
Directness	5.00	5.00
Gradient	5.00	5.00
Safety	2.13	4.07
Connectivity	5.00	5.00
Comfort	0.89	4.79



Number of Existing Critical	21
Number of Potential Critical	6
Description of Improvements	Approx 2km of mixed strategic cycle route, remodel of 2 roundabouts, update pedestrian bridge to inc cycles, creation of cycle route through Fullbridge Rec, approx 1km of painting for on road cycle lanes, approx 1.2km of upgrade to pavement to make shared use, approx 2km of
Indicative Cost	£1,841,000

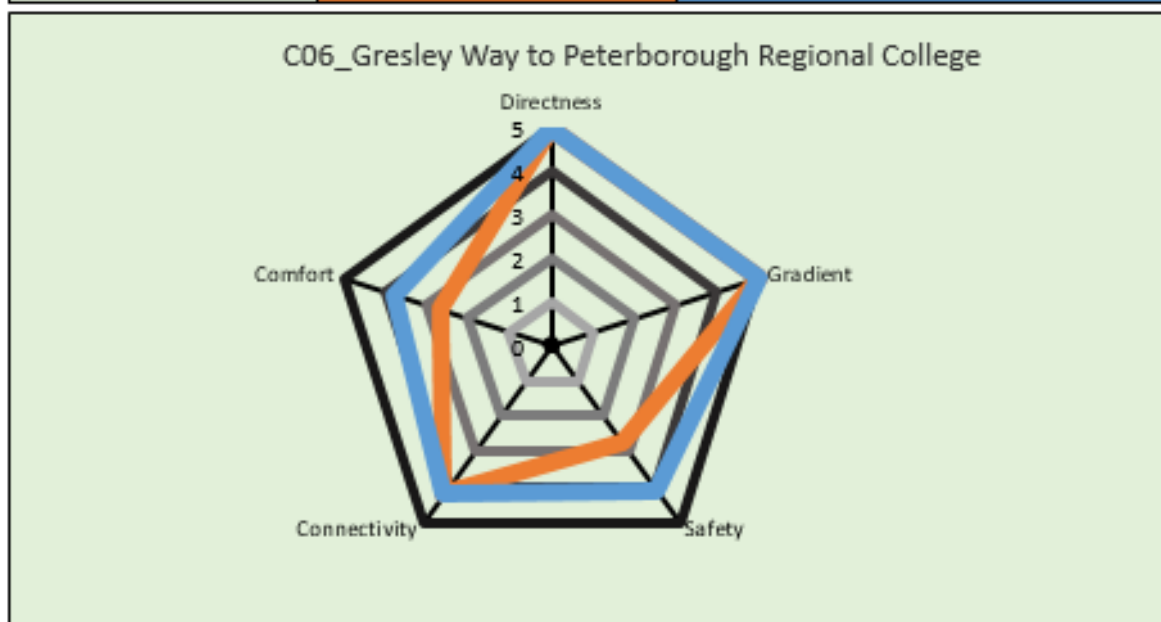
C06

Local Cycling and Walking Infrastructure Plan: Route Selection Tool

ROUTE SUMMARY

Route Name	C06_Gresley Way to Peterborough Regional College
Overall Length	3.69
Name of Assessor(s)	Rebecca Presland
Date of Assessment	02 May 2019

Criterion	Performance Scores	
	Existing	Potential
Directness	5.00	5.00
Gradient	5.00	5.00
Safety	2.76	4.14
Connectivity	4.17	4.17
Comfort	2.67	3.76



Number of Existing Critical	14
Number of Potential Critical	9
Description of Improvements	Approx 1.3km of segregated mixed strategic cycle route, approx 2km repainting, approx 0.8km resurfacing, signage, surveillance and lighting throughout, advance stop line and priority crossing (junction remodel)
Indicative Cost	£1,464,000

C07

Local Cycling and Walking Infrastructure Plan: Route Selection Tool ROUTE SUMMARY

Route Name	C07_Jack Hunt School to City Centre
Overall Length	2.7M
Name of Assessor(s)	Hebeccoe (Presland)
Date of Assessment	02 May 2018

Criterion	Performance Scores	
	Existing	Potential
Directness	5.00	5.00
Gradient	5.00	5.00
Safety	2.62	4.83
Connectivity	5.00	5.00
Comfort	1.50	5.00



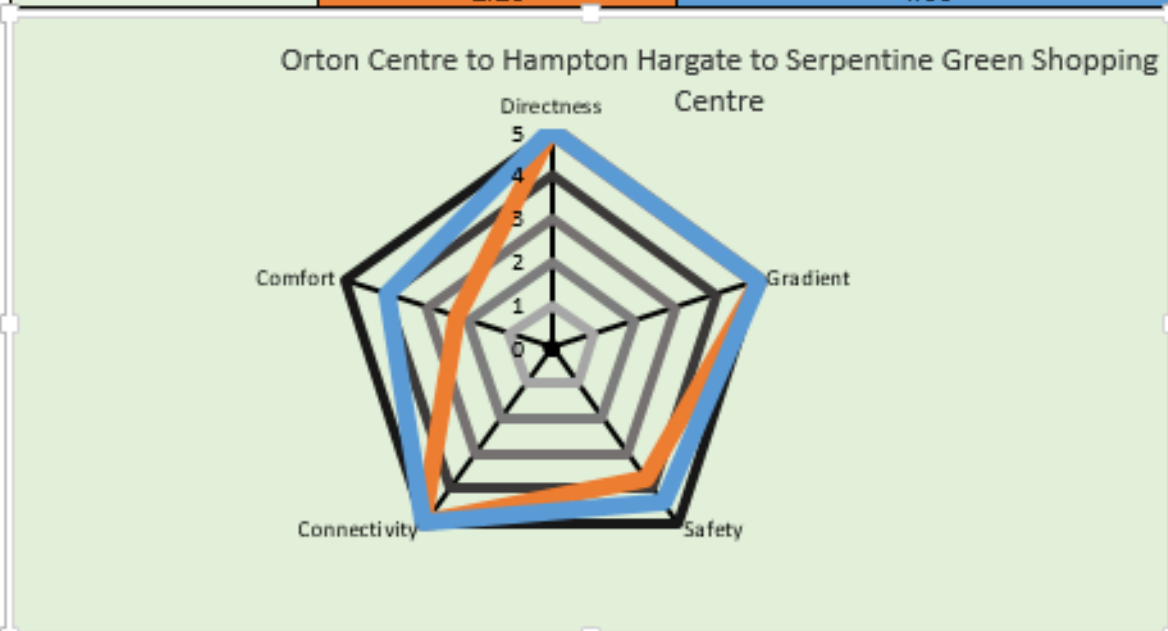
Number of Existing Critical Junctions/Crossings	21
Number of Potential Critical Junctions/Crossings	5
Description of Improvements	Approx: 1km mixed strategic cycle route, 1km of resurfacing, 0.2 km signage and possible 20mph zone.
Indicative Cost	£1,053,000

Local Cycling and Walking Infrastructure Plan: Route Selection Tool

ROUTE SUMMARY

Route Name	Orton Centre to Hampton Hargate to Serpentine Green Shopping Centre
Overall Length	3.5km
Name of Assessor(s)	Rebecca Presland
Date of Assessment	

Criterion	Performance Scores	
	Existing	Potential
Directness	5.00	5.00
Gradient	5.00	5.00
Safety	3.76	4.39
Connectivity	5.00	5.00
Comfort	2.28	4.00



Number of Existing Critical	10
Number of Potential Critical	6
Description of Improvements	Surveillance (x2), Lighting (1.35km), Mixed strategic cycle route (0.7km), paint segregated cycle lane (0.85km).
Indicative Cost	£512,000

C09

Local Cycling and Walking Infrastructure Plan: Route Selection Tool

ROUTE SUMMARY

Route Name	C09_Orton Centre to Lynch Wood Business Park
Overall Length	1.40
Name of Assessor(s)	Rebecca Presland
Date of Assessment	02 May 2019

Criterion	Performance Scores	
	Existing	Potential
Directness	5.00	5.00
Gradient	5.00	5.00
Safety	3.99	4.35
Connectivity	3.02	3.25
Comfort	2.64	4.54



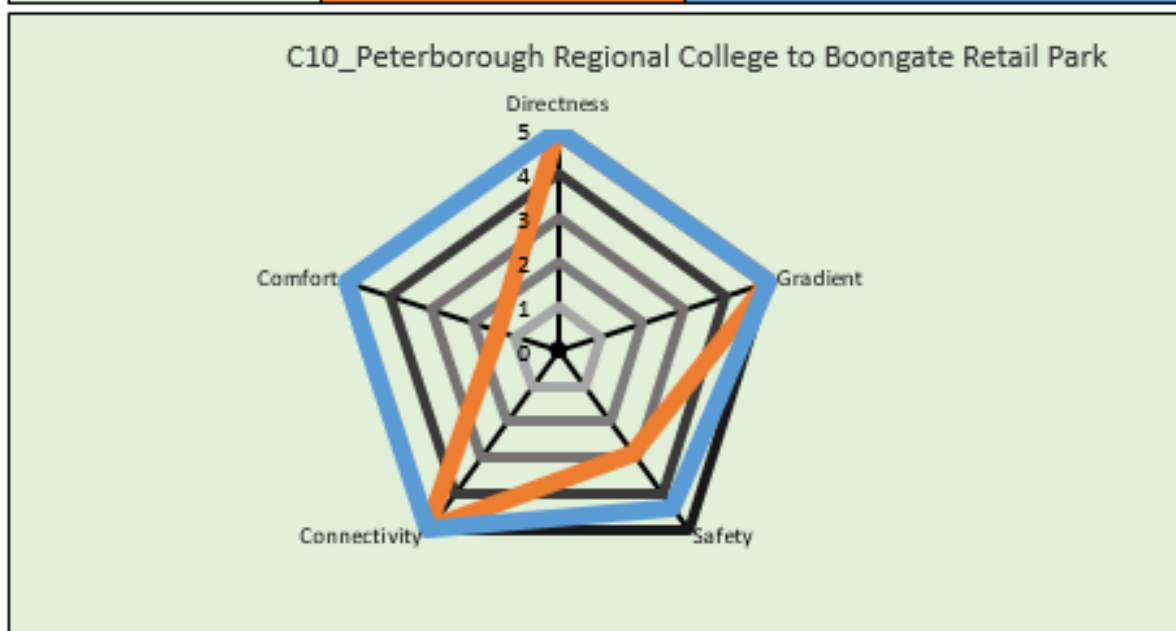
Number of Existing Critical	7
Number of Potential Critical	2
Description of Improvements	Mixed strategic cycle route (new, 0.81km), lighting (0.15km), surveillance (x1), shared use (0.44km).
Indicative Cost	£1,721,000

C10

Local Cycling and Walking Infrastructure Plan: Route Selection Tool ROUTE SUMMARY

Route Name	C10_Peterborough Regional College to Boongate Retail Park
Overall Length	2.36
Name of Assessor(s)	Rebecca Presland
Date of Assessment	02 May 2019

Performance Scores		
Criterion	Existing	Potential
Directness	5.00	5.00
Gradient	5.00	5.00
Safety	2.91	4.39
Connectivity	5.00	5.00
Comfort	1.42	5.00



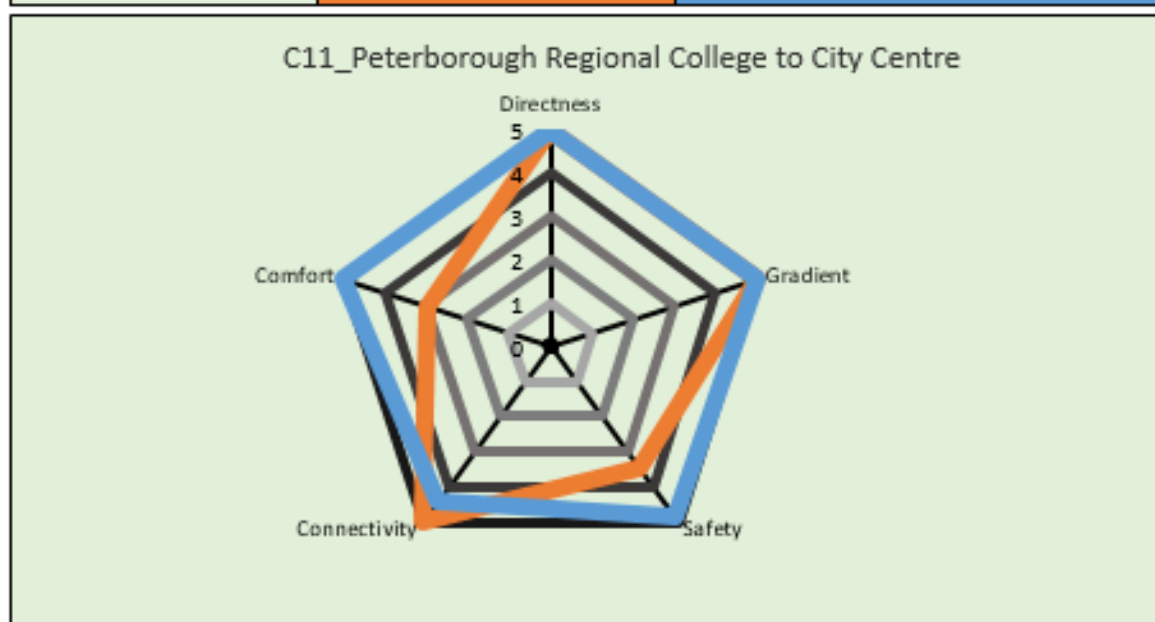
Number of Existing Critical	16
Number of Potential Critical	4
Description of Improvements	Through Central Park - signage / resurfacing / lighting and signage approx 0.8km. Approx 1km of cycle lane marking and 0.5km of mixed strategic cycle route, 2 major junction remodelling / priority crossings.
Indicative Cost	£980,000

Local Cycling and Walking Infrastructure Plan: Route Selection Tool

ROUTE SUMMARY

Route Name	C11_Peterborough Regional College to City Centre
Overall Length	1.54
Name of Assessor(s)	Rebecca Presland
Date of Assessment	02 May 2019

Criterion	Performance Scores	
	Existing	Potential
Directness	5.00	5.00
Gradient	5.00	5.00
Safety	3.48	4.86
Connectivity	5.00	4.43
Comfort	3.00	5.00



Number of Existing Critical	16
Number of Potential Critical	4
Description of Improvements	Through Central Park - 0.5km of resurfacing, signage. approx 0.5km of mixed strategic cycle route, 1 junction re-model / priority crossing, 0.5 km of painting.
Indicative Cost	£712,000

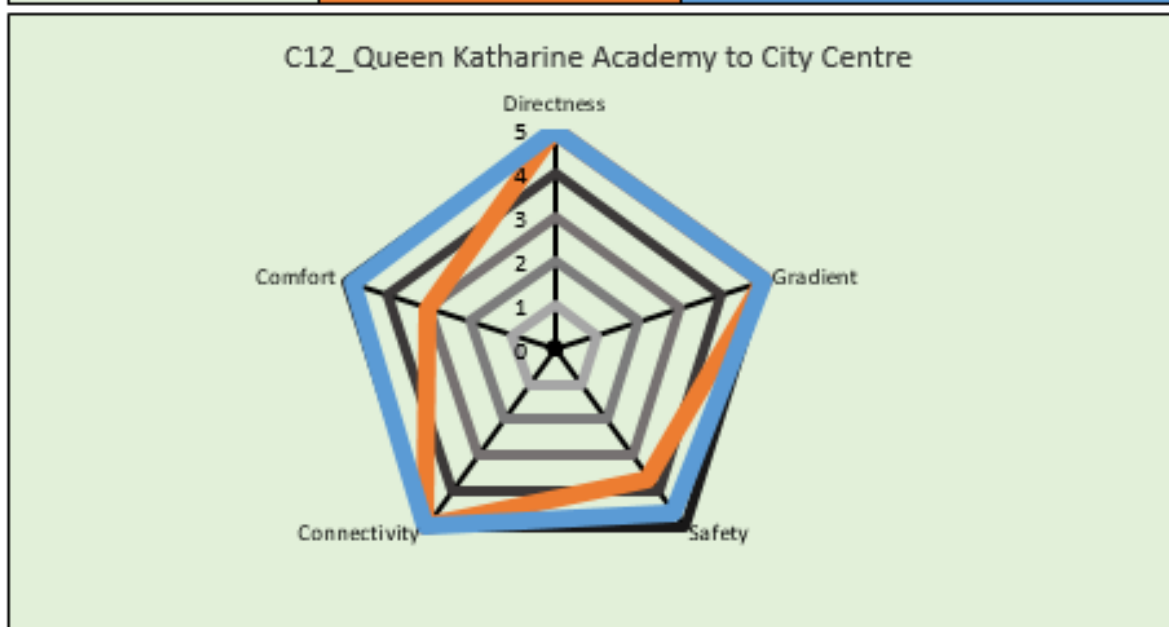
C12

Local Cycling and Walking Infrastructure Plan: Route Selection Tool

ROUTE SUMMARY

Route Name	C12_Queen Katharine Academy to City Centre
Overall Length	4.61
Name of Assessor(s)	Rebecca Presland
Date of Assessment	02 May 2019

Criterion	Performance Scores	
	Existing	Potential
Directness	5.00	5.00
Gradient	5.00	5.00
Safety	3.64	4.64
Connectivity	5.00	5.00
Comfort	3.04	4.84



Number of Existing Critical	11
Number of Potential Critical	1
Description of Improvements	replace underpass shallow steps with a ramp approx 5km of cycle lane painting / marking. 0.8km of 20mph, Approx 1.7km of resurfacing,
Indicative Cost	£799,000

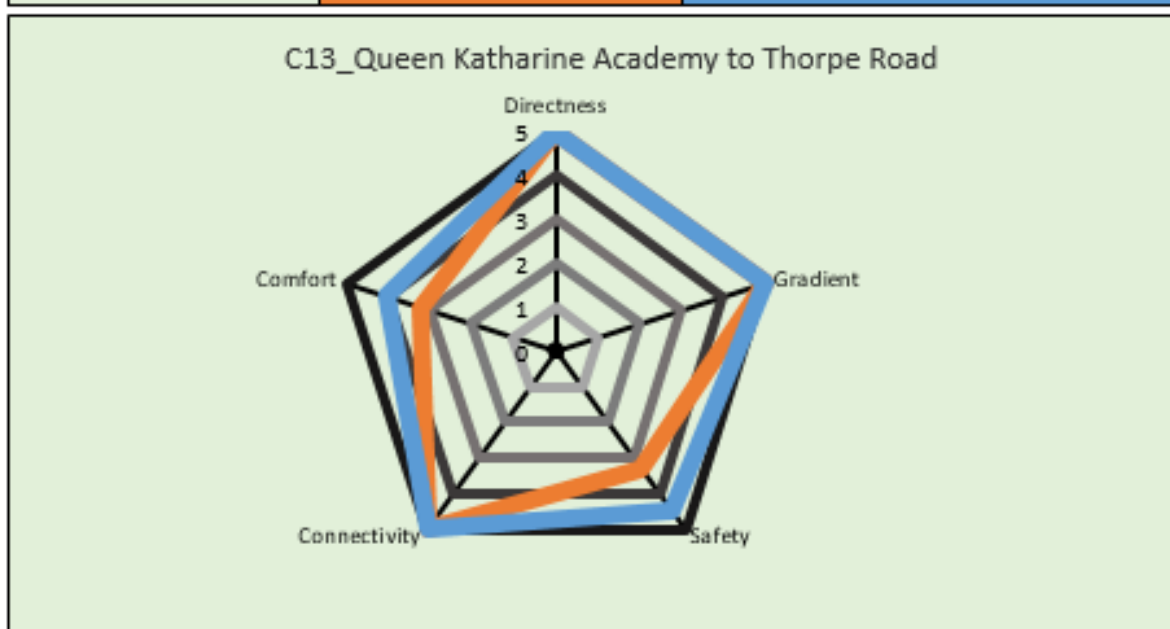
C13

Local Cycling and Walking Infrastructure Plan: Route Selection Tool

ROUTE SUMMARY

Route Name	C13_Queen Katharine Academy to Thorpe Road
Overall Length	5.50
Name of Assessor(s)	Rebecca Presland
Date of Assessment	02 May 2019

Criterion	Performance Scores	
	Existing	Potential
Directness	5.00	5.00
Gradient	5.00	5.00
Safety	3.31	4.48
Connectivity	4.96	4.96
Comfort	3.22	4.00



Number of Existing Critical	8
Number of Potential Critical	3
Description of Improvements	Lighting improvements and signage approx 3km of route. Additional surveillance for approx 1km, painting lane marking and resurfacing for approx 2.8km. Signalised crossing at 1 junction. New bridge / update to existing bridge (bolt on bridge for pedestrians / cyclists? - Mavors Walk).
Indicative Cost	£1,525,000

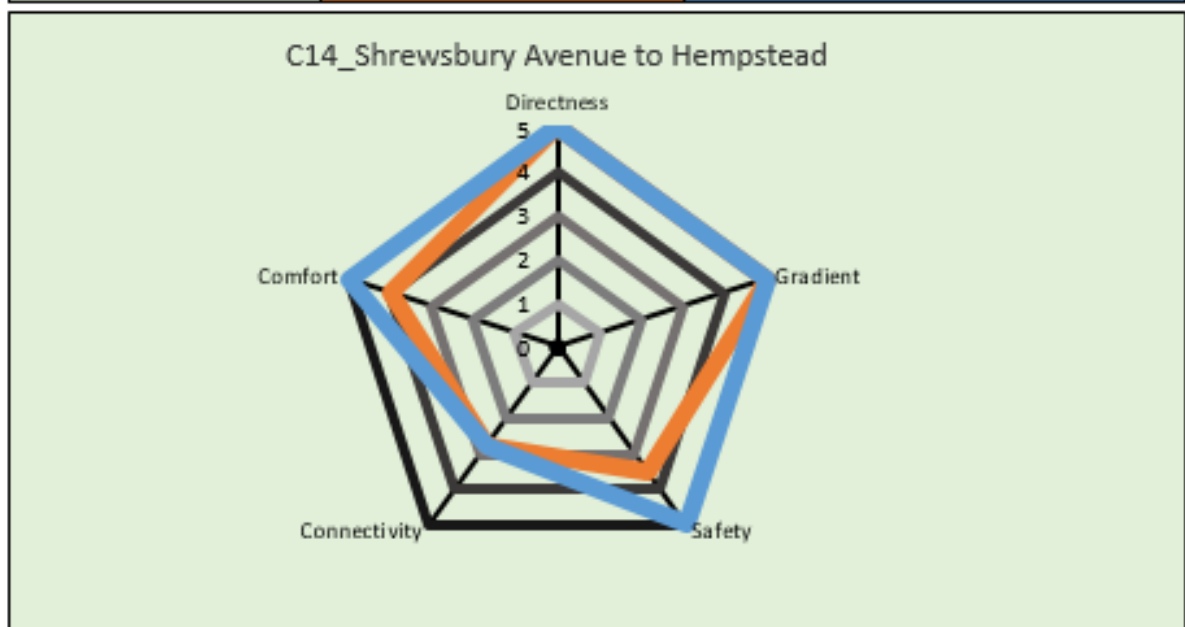
C14

Local Cycling and Walking Infrastructure Plan: Route Selection Tool

ROUTE SUMMARY

Route Name	C14_Shrewsbury Avenue to Hempstead
Overall Length	1.28
Name of Assessor(s)	Rebecca Presland
Date of Assessment	02 May 2019

Criterion	Performance Scores	
	Existing	Potential
Directness	5.00	5.00
Gradient	5.00	5.00
Safety	3.50	5.00
Connectivity	2.75	2.75
Comfort	4.00	5.00



Number of Existing Critical	1
Number of Potential Critical	0
Description of Improvements	lighting, surveillance and resurfacing (0.96km)
Indicative Cost	£154,000

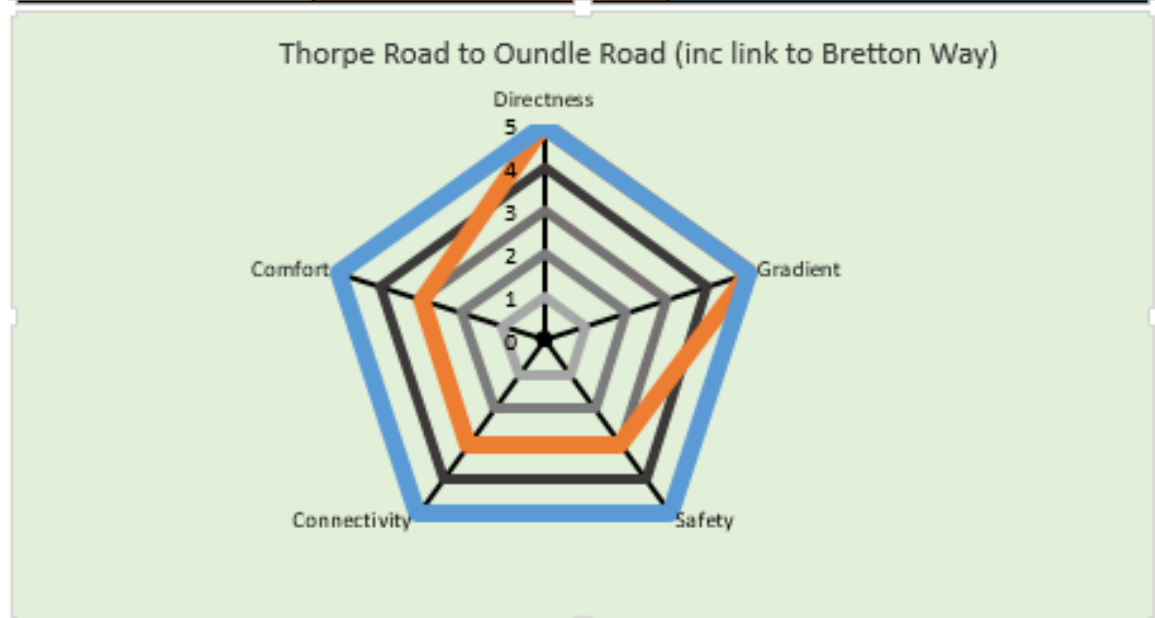
C15

Local Cycling and Walking Infrastructure Plan: Route Selection Tool

ROUTE SUMMARY

Route Name	Thorpe Road to Oundle Road (inc link to Bretton Way)
Overall Length	3.4 (excluding the off-road link to Bretton Way)
Name of Assessor(s)	Rebecca Presland
Date of Assessment	02 May 2019

Criterion	Performance Scores	
	Existing	Potential
Directness	5.00	5.00
Gradient	5.00	5.00
Safety	3.00	5.00
Connectivity	3.00	5.00
Comfort	3.00	5.00



Number of Existing Critical	6
Number of Potential Critical	5
Description of Improvements	Bi-directional cycle lane that is segregated from the road inc priority at side roads, installation of up to 3 controlled crossings/zebra, footpath widening, lighting, maintenance and resurface of off road connections, signage.
Indicative Cost	£2.5m

Appendix C

Individual WRAT Route Summaries

ROUTE SUMMARY

Route Name	Lincoln Road
Length	2880m
Name of Assessor(s)	Rebecca Presland
Date of Assessment	01 June 2019
Criterion	Performance Scores
Attractiveness	3
Comfort	7
Directness	6
Safety	3
Coherence	1
Total	20
Comments	<p>The quality of the environment along this route is generally poor. The general quality of footway material, street furniture and landscaping does not reflect the function of the link as a local high street. The link is a local high street, with many shops and two supermarkets. This is not reflected on the quality of the pedestrian environment. For example:</p> <ul style="list-style-type: none"> • The footway is obstructed by parked vehicles • Crossing the road is restrained by guard railing and bollards. • The footway is made of a range of materials and is in poor condition in places. • Appropriate street furniture, improving the amenity of a place (benches, bins, planters etc.) is sparse and of various styles. <p>As this is a retail area, crossing demand is high with pedestrian crossing between shops.</p>
Actions	<p>Triangle junction - review junction. Remove guardrail ling, locate crossing point on desire line. Harris Street zebra crossing - crossing ends in the carriageway and needs to be relocated between footways.</p> <p>Taverner Road junction - excessive guard railing, confusing cycle infrastructure on footway. Provide pedestrian phase and review cycle infrastructure.</p> <p>Craig Street bus shelter - reduces useable footway - relocate with rear to road or further north where footway is wider.</p> <p>Bright Street junction - major access point to city centre, wide and complex junction with no pedestrian phase. Reduce size and complexity.</p> <p>Whole / part route - resurfacing, wayfinding and signage, dropped kerbs, CCTV, guardrail ling removal, updates to street furniture, tactile paving, improve crossing facilities, possible additional pedestrian crossings.</p>

W02

ROUTE SUMMARY

Route Name	Park Road (Bluebell Avenue to Westgate)
Length	3067
Name of Assessor(s)	Rebecca Presland
Date of Assessment	01 May 2019

Criterion	Performance Scores
Attractiveness	5
Comfort	6
Directness	9
Safety	5
Coherence	1
Total	26

Comments	<p>Missing dropped kerbs and tactile paving on the northern section (Welland Road and Dogthorpe Road).</p> <p>Obstructions on already narrow footways are a major issue on the southern section of Park Road such as hoarding or temporary traffic signs.</p>
Actions	<p>The double mini-roundabout junction is wide, complex and long to cross with extensive guard railing - Review the need for guard railing and staggered crossings.</p> <p>Geneva Street - Westgate - very narrow footways, below the 1.5m recommended minimum width for a wheelchair to pass - Consider widening footways by reviewing parking provisions.</p> <p>Burghley Road has high level of vehicle traffic, but no controlled crossings; existing uncontrolled crossings are not always on pedestrians' desire line and constrained by guard railing.</p> <p>Burghley Park has no crossing point at all - Review junction layout to achieve a better balance of the needs of all road users.</p> <p>Some uneven surfaces, bus shelters and street furniture need to be removed / moved in 3 locations. Side streets missing dropped kerbs / tactile paving.</p>

W03

ROUTE SUMMARY

Route Name	W03 - City Centre Perimeter (Westgate / Bourges Boulevard - Vineyard rd. / Bishop's rd.)	
Length	2630	
Name of Assessor(s)	Rebecca Presland	
Date of Assessment	01 August 2019	
Criterion	Performance Scores	
Attractiveness		5
Comfort		12
Directness		8
Safety		6
Coherence		2
Total		33
Comments	Relatively new upgrades ((of high standard) that make walking and cycling the preferred choice) to the majority of this route.	
Actions	General maintenance, increased signage, upgrades to Midgate area of route.	

W04

ROUTE SUMMARY

Route Name	W04 - Fengate (Gravel Walk / Vinyard Road - Vicarage Farm Road)	
Length	2792	
Name of Assessor(s)	Rebecca Presland	
Date of Assessment	01 July 2019	
Criterion	Performance Scores	
Attractiveness		3
Comfort		5
Directness		6
Safety		3
Coherence		1
Total		18
Comments	<p>A key issue here is the lack of footway on the eastern side of the road in two places. It first disappears at the junction with Third Drove, forcing pedestrians to cross with no crossing facility and a high level of traffic and HGVs.</p> <p>The footway comes back temporarily to serve the bus stop at Titan Drive with two uncontrolled tactile crossings, but is then absent again all the way to the end of the route. This provision is poor, but due to the industrial nature, these roads are not often frequented by pedestrians.</p> <p>Another issue was the signal junction at Boongate, where there is pedestrian phase on two out of three arms and large amounts of guard railing, meaning pedestrians are forced to take a detour and wait for longer periods. The guard railing also reduces the width of the footway.</p>	
Actions	An uncontrolled refuge island crossing facility where the footway ends and at bus stops could in this case be considered adequate provision.	

W05

ROUTE SUMMARY

Route Name	Oundle Road (Lynch Wood to Town Bridge)
Length	5717
Name of Assessor(s)	Rebecca Presland
Date of Assessment	01 June 2019
Criterion	Performance Scores
Attractiveness	3
Comfort	8
Directness	7
Safety	2
Coherence	1
Total	21
Comments	Maintenance is an issue along the route, mainly litter, poorly kept soft landscaping and footways in poor condition. Excessive use of guardrailing. Generally able to accommodate all users (nearer Town Bridge) footpath narrow under railway bridge - conflict if busy and not suitable for wheel-chair users.
Actions	Signage, removal of clutter, new crossings, refuges, 500m widening, resurfacing

W06

ROUTE SUMMARY

Route Name	Eastfield Road (Peterborough City Market - Frank Perkins Parkway Overbridge)
Length	2476
Name of Assessor(s)	Rebecca Presland
Date of Assessment	01 August 2019
Criterion	Performance Scores
Attractiveness	3
Comfort	6
Directness	6
Safety	3
Coherence	1
Total	19
Comments	Maintenance is an issue in places, mainly graffiti, untrimmed hedges and footways in poor condition. Footways are obstructed (illegal parking, guard railing and bollards) at the local retail area near the junctions of Eastfield Road with Monument Street and Padholme Road. There is a lack of crossing opportunities along most of the road as the carriageway is wide and traffic level is high and moves fast.
Actions	Newark Avenue junction - Add pedestrian phase at signalled junction. Broadway junction - Add pedestrian phase to traffic signal. Junction 39 roundabout - review junction layout. St Johns Road - Increase crossing provision. New Road / Northminster - Increase crossing provision. General maintenance along route.

W07

ROUTE SUMMARY

Route Name	Broadway (Long Causeway to Eastfield Road (Via Broadway))	
Length	1572	
Name of Assessor(s)	Rebecca Presland	
Date of Assessment	01 July 2019	
Criterion	Performance Scores	
Attractiveness	5	
Comfort	9	
Directness	8	
Safety	6	
Coherence	1	
Total	29	
Comments	<p>Footways are obstructed along the south end of the route, causing difficulty and annoyance to pedestrians particularly between Burghley Park and Westgate. The main cause are illegal parking, traffic signs, bollards and other street furniture.</p> <p>Eastfield Road junction - The junction is wide and has fast moving traffic but no pedestrian phase at all at the traffic signal.</p> <p>Park Crescent junction - This side street is very wide at the junction, with no refuge island. the route is likely to be used by young pedestrians as Park Crescent leads to the Regional College and Thomas Deacon Academy.</p> <p>Burghley Park junction - Crossings at the signalled junction are not on pedestrian's desire line. The path is constrained by guardrailling.</p> <p>Broadway (Southern end) - This section has a poor quality environment which does not reflect its position as a major access to the city centre. Footways are obstructed by illegal parking, traffic signs, bollards and other street furniture. De-clutter footways and enforce illegal parking.</p>	
Actions	<p>Decluttering and maintenance for whole route.</p> <p>Eastfield Road junction - Add ped phase to traffic signal to provide easier and safer crossing.</p> <p>Park Crescent junction - Reduce junction width by introducing a refuge island.</p> <p>Burghley Park junction - Review junction layout. remove excessive guardrailling. Relocate crossing on desire line.</p> <p>Broadway - Widen footways. De clutter.</p>	

W08

ROUTE SUMMARY

Route Name	W08 - Thorpe Road (Apsley Way - Crescent Bridge roundabout)	
Length	3072	
Name of Assessor(s)	Rebecca Presland	
Date of Assessment	01 August 2019	
Criterion	Performance Scores	
Attractiveness	4	
Comfort	8	
Directness	9	
Safety	4	
Coherence	1	
Total	26	
Comments	<p>Links with new housing development on Thorpe Road (old hospital site). Land before Crescent Bridge earmarked for development.</p> <p>Thorpe Road is segregated from the city centre by the rail tracks and Bourges</p>	
Actions	<p>Remove lane on Crescent Bridge</p> <p>Longthorpe - narrow footway</p> <p>West of Longthorpe Parkway junction - increase crossing opportunities</p>	

W09

ROUTE SUMMARY

Route Name	London Road (Fletton Parkway underbridge - Bridge Street)
Length	2730
Name of Assessor(s)	Rebecca Presland
Date of Assessment	01 July 2019
Criterion	Performance Scores
Attractiveness	3
Comfort	9
Directness	6
Safety	3
Coherence	1
Total	22
Comments	The first part of the route between the Fletton Parkway underpass and Old Fletton School are of high quality and a recent upgrade has taken place when new residential development was undertaken. The route has been
Actions	Signage, de-clutter. Resurfacing on bridge. New Crossings potentially 3)

W10

ROUTE SUMMARY

Route Name	W10 - Mayors Walk (Audley Gate - Bourges Boulevard)
Length	1892
Name of Assessor(s)	Rebecca Presland
Date of Assessment	01 September 2019
Criterion	Performance Scores
Attractiveness	4
Comfort	4
Directness	7
Safety	3
Coherence	1
Total	19
Comments	Lack of dropped curbs. Depressions and rough surfaces causing trip hazards. Pavement parking and obstructions by parked cars. Some unnecessary guard railing. Poor signage throughout. Mayors Walk / Bourges Boulevard - footways narrow (bridge) and subway needs maintenance / lighting etc.
Actions	Aldermans Drive junction - Remove guardrailing and align crossings on pedestrians' desire line. The signalled junction has pedestrian phase on all arms, but crossings are not aligned with pedestrians' desire line and is constrained by guardrailing. Guardrailing could be removed as vehicle flow is low and crossings aligned with desire line. Railroad bridge - Russel St subway - Widen footway. Pedestrian provision on the bridge is very poor, with extremely narrow footways and no crossing facility to access the Russel Street subway on the north side. Although Mayor's walk is narrow traffic was fast making difficult to cross. Access to the subway from Mayor's Walk railway bridge should be addressed to ensure the planned atgrade crossing replacing the Russel Street subway has a good accessibility. Shared use path - Review layout. The existing layout of the shared use path is confusing and substandard on narrow footways. Review layout to provide clearer and more comfortable paths to both cyclists and pedestrians.

W11

ROUTE SUMMARY

Route Name	Hartwell Way - (Peterborough City Hospital - Bretton Centre)	
Length	1172	
Name of Assessor(s)	Rebecca Presland	
Date of Assessment	01 September 2019	
Criterion	Performance Scores	
Attractiveness	5	
Comfort	4	
Directness	8	
Safety	6	
Coherence	0	
Total	23	
Comments	There are a number of alternative internal routes from the various housing estates that lead to either the hospital or the Bretton Centre. These routes are well lit, have active surveillance and are in a general good state of repair. There are footbridges (with ramps) to the hospital making the sites accessible for pedestrians. As such this route may have a low score but should not be considered a priority as several other routes exist.	
Actions	Lighting, New crossing and walkway over Bretton Gate and around Hartwell Way. Underpass refurb.	

W12

ROUTE SUMMARY

Route Name	W12 - South Bretton (Peterborough City Hospital - Bretton Centre)	
Length	662	
Name of Assessor(s)	Rebecca Presland	
Date of Assessment	01 September 2019	
Criterion	Performance Scores	
Attractiveness	5	
Comfort	9	
Directness	12	
Safety	6	
Coherence	1	
Total	33	
Comments	mainly issues concerning narrowness, general maintenance, lighting and signage - although the majority of the route is a local (off-road) path.	
Actions	Signage, underpass lighting, wayfinding	

W13

ROUTE SUMMARY

Route Name	W13 - Atherston Avenue (Peterborough City Hospital - Gresley Way)	
Length	2111	
Name of Assessor(s)	Rebecca Presland	
Date of Assessment	01 September 2019	
Criterion	Performance Scores	
Attractiveness	6	
Comfort	6	
Directness	11	
Safety	4	
Coherence	1	
Total	28	
Comments	Significant number of cars parked on pavement causing obstruction to footpath. Footpaths are generally above 1.5m however parked cars reduce this in several parts of the route. Lack of dropped curbs / tactile paving at junction crossings. Fly tipping noted on Buckland Close and pavements become slightly narrower. At the end of Buckland Close the path goes off road to the hospital - very overgrown, no lighting, signage poor and no active / passive surveillance.	
Actions	Zebra crossing (Atherstone Avenue), Lighting (Buckland Close), pedestrian refuge over Cranfield arm, Gresley Way arm, Isham Road.	

W14

ROUTE SUMMARY

Route Name	W14 - Orton (Orton Centre - Lynchwood)	
Length	1389	
Name of Assessor(s)	Steven Percy	
Date of Assessment	15 October 2019	
Criterion	Performance Scores	
Attractiveness	4	
Comfort	9	
Directness	10	
Safety	6	
Coherence	2	
Total	31	
Comments	Littering, vandalism. Brimbles Way could provide a more direct route. Footway parking. Route straddles the Parkway which could cause confusion. Signage required. Some resurfacing required in some areas (especially near the underpass)	
Actions	New footway (190m, Skye cl/Loch Lomond Way), Signage (Clearing graffiti in underpass, x2). Wayfinding totems (x1)	

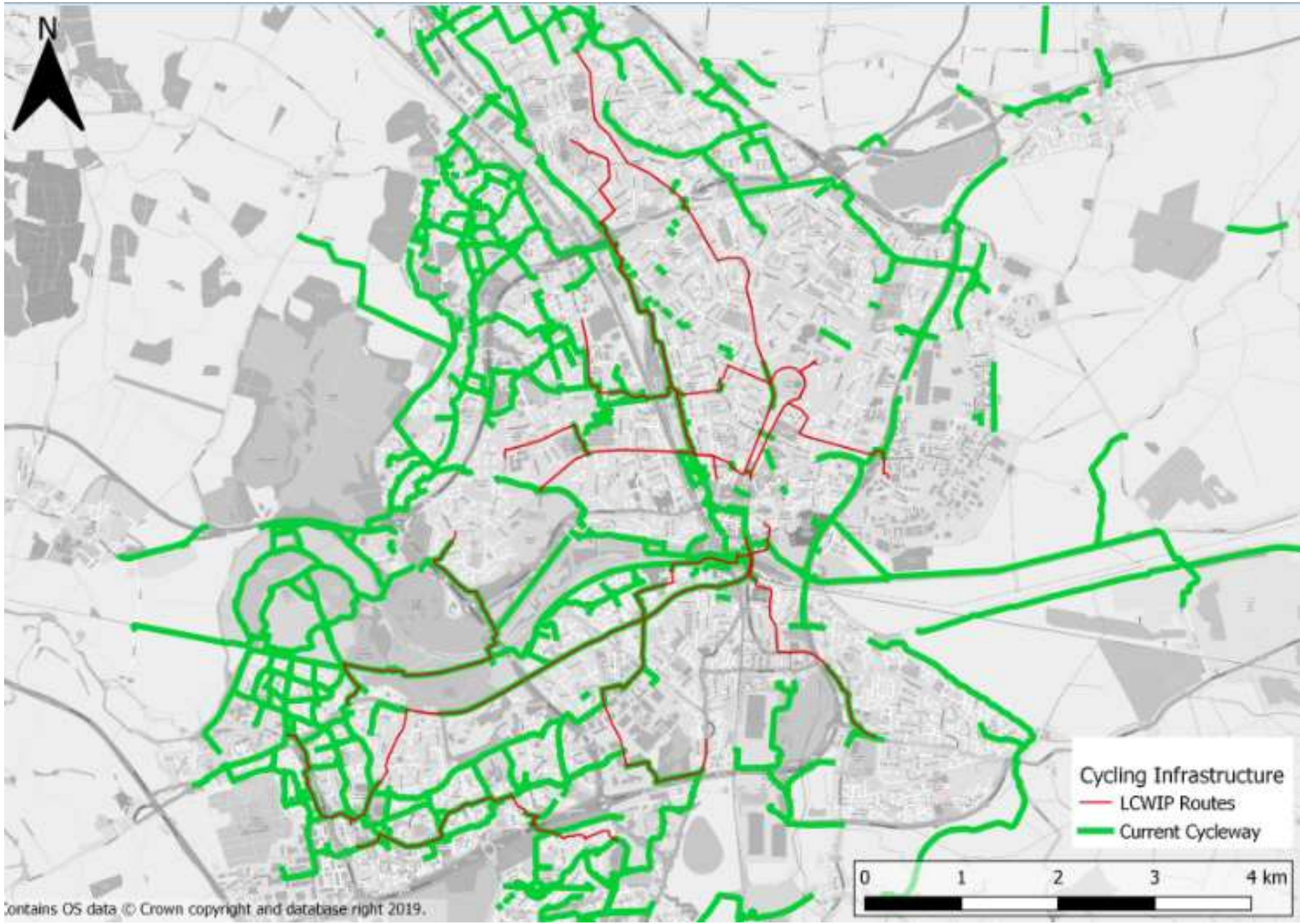
W15

ROUTE SUMMARY

Route Name	W15 - Orton (Orton Centre - Phoenix School)	
Length	1778	
Name of Assessor(s)	Rebecca Presland	
Date of Assessment	01 September 2019	
Criterion	Performance Scores	
Attractiveness	5	
Comfort	9	
Directness	11	
Safety	6	
Coherence	1	
Total	32	
Comments	Generally the complete route is of a good standard. Pennington Road (prior to Alnwick Road) has very narrow pavement which would cause issues for some users. People were walking and cycling on the grass verge during the audit. Alnwick - Clayton is off road - pavement narrow and in need of maintenance. Distinct lack of dropped curbs and tactile paving throughout route.	
Actions	New Path (along Clayton, through trees, x140m), crossing (x1)	

Appendix D

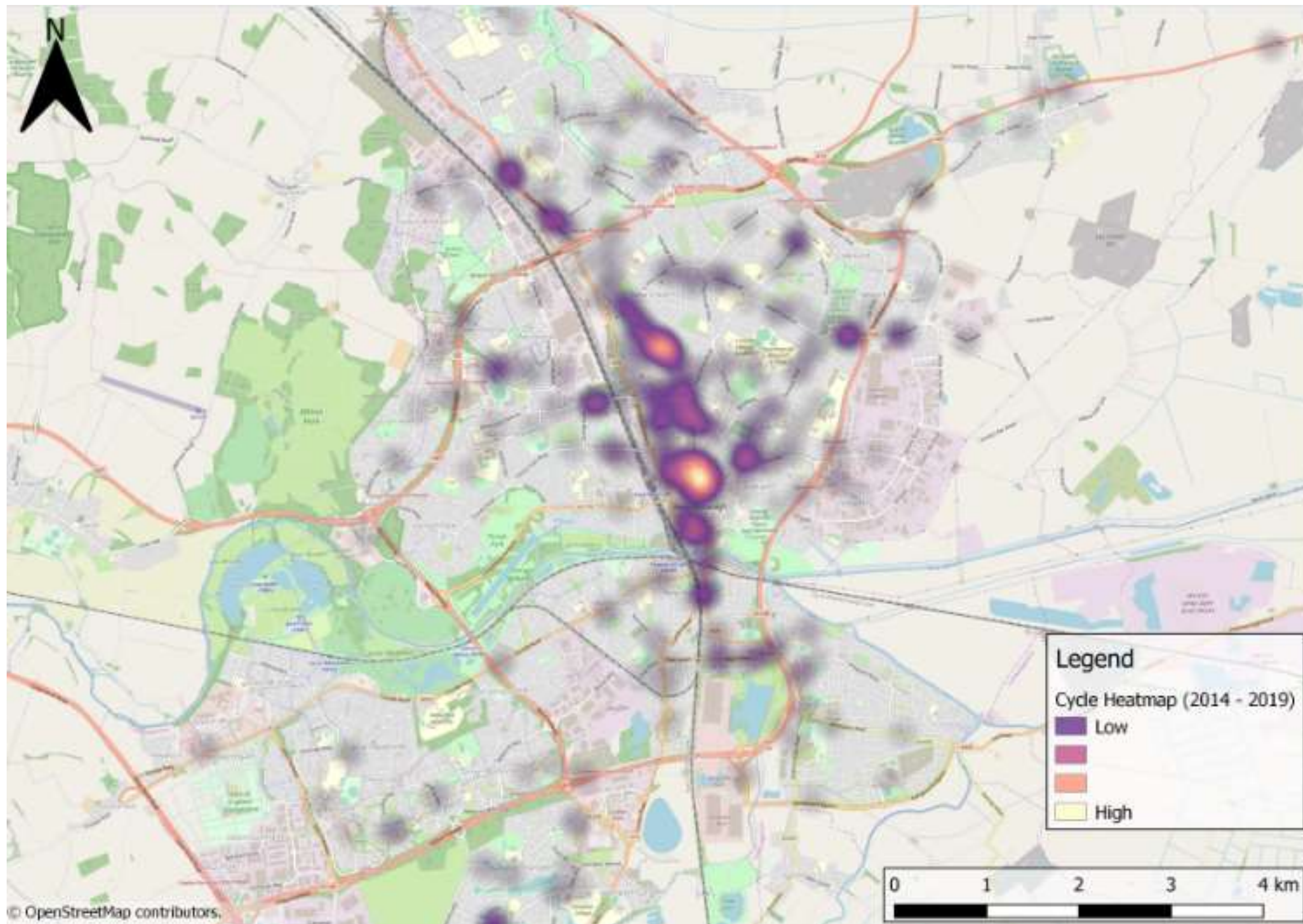
Existing Peterborough Cycle Network overlaid with LCWIP Identified Cycle routes



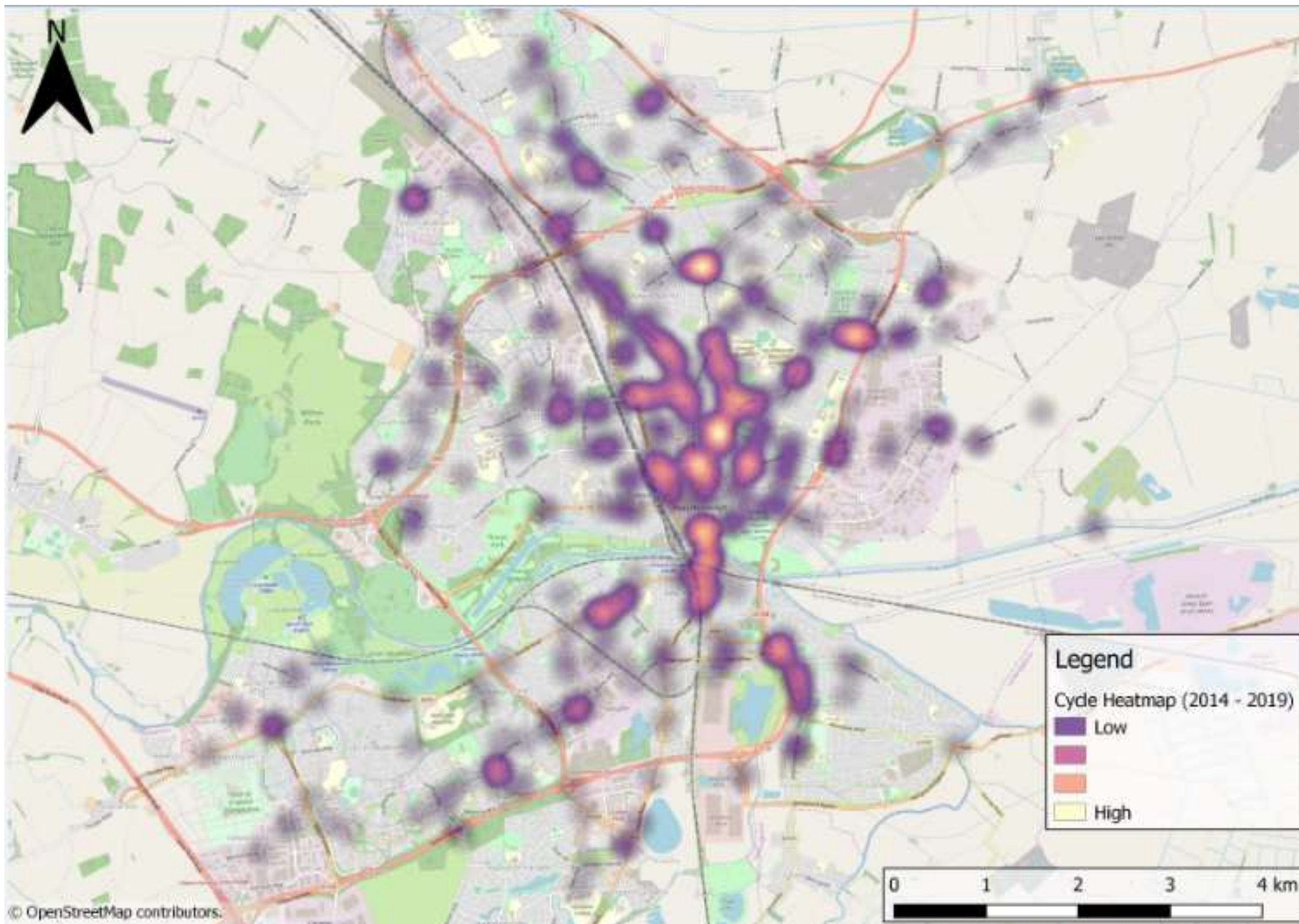
Appendix E

Pedestrian and Cyclist Accident Heat Maps

Pedestrian Accident Heat Map



Cycling Accident Heat Map



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