



# **Blackburn with Darwen Borough Council, Local Cycling and Walking Infrastructure Plan**

Blackburn Cycling and Walking Network Planning

Phase 2 Report

December 2022

# Contents

1	Introduction	1
1.1	Background	1
1.2	LCWIP Process	1
1.3	Report Purpose	2
1.4	Report Structure	2
2	Evidence Base	3
2.1	Commuting Origin / Destination	3
2.2	Trip Length	5
2.3	Propensity to Cycle Tool (PCT)	5
3	Cycle Network Development	13
3.1	Background	13
3.2	Methodology	13
3.3	Step 1 – Defining the Study Area	13
3.4	Step 2 – Identify Key Origins and Destinations	15
3.5	Step 3 – Identify Key Future Developments & Infrastructure	16
3.6	Step 4 – Clustering of Origins and Destinations	17
3.7	Step 5 – Schematic Connections between Origins and Destinations	18
3.8	Step 6 – Identify Routes Serving the Schematic Network	18
3.9	Step 7 – Identify a Route Hierarchy	20
3.10	Step 8 – Produce a Draft Cycle Network	21
3.11	Step 9 – Consideration of Core Design Outcomes for Cycle Routes	25
3.12	Step 10 – Establishing Cycling Infrastructure Improvements	26
4	Walking Network Development	27
4.1	Overview	27
4.2	Methodology	27
4.3	Step 1 – Defining the Study Area	27
4.4	Step 2 – Mapping Walking Trip Generators	27
4.5	Step 3 – Identify Core Walking Zones	28
4.6	Step 4 – Identifying Key Walking Routes	28
4.7	Step 5 – Consider a Route Hierarchy	29
4.8	Step 6 – Produce a Draft Walking Network	29
4.9	Step 7 – Validation and Review	33
4.10	Step 8 – Produce Final Network	34
5	Leeds & Liverpool Canal	35
5.1	Introduction	35
5.2	Pennine Lancashire Linear Park	35
5.3	LCWIP Proposals for Leeds & Liverpool Canal	36
6	Liveable Neighbourhoods	37
6.1	What are Liveable Neighbourhoods?	37
6.2	Guidance	38
6.3	Introduction to Analysis	38
6.4	Analysis Stage 1: Identifying Potential Liveable Neighbourhood Areas	38
6.5	Analysis Stage 2: Suitability Assessment and Prioritisation	39
6.6	Results	40
7	Next Steps	42
7.1	Prioritisation	42
7.2	Integrating the LCWIP within Local Policies and Plans	42
7.3	Consultation	42
7.4	Scheme Development	42
7.5	Using the LCWIP to Secure Funding	43
7.6	Reviewing and Updating the LCWIP	43

# 1 Introduction

## 1.1 Background

1.1.1 Local Cycling and Walking Infrastructure Plans (LCWIPs), as set out in the Government’s Cycling and Walking Investment Strategy (CWIS), are a new, strategic approach to identifying cycling and walking improvements required at the local level. They enable a long-term approach to developing local cycling and walking networks, typically over a 10-year period, and form a vital part of the Government’s strategy to increase the number of trips made on foot or by cycle.

1.1.2 The key outputs of LCWIPs are:

- a network plan for walking and cycling (including wheeling) which identifies preferred routes and core zones for further development;
- a prioritised programme of infrastructure improvements for future investment; and
- a report which sets out the underlying analysis carried out and provides a narrative which supports the identified improvements and network.

1.1.3 By taking a strategic approach to improving conditions for cycling and walking, LCWIPs will assist Local Authorities (LAs) 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; and
- make the case for future funding for walking and cycling infrastructure.

## 1.2 LCWIP Process

1.2.1 The Department for Transport (DfT) has produced guidance to develop a LCWIP; this defines 6 distinct stages in the production of an LCWIP, as outlined in Table 1.1 below.

**Table 1.1 – LCWIP Process**

Stage	Name	Description
1	Determining Scope	Establish the geographical extent of the LCWIP, and arrangements for governing and preparing the plan.
2	Gathering Information	Identify existing patterns of walking and cycling and potential new journeys. Review existing conditions and identify barriers to cycling and walking. Review related transport and land use policies and programmes.
3	Network Planning for Cycling	Identify origin and destination points and cycle flows. Convert flows into a network of routes and determine the type of improvements required.
4	Network Planning for Walking	Identify key trip generators, core walking zones and routes, audit existing provision 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.

- 1.2.2 The Blackburn with Darwen LCWIP has been split into three distinct phases:
- Phase 1: Covering Stages 1 and 2 and reported within the Blackburn with Darwen LCWIP Baseline Report
  - Phase 2: Evidence review and network development, reflecting Stages 3 and 4 of the LCWIP guidance.
  - Phase 3: Development of network priorities into 'bid-ready' schemes, commensurate with Stage 5 of the LCWIP guidance. This Phase also reports on Public Consultation and Stakeholder Engagement.
- 1.2.3 The LCWIP priorities will be taken forward for integration and application (Stage 6 of the LCWIP guidance) within Blackburn with Darwen Borough Council's wider policy and strategic frameworks.

### **1.3 Report Purpose**

- 1.3.1 Phase 2 reports have been prepared separately for the areas of the Blackburn with Darwen borough, north and south of the M65 motorway and are to be referred to as the Blackburn study area and Darwen study area.
- 1.3.2 Each report shall consider connectivity between the two areas and with neighbouring authorities. This Phase 2 report covers the cycling and walking network planning process for the Blackburn study area.

### **1.4 Report Structure**

- 1.4.1 This Phase 2 report is structured into chapters which reflect the LCWIP process as follows:
- Chapter 1 provides a background to the LCWIP and the scope of the area.
  - Chapter 2 briefly covers the 'Evidence Base' for the study area upon which the cycle and walking network is to be developed.
  - Chapter 3 looks at the network planning for cycling and the route selection providing a background to each route and detail of the proposed schemes.
  - Chapter 4 looks at the network planning for walking and the route selection providing a background to each route and detail of the proposed schemes.
  - Chapter 5 considers the potential for the introduction of Liveable Neighbourhoods.
  - Chapter 6 provides a summary of the findings and considers next steps.

## 2 Evidence Base

### 2.1 Commuting Origin / Destination

2.1.1 The Baseline Data Report covers Stages 1 and 2 of the LCWIP process set out above in that it:

- defines the geographical extent of the LCWIP, and sets out the arrangements for governing and preparing the plan;
- identifies existing patterns of walking and cycling and potential new journeys; - reviews existing conditions;
- identifies barriers to cycling and walking; and
- reviews related transport and land use policies and programmes.

2.1.2 The following sections provide a summary of the information provided in the Baseline Report and offers additional detail in relation to the Blackburn study area.

2.1.3 Census 2011 data was also used to analyse the existing patterns of movement to work within Blackburn and the surrounding areas. Although the data looked at is not specifically related to walking and cycling, it is very useful in terms of understanding existing movement patterns around the LCWIP study area which has potential to be met by walking or cycling should barriers to these modes be reduced or removed.

2.1.4 Commuting patterns also provide information as to how people choose to travel to work and can be an indicator of more general transport accessibility issues. For example, over-reliance on the private car can indicate a lack of mode choice in a geographic area and can help identify potential issues or barriers to accessing areas by public transport or active modes.

2.1.5 Table 2.1 sets out commuting patterns for residents of the LCWIP study area using Census 2011 Origin – Destination data at the MSOA level. Note that the level of disaggregation offered by the data does not align entirely with the study area and is therefore not directly comparable. Where trips to a destination account for less than 1%, they have been combined under the category ‘Other’.

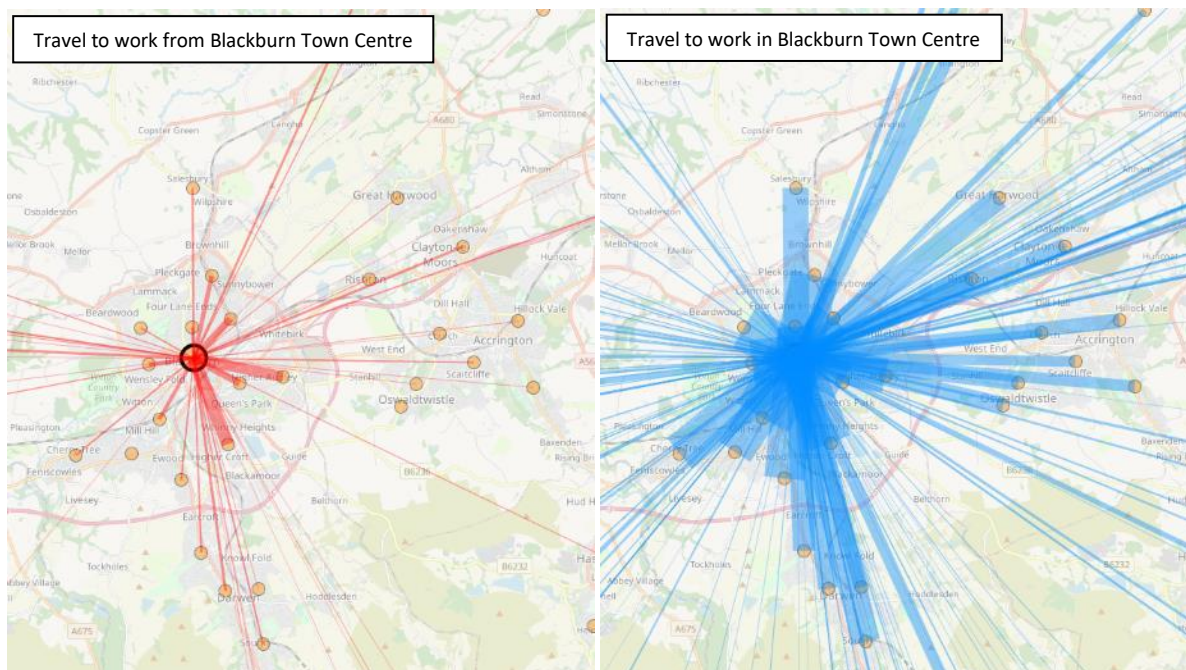
**Table 2.1 - Commuting Patterns for LCWIP Study Area Residents**

Authority	Go to Work In	Come to Work From
2.1.3 Blackburn with Darwen	23,908	26,022
Bolton	339	616
Burnley	797	1,695
Bury	95	202
Chorley	278	876
Fylde	184	87
Hyndburn	2,554	5,756
Manchester	167	30
Pendle	274	941
Preston	1,605	522
Ribble Valley	1,491	2,871
Rossendale	357	862
Salford	27	33
South Ribble	742	814
Trafford	6	0
Other	6,625	244
<b>Total</b>	<b>39,443</b>	<b>41,571</b>

Census, 2011 – Dataset WU03EW

- 2.1.6 The data shows a total of 39,443 trips to work originating within the study area at the time of the 2011 Census. More than 60% of these remain within Blackburn with Darwen authority for their place of work. The data also shows that 41,571 people travel into the Blackburn study area, around two thousand more than those who travel out of the area for work.
- 2.1.7 The data shows that for journeys to and from work outside of the borough that Hyndburn is the most likely with 2,554 travelling to work in Hyndburn and 5,756 travelling from Hyndburn into the study area for work. Journeys between Blackburn and Hyndburn are generally within the maximum desirable walking and cycling distances. Rishton and Oswaldtwistle are within 5km of Blackburn town centre.
- 2.1.8 The DataShine platform<sup>1</sup> visualises the Census 2011 travel to work flows using population-weighted MSOA centroids as vectors. The program indicates the flows of people commuting away and towards a specified location using all methods of travel to work. The red lines represent flows out from the selected location towards employment sites, while the blue lines demonstrate flows coming into the selected place, where people work.
- 2.1.9 Figure 2.1 visualises the commuting trips of those living and working in Blackburn town centre using the DataShine platform. The most common employment destinations at an MSOA level are identified by the width of the red lines. The most common home locations for those travelling to Blackburn town centre for work are identified by the width of blue lines. The figure shows that the comparatively greatest link is to adjacent MSOAs, visualising the high proportion of people commuting within Blackburn itself. The high number of people commuting into Blackburn from Hyndburn is also evident.

**Figure 2.1 - Key Destinations of Commuting Trips Originating in the LCWIP Study Area**



<sup>1</sup> <https://commute.datashine.org.uk/>



## 2.2 Trip Length

2.2.1 Distance Travelled to Work data obtained from the 2011 Census was analysed to determine average trip lengths and evaluate the potential for shorter trips undertaken by other modes to be converted into walking or cycling trips.

2.2.2 Table 2.2 shows the percentage of usual residents in employment travelling certain distances to work under 10km. Note that for distances greater than 7km, the propensity to cycle significantly reduces.

**Table 2.2 - Distance Travelled to Work (% of Workers) Blackburn with Darwen**

% by Distance/Total		Train	Bus	Driving a car or van	Passenger in a car or van	Bicycle	On foot	Other
TOTAL		1,000	3,254	36,773	4,940	593	7,492	1,688
Less than 2km	14,119	0%	3%	47%	8%	1%	37%	4%
2km to < 5km	14,165	1%	9%	64%	12%	2%	8%	4%
5km to < 10km	8,277	1%	9%	74%	9%	1%	4%	2%
10km to < 20km	8,628	3%	5%	81%	7%	1%	3%	1%
20km to < 30km	2,800	6%	2%	82%	6%	1%	2%	1%
30km to < 40km	1,637	9%	2%	79%	5%	0%	3%	1%
40km to < 60km	635	5%	2%	84%	6%	0%	2%	1%
60km and over	1,346	7%	6%	62%	6%	1%	15%	4%
Combined	51,607	2%	6%	66%	9%	1%	13%	3%
Work at home	4,986							

2.2.3 Table 2.2 shows that 47% of commuting trips of less than 2km and 64% of trips between 2km and 5km are undertaken by driving a car or a van. This equates to 6,636 and 9,066 commuting trips that could reasonably be replaced by walking and cycling which represents around 30% of all commuting trips generated by Blackburn with Darwen residents.

## 2.3 Propensity to Cycle Tool (PCT)

2.3.1 The Propensity to Cycle Tool (PCT) is a web-based tool that can assist with understanding potential demand for cycling across a study area, under a variety of forecast scenarios. The tool can aid in the identification of the most promising routes with regard to potential cycle growth and inform network development and areas for investment.

2.3.2 The PCT project was primarily funded by the Department for Transport (DfT), with the Welsh government funding an extension to Wales. It was developed by an academic-led team involving the universities of Cambridge, Leeds and Westminster. The PCT helps to provide an evidence base for planning for cycling and can be used to explore cycling potential at different geographical scales – from a county to a potential route corridor.

2.3.3 For research into cycling potential (and the resulting models) to be useful for local transport planners, their spatial scale must coincide with those over which the planning process has some control. For this reason, practitioners and researchers focus on scale as the primary way of categorising research into cycling potential.

2.3.4 At the route-based scale, the design of interventions uses origin-destination data which can be used to create ‘desire lines’ and (using route allocation) estimates of existing and potential demand at each point on the road network.

### **Baseline Data**

- 2.3.5 Central to the PCT approach is origin-destination (OD) data recording the travel flow between administrative zones. Combined with geographical data identifying the population-weighted centroid of each zones, these OD pairs can be represented as straight 'desire lines' or as routes allocated to the transport network.
- 2.3.6 The OD pairs are derived from 2011 census data using data obtained from the following questions:
- 'What is the address of your main workplace'? and
  - 'How do you usually travel to work'?
- 2.3.7 This is enhanced through gender composition data for each OD pair, data on background mortality at an area level, and OD pair level data on route distance and hilliness.

### **Forecasting Growth in Cycling**

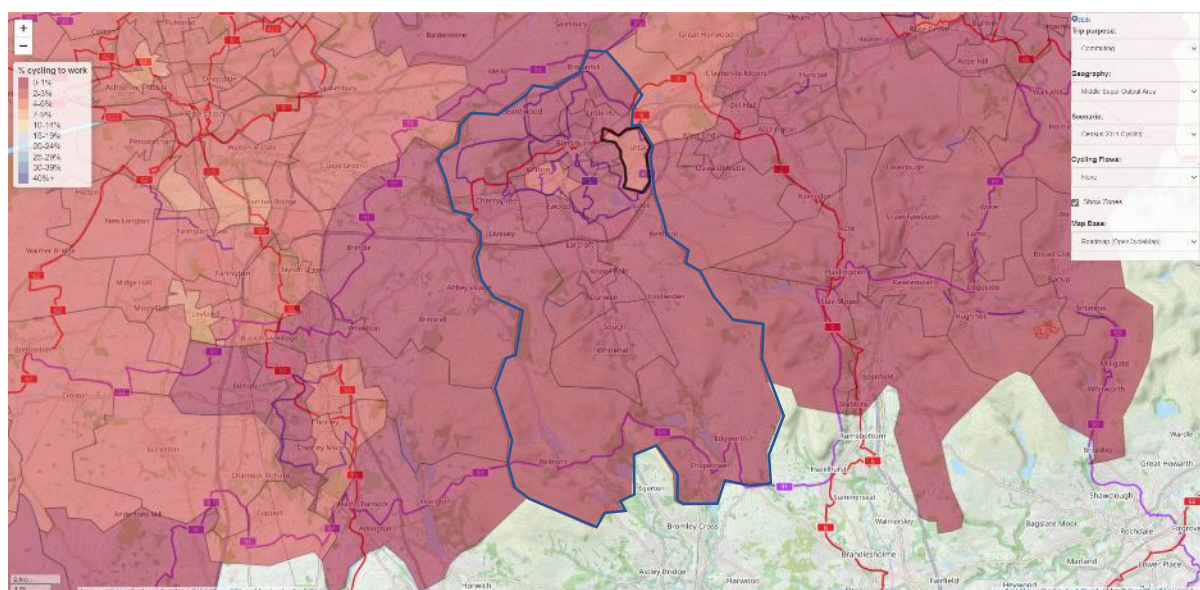
- 2.3.8 Four scenarios were developed to present a range of potential cycling future scenarios. These scenarios consider the removal of different infrastructural, cultural and technological barriers that currently prevent cycling being the natural mode of choice for trips of short to medium distances.
- 2.3.9 The PTC guidance stresses that these are not predictions of the future, but snapshots indicating how the spatial distribution of cycling may shift as cycling grows based on current travel patterns.
- 2.3.10 The four scenarios are:
- **Government Target:** a doubling of cycle trip stages by 2025. Note that this is not uniform, with a greater increase in areas with many existing short, flat trips but a low current level of cycling.
  - **Gender Equality:** this scenario assumes female cycle user numbers increase to equal levels of male cycle users, with the greatest impact where cycling is most gender unequal.
  - **Go Dutch:** this scenario considers the increase in cycle users if England had the same infrastructure and cycling culture as the Netherlands, but retained the hilliness and commuter distance patterns. It applies 'Dutch scaling factors' calculated through analysis of British and Dutch National Travel surveys. These include one fixed 'main effect' parameter, plus a distance based factor, as the Dutch effect is greater on shorter trips. Note this does not use current levels of cycling, rather considering the distance and hilliness of existing OD pairs.
  - **Ebikes:** this scenario is an extension of the Dutch scenario; The Ebike scaling factors were generated through analysis of the English, Dutch and Swiss National Travel Surveys, which estimated how much more likely it was that a given commute trip would be cycled by Ebike owners versus cyclists in general.

### **PCT Outputs**

- 2.3.11 The basic PCT interface displays the existing levels of cycling to work, based on 2011 census data. Figure 2.2 illustrates this scenario at the LSOA level.



**Figure 2.2 - PCT Output: % of Population Cycling to Work, by LSOA (2011 Census)**



2.3.12 The outputs show that the existing levels of cycling between LSOA OD pairs are relatively low in all areas of Blackburn with Darwen with 0-1% of journey to work undertaken by bicycle in all but 2 LSOAs.

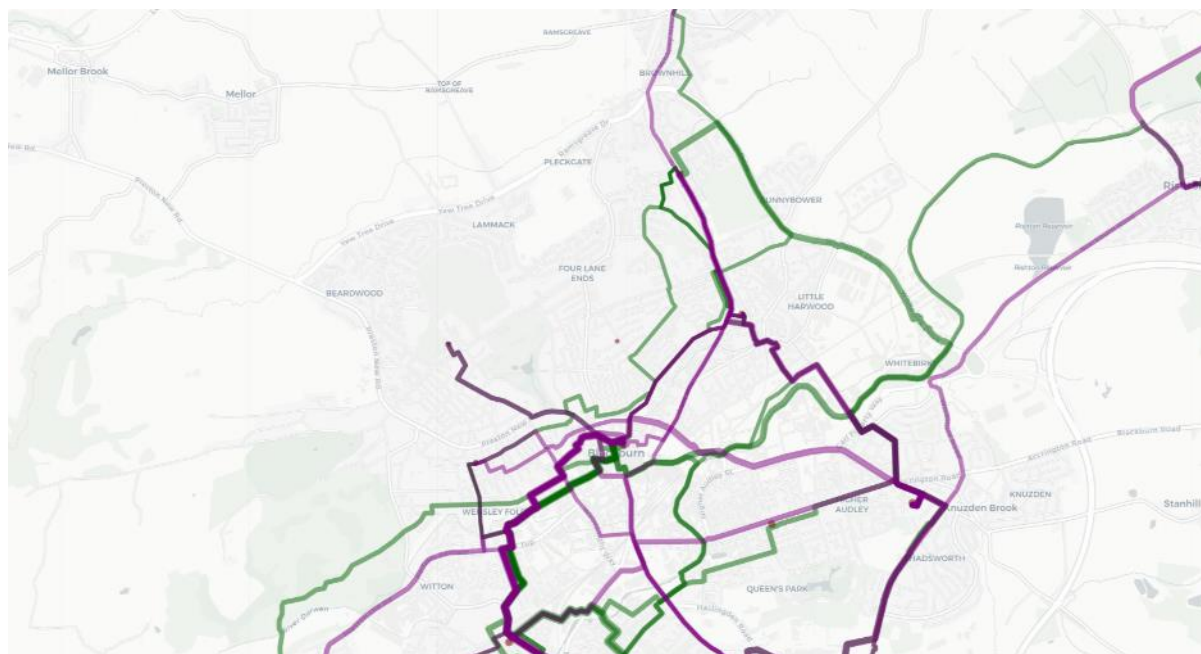
2.3.13 When considering the top 30 OD pairs, the majority of the existing travel to work by cycle occurs in the urban areas of Blackburn and Darwen with only moderate existing levels of cycling from the outlying Local Service Centres; there are 6 connections between Blackburn and Darwen in the top 30 OD pairs as shown in Figure 2.3.

**Figure 2.3 – PCT Output: Top 30 Cycle Flows between OD Pairs (2011 Census)**

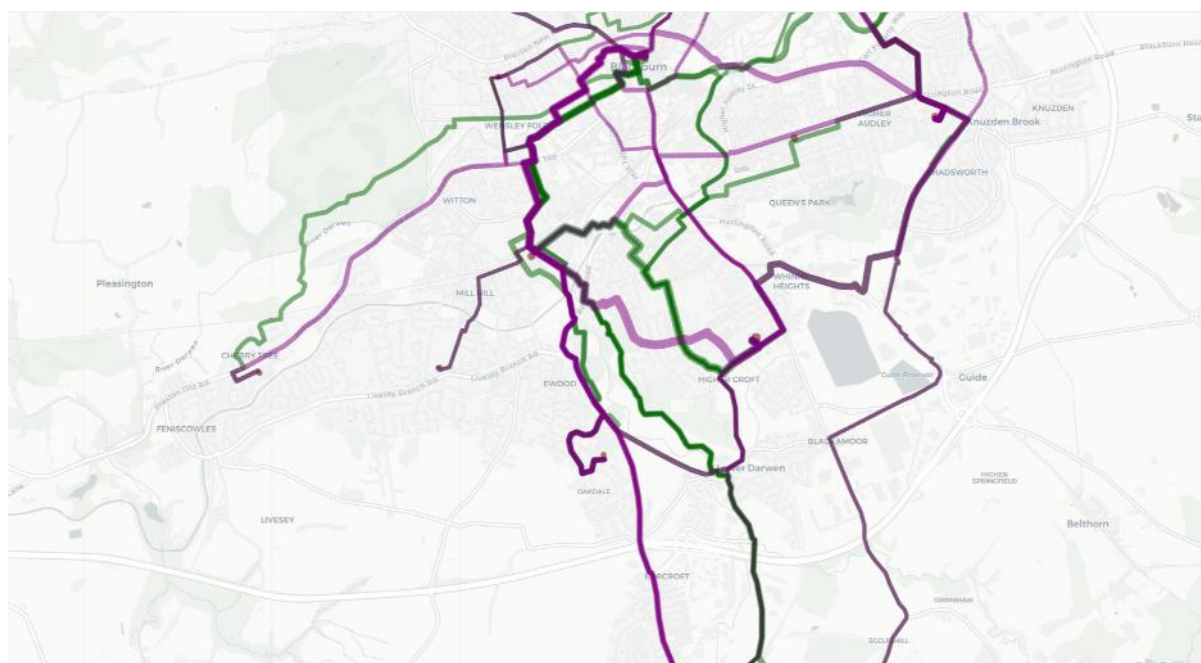


2.3.14 Figure 2.4 and Figure 2.5 demonstrates how OD pair movements are assigned to the most likely routes: the purple lines represent the fastest routes, while those in green show quieter routes with less vehicular traffic. These routes are generated by CycleStreets.net, so do not necessarily represent the paths that cyclists actually take, rather the route choice models are based on GPS data developed specifically for this purpose.

**Figure 2.4 - PCT Output: Top 30 Cycle Flows between OD Pairs, Mapped to Fast and Quiet Routes (2011 Census) North Blackburn**



**Figure 2.5 - PCT Output: Top 30 Cycle Flows between OD Pairs, Mapped to Fast and Quiet Routes (2011 Census) South Blackburn**



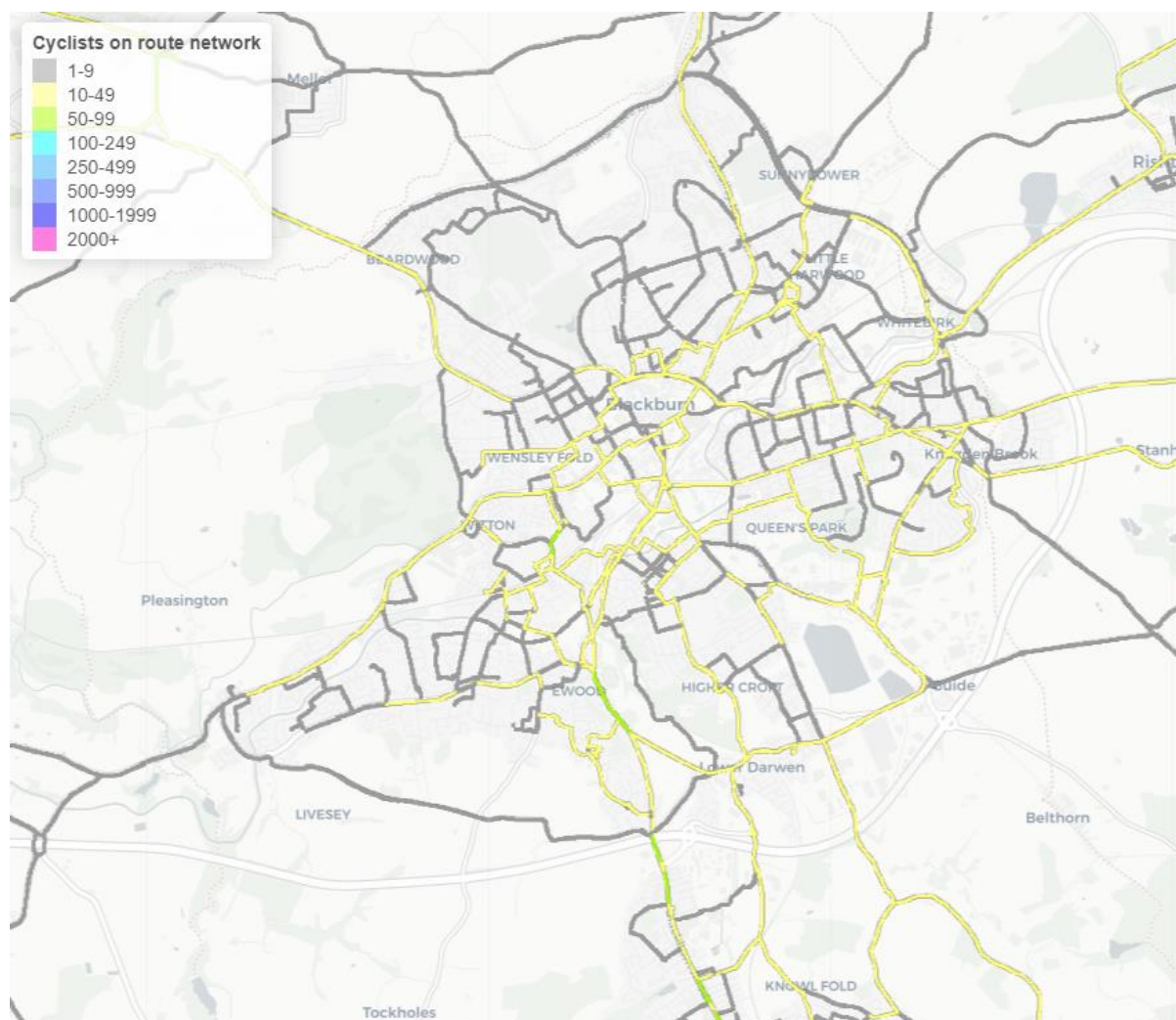
2.3.15 These routes indicate a demand for North-South movements between Blackburn and Darwen. The 6 OD pair connections identified in Figure 2.3 are essentially assigned to 3 separate routes where the M65 can be crossed, these being the A666 Bolton Road, Lower Eccleshill Road and Roman Road as can be seen in Figure 2.5.

2.3.16 It is also important to note that the tool only considers journey to work data, so excludes all other journey purposes, such as recreational cycling, tourist demand, and movements to school.



2.3.17 Figure 2.6 allocates these routes with the Route Network layer, aggregating the 'fastest route' flows together to consider the likely most cycled existing routes on the network.

**Figure 2.6 - PCT Output: Total Cyclists on Route Network (2011 Census)**

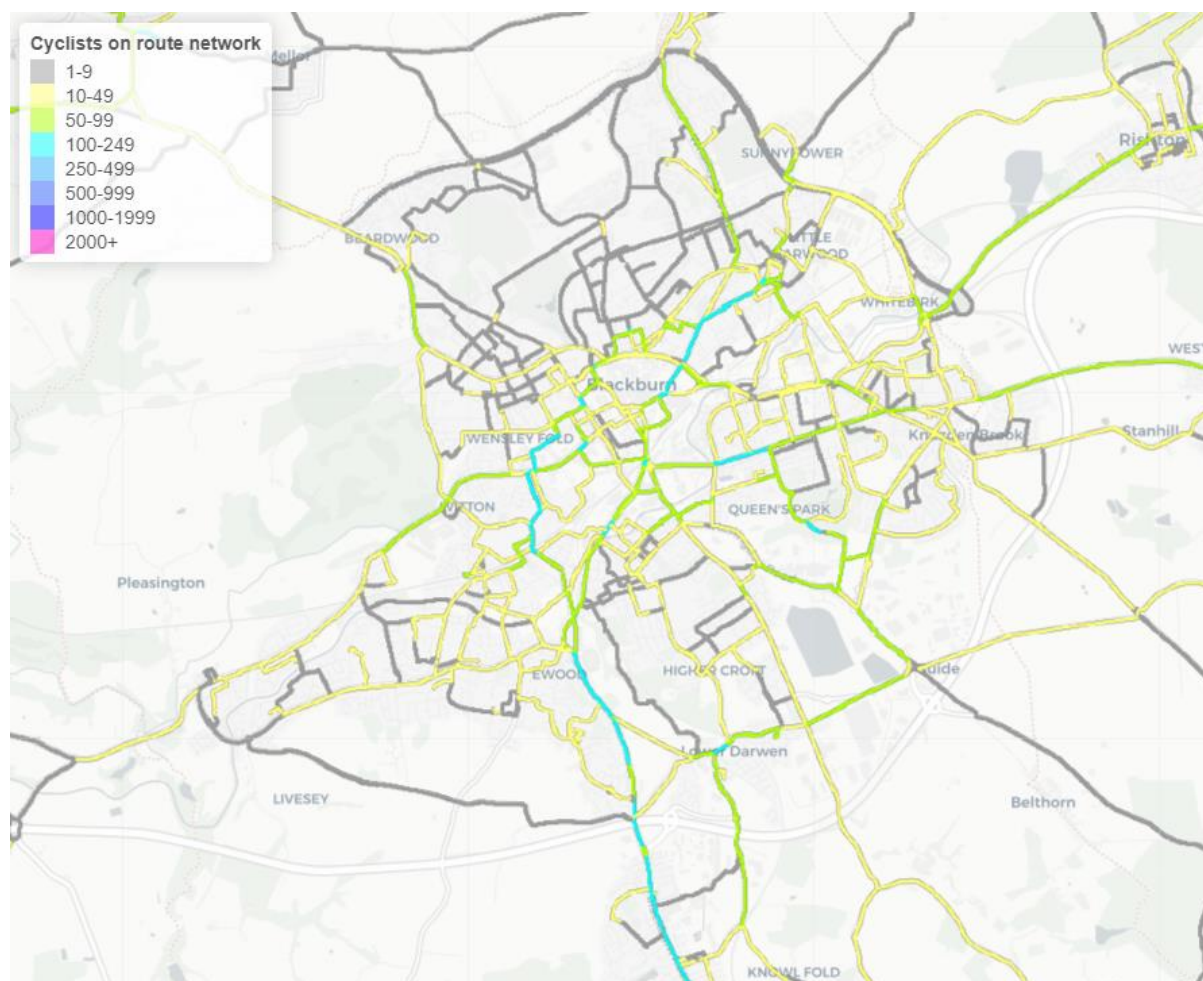


2.3.18 Notwithstanding the limitations of the software, the map of existing conditions shows very few cyclists, with even the central area around Blackburn town centre and the rail station registering less than 50 cyclists per day under existing conditions. Only parts of the A666 close to Ewood and Wellington Road indicate cycle demands of over 50 per day (based on 2011 data).

#### **Future Scenarios – Government Target**

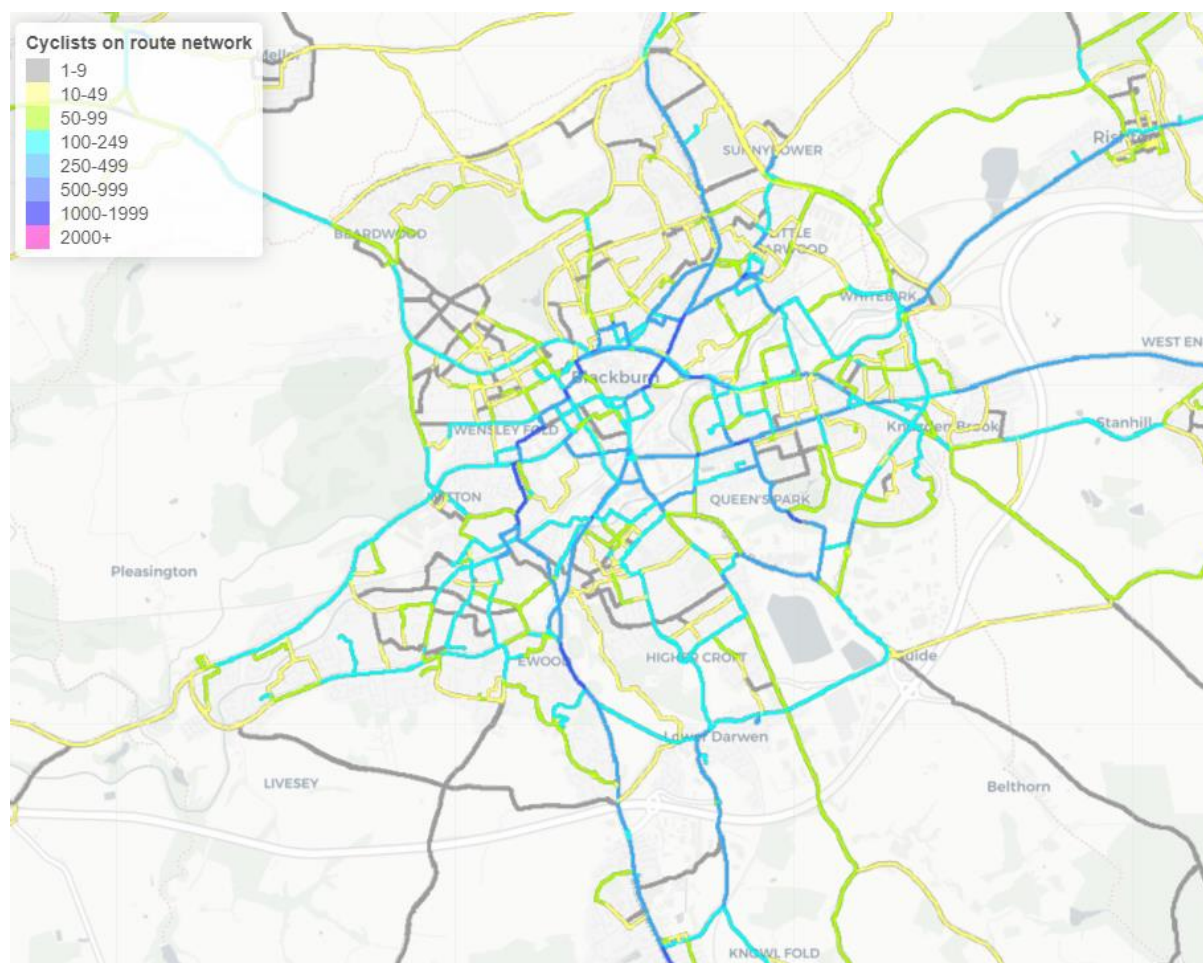
2.3.19 The PCT also allows the identification of key routes under the various future scenarios, as described above. Figure 2.7 shows the potential route network under the government target scenario. These figures show an increase in cycling around Blackburn, as well as higher cycle flows on the routes between Blackburn and Darwen.

**Figure 2.7 – PCT Output: Forecast Cycle Flows Mapped to Route Network, Based on Government Target (Near Market) Scenario**



- 2.3.20 The 'Go Dutch' scenario is considered more aspirational than the government target, presenting a potential scenario of cycling demand in the future if 'Dutch style' infrastructure was available, as well as a similar attitude toward cycling.
- 2.3.21 Figure 2.8 shows the results of this scenario on the potential cycling network, highlighting areas of significant additional demand. This shows increased demand through residential areas as more people switch modes, as well as the potential for cycle journeys from further afield, such as towards Huddlesden and South of Darwen.

**Figure 2.8 - PCT Output: Forecast Cycle Flows Mapped to Route Network, Based on Go Dutch Scenario**



### Applying the PCT

- 2.3.22 It is important to understand the limitations of the PCT. The tool allows for an indicative understanding of the probable key existing cycle routes, as well as those under various future scenarios. However, these routes do not take into account journeys for any other purposes than commuting to work, and do not consider future growth in the area.
- 2.3.23 The PCT outputs should therefore only be considered as a starting point, with the network further refined through the subsequent stages in the LCWIP process.

### Strava Data

- 2.3.24 Strava is a social fitness network, primarily used to track cycling, running and swimming activity and typically uses GPS. Strava is a free service (although paid features are available) and, in 2018, the developers claimed to be adding a million new users every 45 days, with circa 8 million activities uploaded each day.
- 2.3.25 Basic Strava data is published freely online and is available as a heatmap showing where activities are most concentrated. This free data has significant limitations when it comes to analysis, as the heatmap only shows usage in comparison with other routes, rather than actual numbers. Strava data is also more likely to be recorded by those undertaking activities for leisure or competitive purposes, rather than by those commuting, and by certain age groups and demographic. Nevertheless, the heat maps



can be useful in broadly showing where cycling (and running / swimming / walking) occurs and, specifically, where these activities take place regardless of a lack of infrastructure or legal right of way.

- 2.3.26 Figure 2.9 shows Strava cycling data of the study area around Blackburn, displayed as a heat map. Note that white denotes the 'hottest' routes, i.e., those with the highest relative usage, while dark red routes are considered 'cool', as they have the least number of relative users.

**Figure 2.9 - Strava Data: Cycling in and around Blackburn**



- 2.3.27 The Strava heatmap data indicates a broad alignment with the Propensity to Cycle Tool (PCT) routes discussed in section 2.11, which predicts existing and future cycle flows based on journey to work data. The 'white-hot' routes (indicating comparatively high usage) are concentrated on the radial routes from Blackburn town centre and tend to appear on the major A roads. There are however some routes which are more orbital linking residential, leisure and employment areas on the edge of town.

## 3 Cycle Network Development

### 3.1 Background

3.1.1 One of the key outputs of the Blackburn with Darwen LCWIP process is the determination of the Cycling Network Map (CNM), which sets out a cohesive potential network for cycling. This network is then considered against the baseline evidence to identify preferred routes for further development and where the routes identified are not of a sufficient quality, a programme of cycle infrastructure improvements.

3.1.2 The development of the Cycling Network follows Stage 3 (Chapter 5) of the LCWIP Technical Guidance for Local Authorities document (DfT, 2017), and is founded on the principle of connecting people to places, ensuring that the proposed networks correspond to both the routes people currently take and those people are likely to want to take, both now and in the future. This method also helps to identify the long-term vision for the networks while ensuring investment is focused on the key routes and the needs of cycle users. The resulting outputs are networks that are evidence-based and facilitate strategic development.

### 3.2 Methodology

3.2.1 The development of the Cycle Network Map can be divided up into a 10-step process. These are as follows:

- Step 1 – Define and Understand the Study Area
- Step 2 – Mapping Trip Origin and Destination Points
- Step 3 – Identify Key Future Developments and Infrastructure
- Step 4 – Clustering of Origins and Destinations
- Step 5 – Schematic Connections (Desire Lines) between Origins and Destinations
- Step 6 – Identify Routes Serving the Schematic Network
- Step 7 – Classification of Routes
- Step 8 – Produce Draft Cycle Network
- Step 9 – Consideration of Core Design Outcomes for Cycle Routes
- Step 10 – Establishing Cycling Infrastructure Improvements

3.2.2 The following sub-sections describe the process undertaken in developing the cycle network map for the Darwen LCWIP study area.

### 3.3 Step 1 – Defining the Study Area

3.3.1 The first step in developing the network map is to define the extents of the study area.

3.3.2 In order to determine these extents, a process of ‘baselining’ was undertaken to understand travel movements and demographic variations within Blackburn with Darwen Borough Council area, including a review of various data sources in order to understand the existing transport-related issues, physical constraints and topography. Details of the baselining exercise are provided in the separate Blackburn with Darwen LCWIP Baseline Report.

3.3.3 Isochrone mapping was undertaken to understand the likely extents of active travel distances, while the DfT’s Propensity to Cycle Tool (PCT) and Strava Heat Map<sup>2</sup> were used to identify existing and potential future cycle travel patterns.

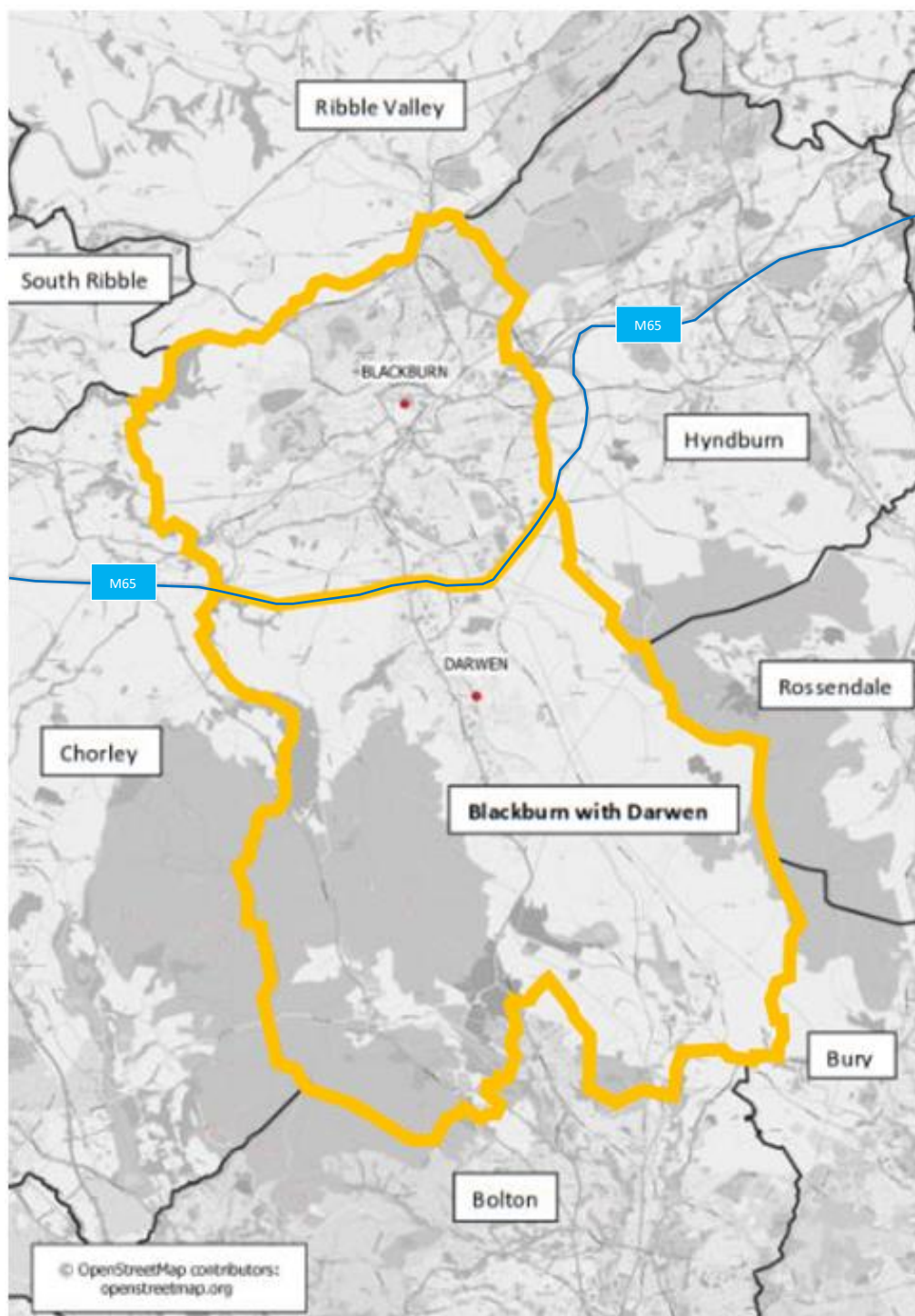
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<sup>2</sup> [Strava Global Heatmap](#)



- 3.3.4 Several site visits have also been undertaken at various stages of the process; these site visits have helped identify key corridors and consider constraints on the network. Following an analysis of this evidence base, it was determined that the Blackburn with Darwen Borough Council LCWIP will focus on Blackburn and Darwen as the main urban areas within the Borough.
- 3.3.5 The cycling and walking network development will be split between the two areas north and south of the M65 as shown in Figure 3.1 below and encompass those nearby villages considered to be within the maximum desirable cycling distance and to have a reasonable propensity to increase active travel. This report relates to the Blackburn study area north of the M65.
- 3.3.6 The LCWIP also considers strategic links to outlying areas as deemed appropriate (such as cross-boundary links or to long distance leisure routes).

Figure 3.1 – Blackburn with Darwen LCWIP Study Areas



### 3.4 Step 2 – Identify Key Origins and Destinations

3.4.1 Key origins and destinations have been plotted using data collected through the baseline exercise, site audits, stakeholder engagement, and through local knowledge. These ODs included the following key origin points:

- Residential areas (Neighbourhood Centres and Large Future Residential Development Sites);
- Committed residential development sites; and
- Public transport interchanges – these are both origins in terms of people arriving in the study area and destinations people use to travel to wider locations.

### 3.4.2 Key destinations included:

- Public transport interchanges (as above);
- Town centres;
- District centres;
- Local centres;
- Primary and Secondary Employment areas;
- Out of town retail areas and supermarkets;
- Hospitals;
- Educational institutions;
- Historic Parks, Sports Facilities and Other Leisure Attractions; and
- Committed employment development sites.

3.4.3 It should be noted that town centres, district centres and local centres include multiple destinations including retail, health and leisure amenities. Figure 3.2 shows these key ODs within the Blackburn LCWIP study area.

**Figure 3.2 – Blackburn Key Origins and Destinations**



## 3.5 Step 3 – Identify Key Future Developments & Infrastructure

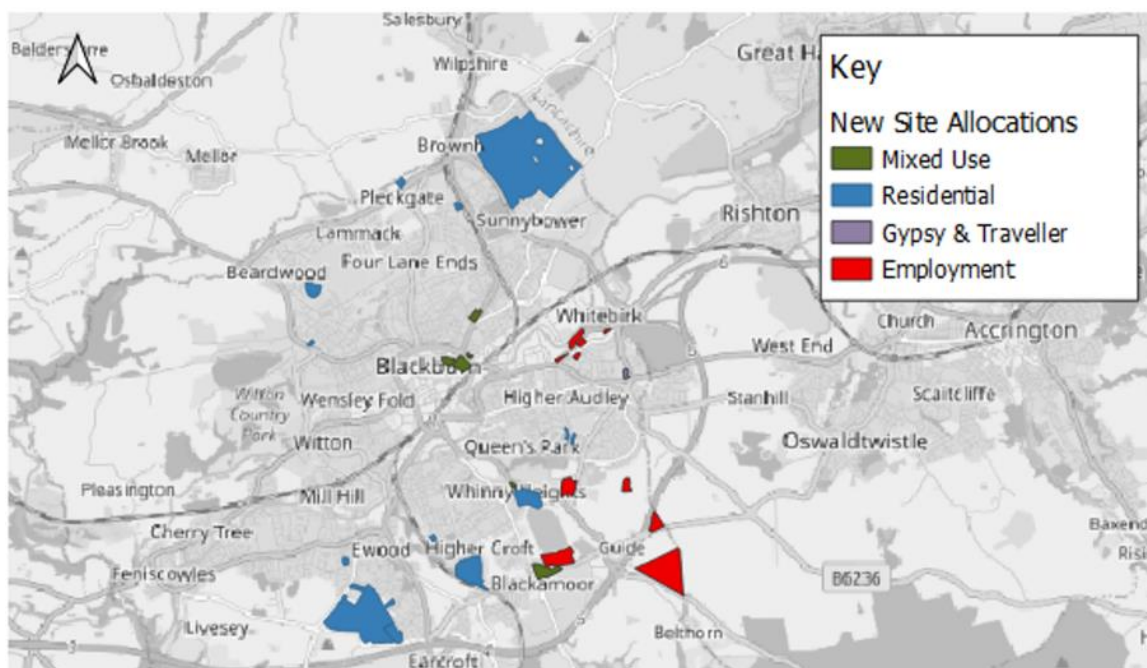
3.5.1 Identifying potential developments and infrastructure is important in terms of understanding where future origins and destinations may be located, as well as the potential for new desire lines.

3.5.2 Understanding the location of and proposals for such development allows the network to be developed in a way that links these sites and makes the most of planned infrastructure.

3.5.3 Figure 3.3 identifies the allocated development sites in the Blackburn LCWIP study area, which are based on the allocations of Regulation 19 submission of the new Local Plan. Figure 3.4 present these alongside the existing ODs, as determined in Step 2 – these maps therefore comprise the final OD map to be taken forward to Step 4.



**Figure 3.3 – New Local Plan Regulation 19 Housing and Employment Sites**



**Figure 3.4 – Final Blackburn Origin and Destination Map (Urban)**



### 3.6 Step 4 – Clustering of Origins and Destinations

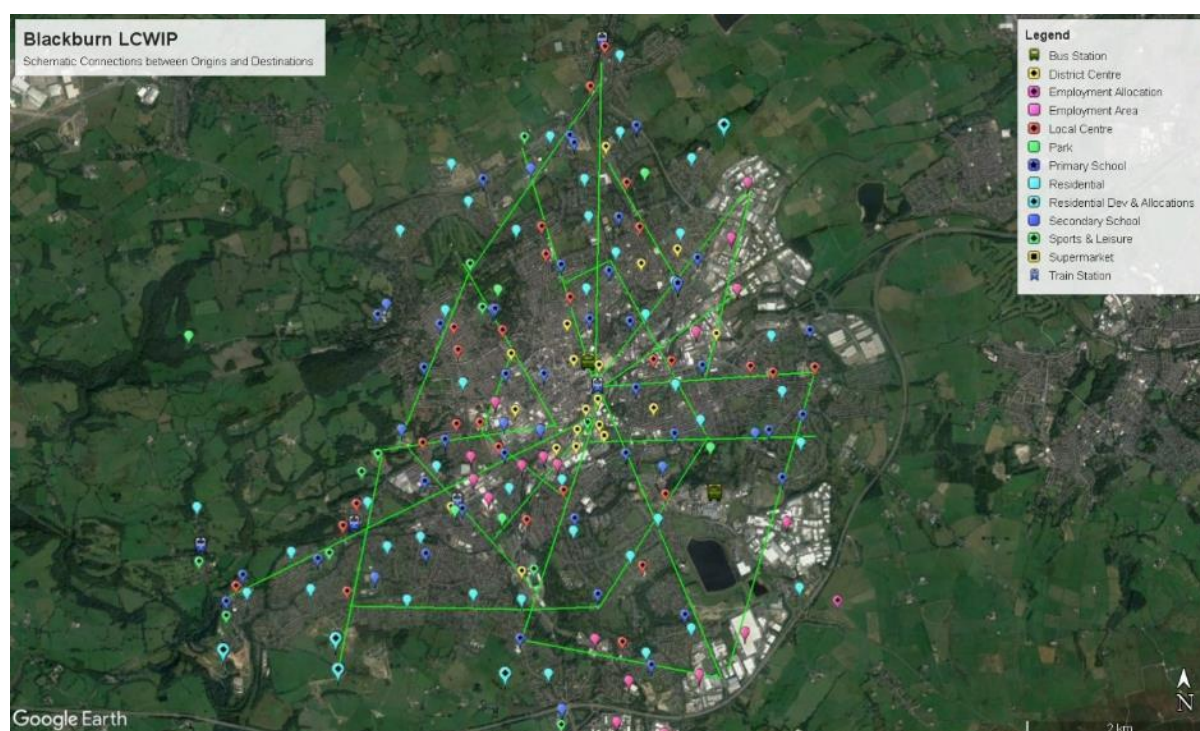
3.6.1 In Step 4, trip generators near one another have been clustered together as key destination areas. This process simplifies the analysis of desire lines, agglomerating multiple OD points into a single location. The origins and destinations identified for the Blackburn LCWIP study area are evenly spread across the built-up area as can be seen in Figure 3.4. As such, Blackburn Town Centre has been considered as the only cluster location.

### 3.7 Step 5 – Schematic Connections between Origins and Destinations

3.7.1 Step 5 maps desire lines between the origins and destinations and clusters. Straight lines (of best fit) were drawn between key origin and destination points in order to create a schematic web network. These represent the most direct paths for cycle users between points (i.e. 'desire lines') and are, at this stage, irrespective of existing transport networks or constraints.

3.7.2 As directness is an important factor in the suitability of cycle routes, the origin-destination connections were shown as straight-line corridors. Figure 3.5 illustrates this step, displaying key desire lines derived by simply connecting the clusters and key origins and destinations together.

*Figure 3.5 – Blackburn OD Schematic Desire Lines*



### 3.8 Step 6 – Identify Routes Serving the Schematic Network

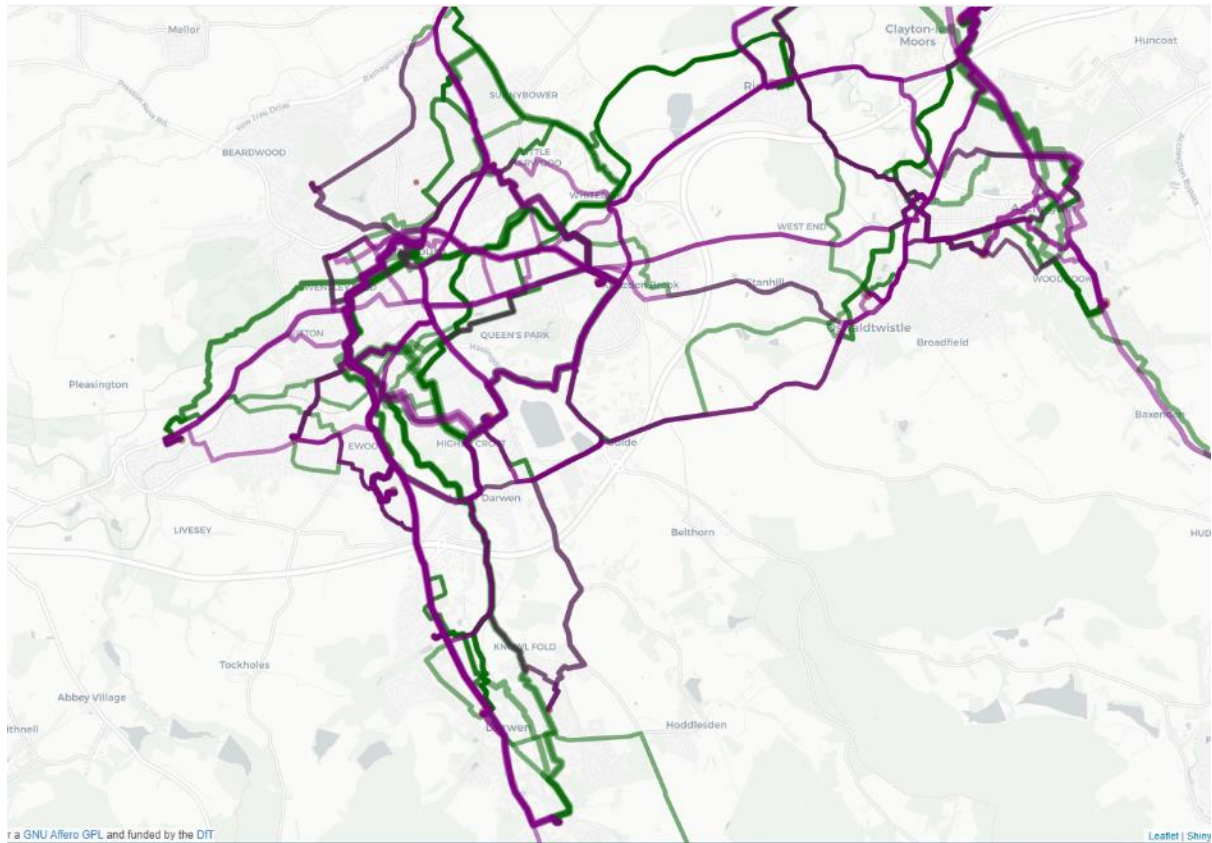
3.8.1 Potential route alignments were then considered using the PCT tool and Strava heat map to identify existing and potential routes to serve the schematic connections identified in Step 5 as closely as possible. Figure 3.6 illustrates the PCT tool 'fastest and quiet routes', Figure 3.7 illustrates the PCT tool Go Dutch scenario forecast cycle demands and Figure 3.8 the Strava Heat Map for the Blackburn Study area.

3.8.2 Converting desire lines into routes for inclusion in LCWIPs is an iterative process and is one of the most important elements of the LCWIP process. An early sifting exercise was developed to produce more manageable number of routes to be progressed to the route selection and route audit stage. The core design outcomes were used to determine priority routes and considered directness, gradient, safety, connectivity, and comfort.

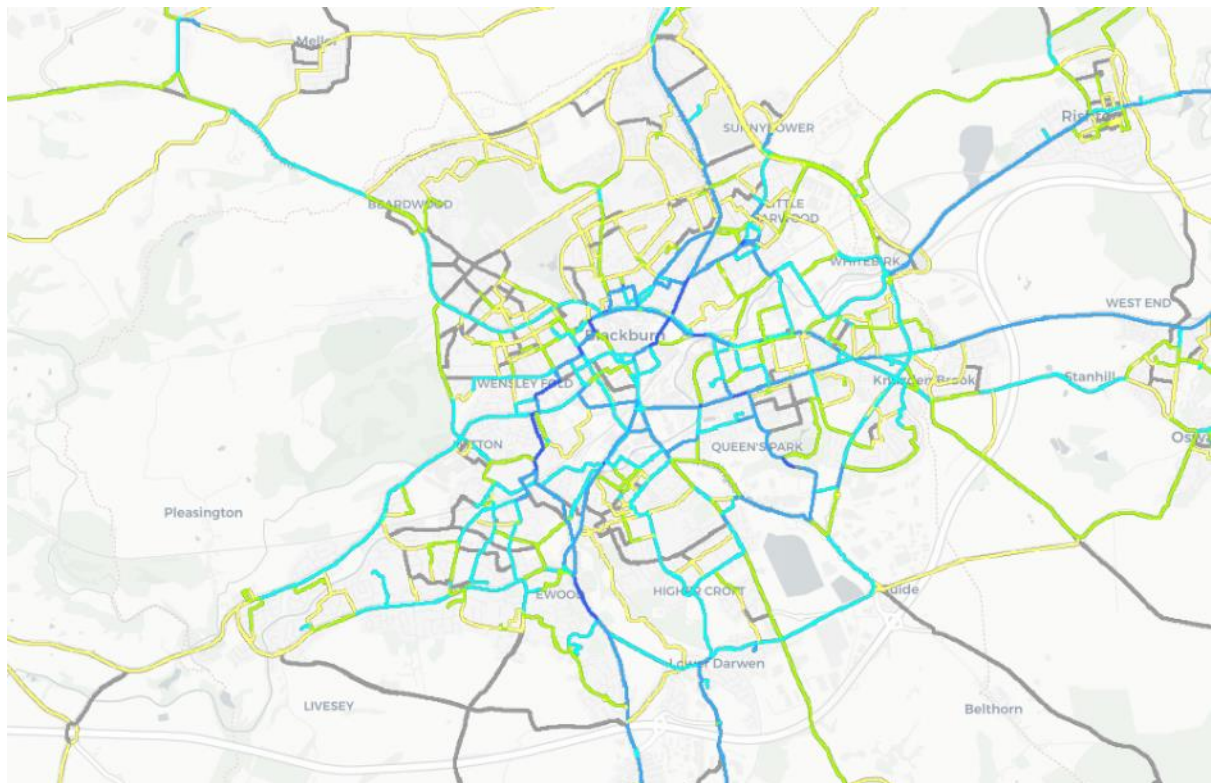
3.8.3 Route selection also considered the needs of all users with a preference for low traffic or traffic free routes where possible.



**Figure 3.6 – PCT Tool Top 100 Fast and Quiet Routes**



**Figure 3.7 – PCT Go Dutch Scenario Showing Future Cycle Demand on the Network**



**Figure 3.8 – Strava Heat Map Network**



### **3.9 Step 7 – Identify a Route Hierarchy**

- 3.9.1 From reviewing best practice and through knowledge and experience of established cycle networks it was recognised that a cycle network hierarchy would be appropriate. Within this hierarchy the type of infrastructure provided would vary both depending on the links' position in the network hierarchy, and on the type of link, where it connects to, and how it will be used.
- 3.9.2 As a result, the network has been categorised in accordance with the criteria presented in Table 3.1. This network hierarchy has been applied across the Blackburn with Darwen LCWIPs to ensure a consistent approach.



**Table 3.1 – Draft Network Hierarchy**

<b>Network Element</b>	<b>Characteristics</b>
Commuter Fast (Utility Fast Commuter Routes)	<ul style="list-style-type: none"> <li>- High number of cycle users;</li> <li>- Typically along busy A roads;</li> <li>- Creates arterial routes that support a wider network;</li> <li>- Links large residential areas to main clusters such as town centre locations;</li> <li>- Through, internal, and inbound-outbound cycle traffic;</li> <li>- Direct, following the shortest possible route; and</li> <li>- Low gradients (where possible).</li> </ul>
Primary (Commuter Routes)	<ul style="list-style-type: none"> <li>- Medium/High number of cycle users;</li> <li>- Creates arterial routes that support a wider network;</li> <li>- Links large residential areas to main clusters such as town centre locations;</li> <li>- Through, internal, and inbound-outbound cycle traffic;</li> <li>- Reasonably Direct, following the shortest possible route avoiding busy A-roads;</li> <li>- Low gradients (where possible).</li> <li>- Provides quieter routes for less confident cycle users (while fast commuter network is being developed).</li> </ul>
Secondary (Local Connectors)	<ul style="list-style-type: none"> <li>- Lower number of cycle users;</li> <li>- Caters for shorter local trips;</li> <li>- Increases density of network;</li> <li>- Ensure local access to origins and destinations from the primary network;</li> <li>- Provides quieter routes for less confident cycle users (while fast commuter network is being developed).</li> <li>- Includes possible future links through planned developments or allocated sites; and</li> <li>- Includes potential cross boundary links to neighbouring authorities.</li> </ul>
Leisure Routes	<ul style="list-style-type: none"> <li>- Long distance leisure routes on rural roads.</li> <li>- Shorter distance circular routes in rural areas.</li> </ul>
Town Centre Cores	<ul style="list-style-type: none"> <li>- High levels of permeability and priority for cycle users and pedestrians.</li> </ul>

3.9.3 This hierarchy has been applied to the identified cycle corridors, respective to their location in the study area and perceived role in the network, with discussion provided in Step 8.

3.9.4 A core network of primary routes underpins the proposed network, taking into account the main destination clusters, origin points, and any isolated major destinations. The primary routes are supported by a network of secondary and local links, which are discussed below in relation to the study area. Further routes have also been considered which provide alternatives to Secondary Routes and additional routes to increase mesh density for further development in the longer term.

### **3.10 Step 8 – Produce a Draft Cycle Network**

3.10.1 Step 8 is the culmination of the previous steps, bringing all the data together to formalise a draft network ready for Step 9 - validation and review. Figure 3.9 presents the draft cycle network map for Blackburn and the surrounding countryside and villages.

3.10.2 Fast commuter routes are those routes which typically feature in both the PCT and Strava Heatmap as routes carrying the heaviest flows of traffic. They are typically busy roads carrying a mixture of traffic and within Blackburn typically have numerous side roads, accesses and frontage activity that are likely to make the introduction of segregated cycle infrastructure particularly challenging. The following fast commuter routes have been identified:

- A666 from the M65 Junction 4 (linking to Darwen study area) to Blackburn town centre and continuing to Ramsgreave in the north.
- A678 from Blackburn town centre to the borough boundary towards Oswaldtwistle and Accrington.
- A674 from the borough boundary close to M65 Junction 3 to Blackburn town centre.
- A677 from the borough boundary close to Mellor Brook northwest of Blackburn to Blackburn town centre.
- A6077 from the M65 Junction 5 at Guide to Blackburn town centre.
- Roman Road from the M65 (linking to the Darwen study area) to Blackburn town centre.
- B6232 Lammack Road from Mellor Lane/Ramsgreave Road (a sustrans recognised cycle route not on the National Cycle Network) to Blackburn town centre.
- Yew Tree Drive a short section of dual carriageway north of Blackburn linking the A677 Preston New Road to the Weavers Wheel.

3.10.3 Primary routes are those that have the potential to offer attractive alternatives to Fast Commuter routes using quiet roads and off-road routes. The provision of LTN1/20 compliant infrastructure is likely to be less challenging on these routes. The following primary routes have been identified:

- Weavers Wheel – a signposted orbital route around Blackburn currently comprising a mixture of segregated and unsegregated on-road sections and some shared use off road sections.
- Leeds & Liverpool Canal Towpath – a popular traffic free route from Southwest to Northeast Blackburn which passes through Blackburn town centre with multiple access points.
- National Cycle Network Route 6 – Much of NCN Route 6 (to the East of Blackburn) is made up of the Leeds & Liverpool Canal Towpath. However, to the West of Blackburn the route follows quiet roads and passes through Witton Park and the village of Pleasington before terminating at Preston Old Road.
- Lancashire Links – a number of links developed through consultation with Lancashire County Council to provide links with neighbouring authority areas.
- Southeast Blackburn Cycle Network – a comprehensive network of segregated and quiet road routes improving accessibility to Blackburn Royal Hospital, several large employment areas and Blackburn Central High School.
- A north – south commuter route north of Blackburn town centre along quiet roads and off-road routes that serves suppressed demand for a safe cycle route between Blackburn and Ramsgreave avoiding the busy A666 Whalley New Road.
- A commuter route northeast of Blackburn town centre along quiet roads that serves suppressed demand for a safe cycle route between Blackburn town centre and key employment sites to the northeast of Blackburn such as Glenfield Business Park and Philips Road Industrial Estate.
- An alternative to a section of the Weavers Wheel along the A6119 Ramsgreave Drive along quiet roads and off-road sections.
- A commuter route southwest of Blackburn town centre along quiet roads that serves suppressed demand for a safe cycle route between Blackburn town centre and growth sites in southwest Blackburn such as Gib Lane, Heys Lane, Brokenstone Road and the former Sappi paper mill site.

- A route along Barbara Castle Way north of Blackburn town centre linking the National Cycle Network Route 6 and Leeds & Liverpool Canal with Whalley Range, Blackburn College, etc.
- A north-south route to the West of Blackburn town centre between Livesey and Beardwood providing residential areas with links to numerous schools and parks.
- An east-west route between Cherry Tree and Ewood linking the A666 Bolton Road with the A674 and Leeds & Liverpool Canal.
- A short route to the West of Blackburn town centre linking Wensley Fold to Blackburn town centre and wider connectivity with other primary routes.
- A short route connecting the Weavers Wheel at Lower Darwen with Eccleshill Road passing under the M65.

3.10.4 The Primary routes are complemented by a comprehensive network of secondary connector routes, linking the key ODs and ensuring access to the primary network from all locations (known as 'mesh density'). In some cases, the connectors also create a series of loops with the north – south commuter routes to enable access to a wider range of destinations.

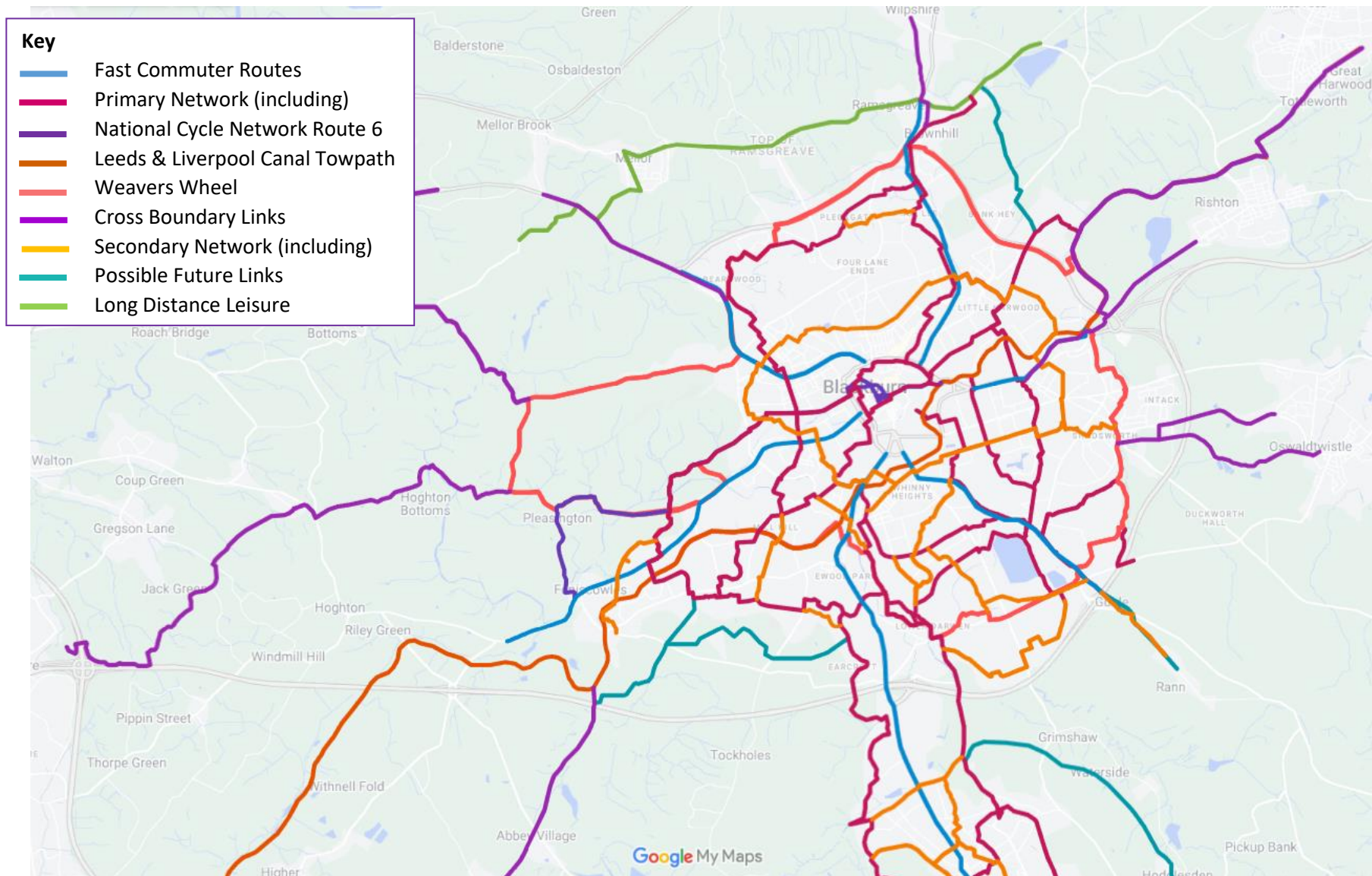
3.10.5 These routes include:

- An inner orbital route;
- Key links between the Primary Route Network; and
- Future links through new developments and allocated sites.

3.10.6 Leisure routes are longer distance routes through the rural areas along existing country roads. Within the Blackburn area there is a Sustrans East-West route 'not on the National Cycle Network' to the north of Blackburn which has been identified in this category.

3.10.7 The network map also includes a 'town centre core' surrounding the key retail centre of the town; this is defined as a broad area where the number of existing and aspirational ODs indicate a requirement for such a level of permeability that identifying a single route is not practicable.

Figure 3.9 – Blackburn Draft Cycle Network (Urban)



### **3.11 Step 9 – Consideration of Core Design Outcomes for Cycle Routes**

3.11.1 Route audits were undertaken to assess the broad suitability of each prioritised strategic cycle route and considered how suitable routes currently are for cycling, and to consider possible improvements. The auditing process followed the process outlined in the technical guidance and used Route Selection Tool (RST) developed by the DfT for the purpose.

3.11.2 The RST uses a range of criteria to assess how well a route meets the core design outcomes for cycling ranging from 5, being the highest, to 0, being the lowest. The criteria are:

- Directness;
- Gradient;
- Safety;
- Connectivity; and
- Comfort.

3.11.3 A number of critical junctions are also recorded to enable a high-level evaluation of both links and junctions within one tool. A Critical Junction is defined as one that has characteristics that are hazardous for cyclists e.g. high volume, lack of priority or segregation, crossing high speed on-off slip roads or large roundabouts.

3.11.4 The key findings in terms of suitability of routes for cycling included the following:

- Busy streets scored poorly against safety and comfort criteria, where people cycling have no physical separation from fast-moving motor traffic and/or high volumes of motor vehicles;
- Cycle tracks and traffic-free paths scored poorly against the comfort criterion where there is insufficient width to comfortably accommodate cycle flows, all types of cycle designs, or where there are barriers which prevent passage by certain types of cycle;
- Shared-use paths scored poorly against the comfort criterion where there is insufficient width to accommodate people cycling and walking, and especially where there are high numbers of pedestrians;
- Paths which are unlit or have no passive surveillance (not overlooked by neighbouring land uses) scored poorly on the safety criterion; and
- Steep route sections scored poorly against the gradient criterion;
- Quiet streets scored well against the comfort and safety criteria sections, where they have low traffic volumes and low traffic speeds, such as where effective 20mph limits are in place; and
- Cycle tracks and traffic-free paths scored well where they are sufficiently wide to comfortably accommodate all users, have smooth surfaces, are well-lit and are overlooked by neighbouring land uses.

3.11.5 Critical junctions included:

- Roundabouts and gyratory systems without infrastructure to physically separate people cycling from high motor traffic flows;
- Traffic signal junctions without infrastructure to physically separate people cycling from high motor traffic flows and/or which do not have a separate phase for cycle movements;
- Wide, flared side road junctions, where people cycling could be at particular risk of side-swipe collisions from motor vehicle drivers; and
- Crossings of high-speed roads without signal crossings and places where people cycling have to cross multiple traffic lanes without priority.

- 3.11.6 With the exception of the Fast Commuter Routes the proposed Blackburn cycle network makes significant use of streets which are currently, or have the potential to be low-traffic, low-speed environments. Areas which meet these criteria are sometimes referred to as Liveable Neighbourhoods. Analysis was carried out into which parts of the study area could have the greatest need for, or benefit most from, Liveable Neighbourhood measures. The results of this are set out in Chapter 5.

### **3.12 Step 10 – Establishing Cycling Infrastructure Improvements**

- 3.12.1 The LCWIP technical guidance outlines that the aim is to identify cycle routes which score 3 or above against each design criteria (or could be improved to score 3 or above), ideally with no critical junctions. Improvements were identified for poor scoring sections, or in some cases alternative routes recommended which would achieve higher scores.
- 3.12.2 Road space is shared between different transport modes and uses. Catering for these different demands can be particularly challenging in dense urban environments. In some locations achieving a cycle route audit score of 3 or above would only be possible if protected cycle tracks were constructed using road space currently given to other uses (e.g. on-street parking or bus lanes). In certain instances, it was considered that such a reallocation of space may not be deliverable. However, determining an appropriate balance between space for different transport modes is a decision for elected members taking into account stakeholder views.

## **4 Walking Network Development**

### **4.1 Overview**

4.1.1 The Technical Guidance states that, in planning for walking, local authorities should identify:

- Core Walking Zones; and
- Key Walking Routes.

4.1.2 The guidance gives authorities flexibility in the way they define these zones and routes.

### **4.2 Methodology**

4.2.1 The development of the walking network map can be divided up into an 8-step process. These are as follows:

- Step 1 – Define and Understand the Study Area;
- Step 2 – Mapping Walking Trip Generators;
- Step 3 – Identifying Core Walking Zones;
- Step 4 – Identifying Key Walking Routes;
- Step 5 – Consider a Route Hierarchy;
- Step 6 – Produce a Draft Walking Network;
- Step 7 – Validation and Review; and
- Step 8 – Produce Final Network.

### **4.3 Step 1 – Defining the Study Area**

4.3.1 The initial study area for walking network development is the same as for cycling network development and covers the authority area of the Blackburn with Darwen north of the M65.

### **4.4 Step 2 – Mapping Walking Trip Generators**

4.4.1 Key origins and destinations have been plotted using data collected through the baseline exercise, site audits, stakeholder engagement, and through local knowledge. These ODs included the following key origin points:

- Residential areas (Neighbourhood Centres and Large Future Residential Development Sites);
- Committed residential development sites; and
- Public transport interchanges – these are both origins in terms of people arriving in the study area and destinations people use to travel to wider locations.

4.4.2 Key destinations included:

- Public transport interchanges (as above);
- Town centres;
- District centres;
- Local centres;
- Primary and Secondary Employment areas;
- Out of town retail areas and supermarkets;
- Hospitals;
- Educational institutions;
- Historic Parks, Sports Facilities and Other Leisure Attractions; and
- Committed employment development sites.



4.4.3 It should be noted that town centres, district centres and local centres include multiple destinations including retail, health and leisure amenities. Figure 2.2 in the previous chapter shows these key ODs within the Blackburn LCWIP study area.

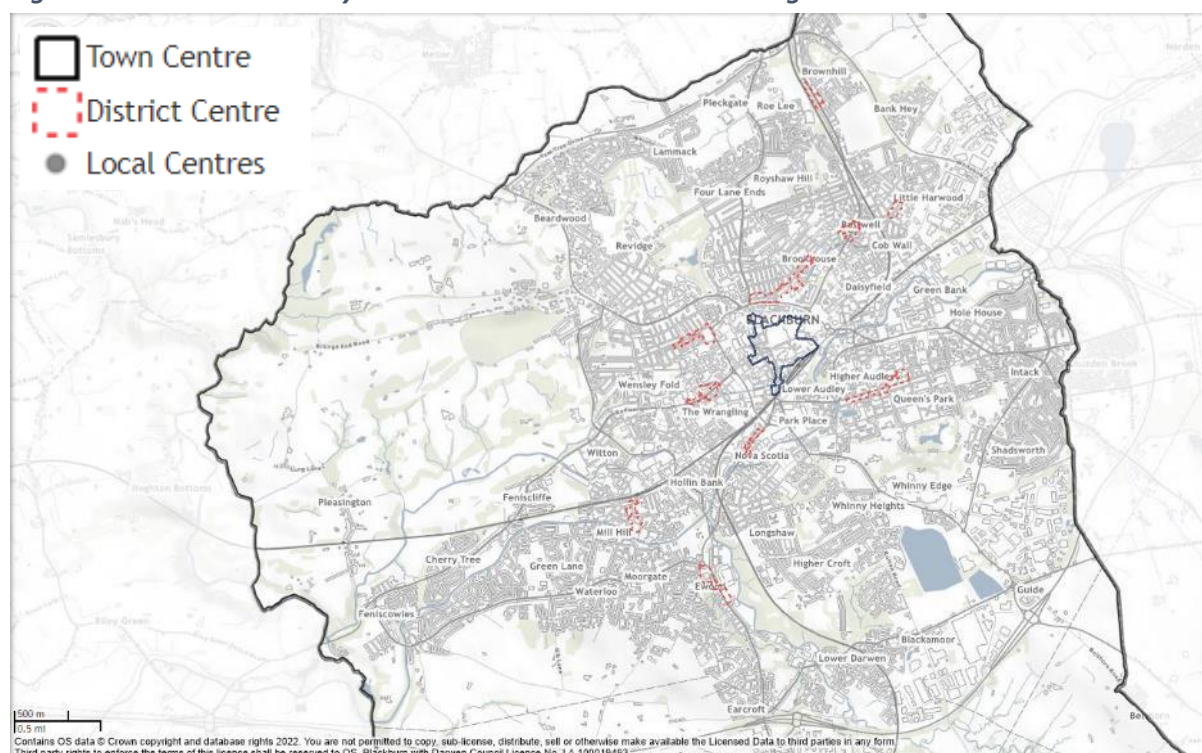
## 4.5 Step 3 – Identify Core Walking Zones

4.5.1 Core Walking Zones are defined in the guidance as areas in which many walking trip generators are located close together, such as a town centre or business park. Within a Core Walking Zone, all pedestrian infrastructure is particularly important.

4.5.2 For the BwD LCWIP, the Core Walking Zones are focused on the authority's town and district centres. These are the destinations for a range of journey purposes and designating them in the LCWIP supports post-Covid recovery.

4.5.3 Two tiers of Core Walking Zone were identified to align with the footway hierarchy and provide balanced coverage across the BwD area. The extent and location of the Core Walking Zones were based on boundaries for town centre (Tier 1) and district centre (Tier 2) designations identified in the Blackburn with Darwen Regulation 19 consultation policy map. The town centre and district centre designations within the Blackburn study area are shown in Figure 4.1 below.

**Figure 4.1 – Blackburn Study Area Town and District Centre Designations**



## 4.6 Step 4 – Identifying Key Walking Routes

4.6.1 Key Walking Routes were identified which connected major residential areas within a 2km radius of the Tier 1 Core Walking Zones (Blackburn town centre). Key Walking Routes were also identified which connect residential areas within a 1km radius of the Tier 2 Core Walking Zones.

#### **4.7 Step 5 – Consider a Route Hierarchy**

4.7.1 A route hierarchy has been determined based on a tiered approach to the identification of Core Walking Zones. The extent and location of the Core Walking Zones were based on boundaries for town centre (Tier 1) and district centre (Tier 2) designations identified in the Blackburn with Darwen Regulation 19 consultation policy map.

4.7.2 The same approach has been applied to the key walking routes with routes associated with town centres considered to be Tier 1 routes and those associated with district centres considered to be Tier 2 routes.

#### **4.8 Step 6 – Produce a Draft Walking Network**

4.8.1 Following these steps, the Draft Walking Network presented in Figure 4.2 and Figure 4.3 has been developed. This includes Tier 1 Walking Routes associated with the Blackburn town centre Core Walking Zone and Tier 2 Walking Routes associated with the district centre Core Walking Zones.

Figure 4.2 – Blackburn Central Core Walking Zones and Key Walking Routes

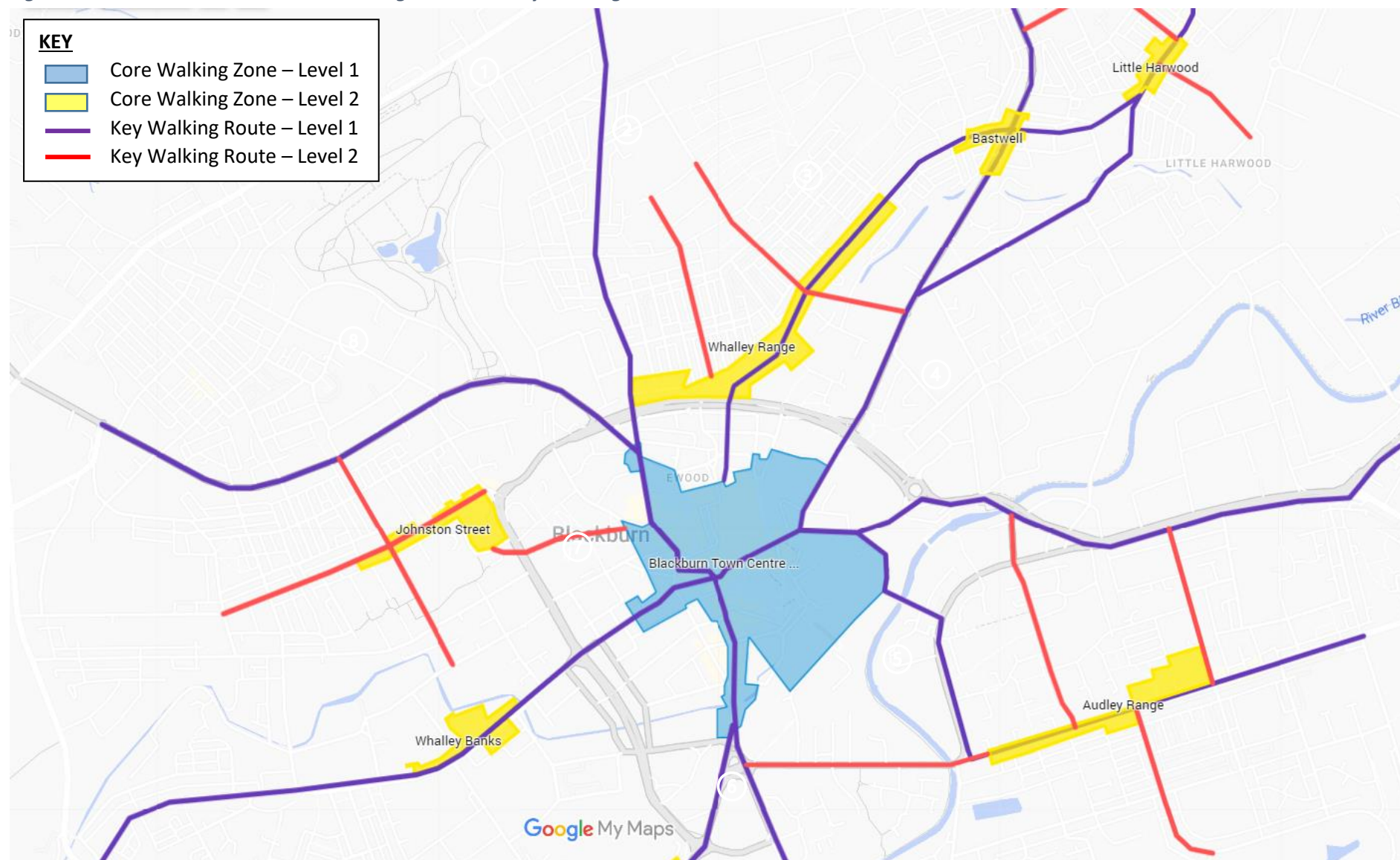


Figure 4.3 – Blackburn Central Core Walking Zones and Key Walking Routes (North)

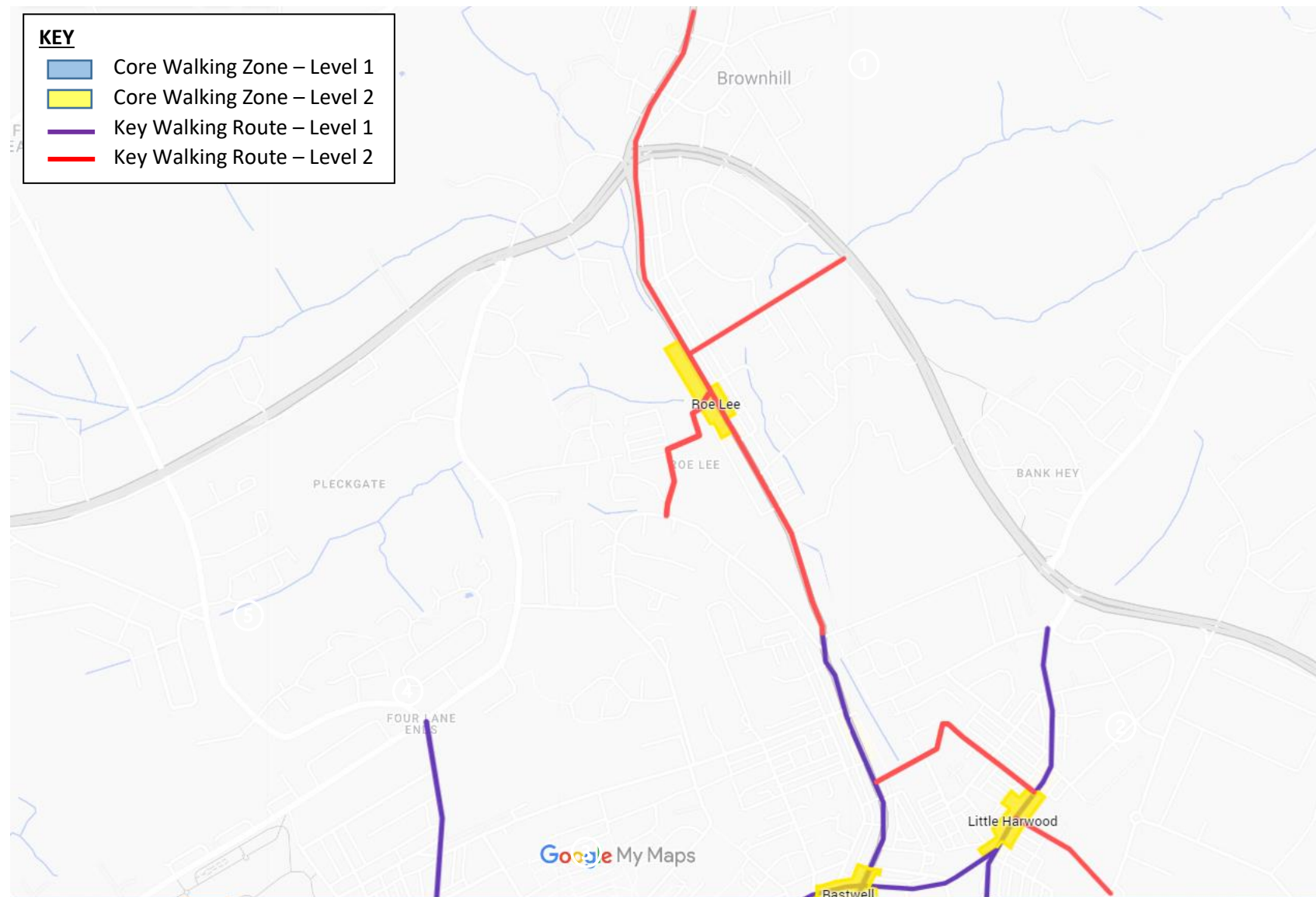
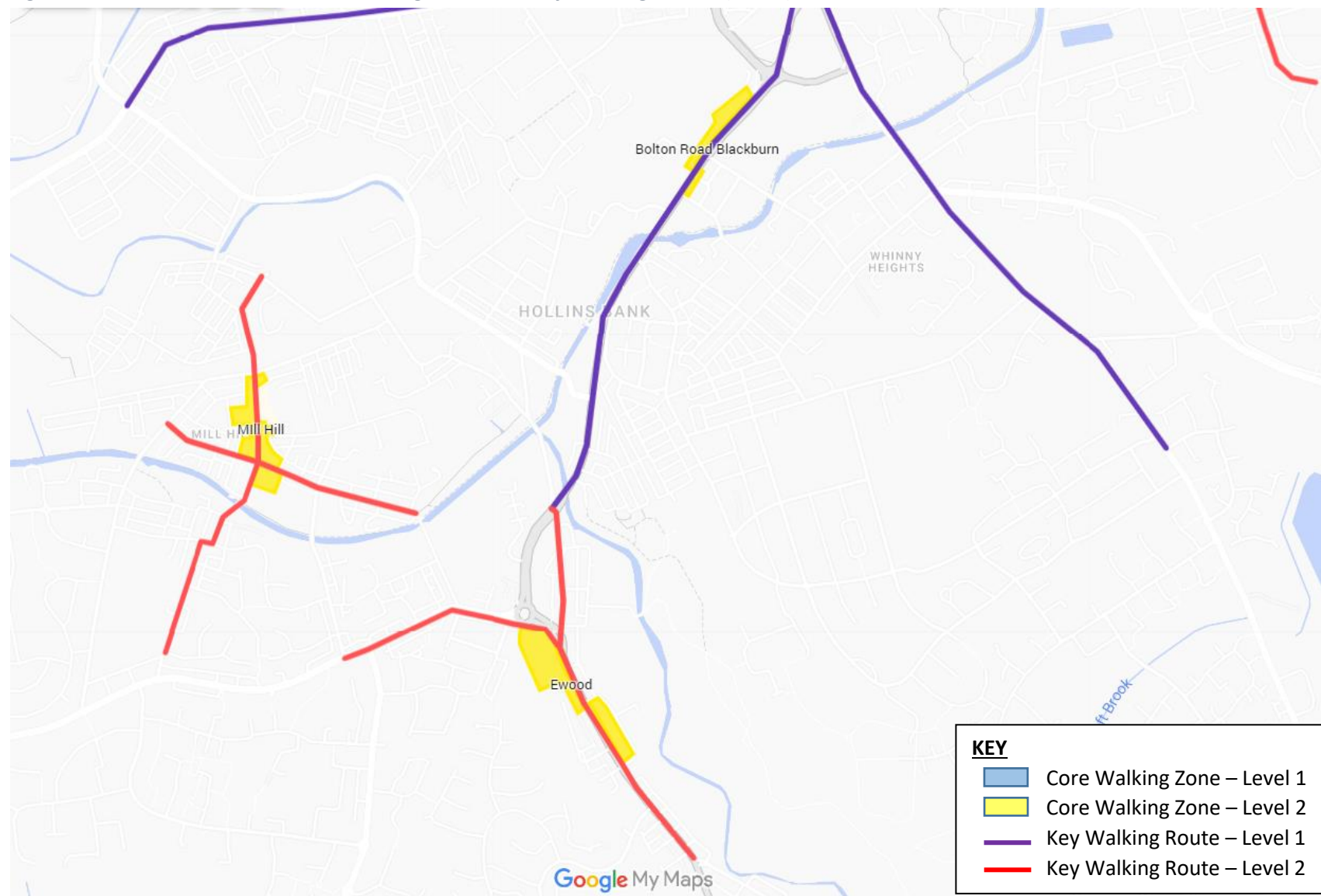




Figure 4.4 – Blackburn Central Core Walking Zones and Key Walking Routes (South)



## 4.9 Step 7 – Validation and Review

- 4.9.1 Having identified the network of Key Walking Routes the next step was to undertake route auditing, including with site visits. The walking audits used the DfT's Walking Route Audit Tool (WRAT). This identified the current quality of existing infrastructure along routes and identified where improvements were needed.
- 4.9.2 The audit comprises 20 criteria grouped into five themes (attractiveness, comfort, directness, safety and coherence). Auditors are required to give a score for each criterion of between 0 and 2, where 2 represents good provision and 0 represents poor provision. From these 20 criteria a total score was derived. The accompanying notes to the tool indicate that a score of 70% (i.e. a score of 28 out of a potential 40 points) should normally be regarded as a minimum level of provision overall. Routes which score less than this, and factors which are scored as zero should be used to identify where improvements are required.
- 4.9.3 As is the case for Primary Cycle Route, Key Walking Route audits have been carried out for Tier 1 Key Walking Routes only. The site visits involved walking the route, noting key issues and taking photographs. The audit findings shall feed into and influence the design process associated with corridor improvement schemes.
- 4.9.4 The key findings in terms of suitability of the Key Walking Routes included the following:
- 4.9.5 Attractiveness theme:
- Walking routes with limited or no passive surveillance (overlooking from neighbouring land uses), such as through woodland;
  - Walking routes which are next to roads with high traffic flows (>10,000 AADT), within Air Quality Management Areas (where levels of nitrogen dioxide has been recorded which exceeds the limits outlined in the National Air Quality Strategy);
  - Walking routes without street trees or planting to enhance the walking environment, provide shade or shelter and absorb carbon dioxide;
- 4.9.6 Comfort theme:
- Footways in poor condition, damaged paving slabs and uneven surfaces, creating potential trip hazards;
  - Overhanging vegetation, obstructing footways or reducing available space for walking;
  - Motor vehicles parked on footways;
  - Narrow footways, or footways where the usable space is reduced by direction signs, street lighting columns or bus stop shelters;
  - Crossing locations requiring people to divert from their intended desire line and walk further than necessary;
  - Some walking routes with significant distances between crossing points on busy roads;
- 4.9.7 Directness theme:
- Wide roads which result in longer crossing distances for people walking;
  - Delays for people crossing busy main roads where there are no zebra or signal crossings; and
  - No formalised pedestrian priority when crossing side roads.
- 4.9.8 Safety theme:
- People walking on narrow footways in close proximity to high traffic volumes or high traffic speeds, or coming into potential conflict with cyclists on a shared-use path;

4.9.9 Coherence theme:

- Road crossings without dropped kerbs or tactile paving to assist blind, partially sighted and mobility impaired pedestrians.

**4.10 Step 8 – Produce Final Network**

- 4.10.1 The final network shall be confirmed following further consultation and stakeholder engagement and prioritisation of LCWIP schemes.



## 5 Leeds & Liverpool Canal

### 5.1 Introduction

5.1.1 The Leeds and Liverpool Canal is 127 miles (204 km) long and crosses the country from Liverpool to Leeds, via East Lancashire and the Pennines. It was generally built with locks 60 ft (18 m) long and 14 ft 3 in (4.34 m) wide. The canal took almost 50 years to build and was completed in 1816. The heavy industry along its route, together with the decision to build the canal with broad locks, ensured that the Leeds and Liverpool competed successfully with the railways throughout the 19th century and remained open through the 20th century.

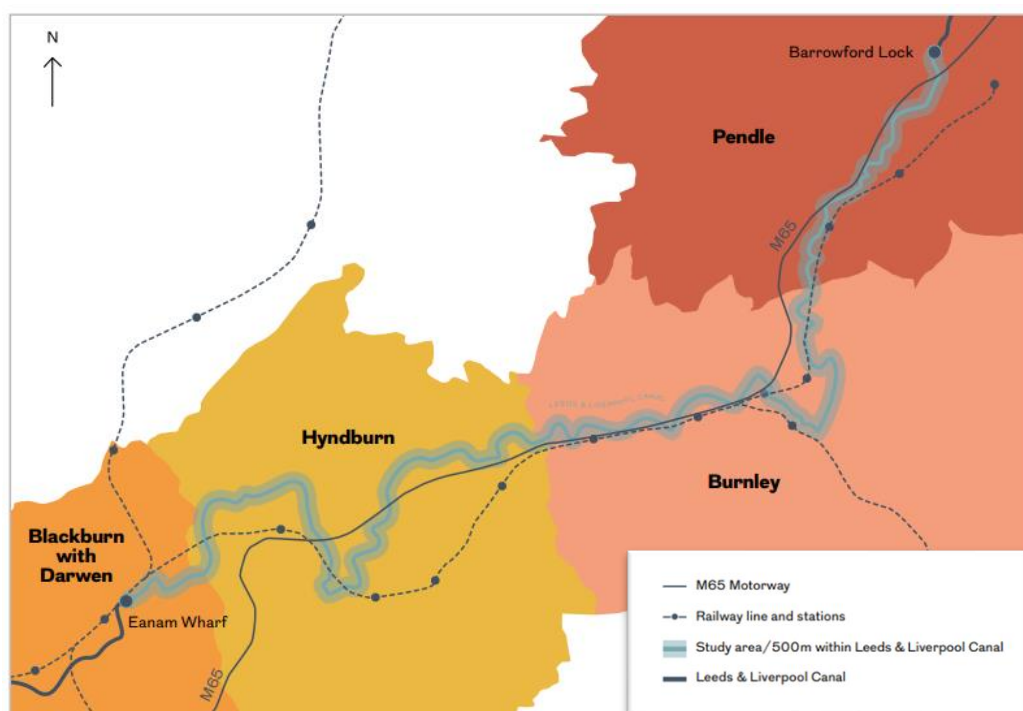
5.1.2 In recent years the canal has seen very little improvement or investment in maintenance with new development in many cases having turned its back on the canal. As such, the canal towpath is an underutilised asset with significant potential to support the uptake of active travel within the borough through improvement to the canal towpath, its accesses and connections. Within Blackburn with Darwen the Leeds & Liverpool Canal extends from the Southwest of Blackburn close to M65 Junction 3 to the Northeast of Blackburn close to M65 Junction 6 passing through Blackburn town centre.

### 5.2 Pennine Lancashire Linear Park

5.2.1 The Pennine Lancashire Linear Park is an exciting, pioneering and deliverable vision and programme of change conceived for a 23-mile (37-kilometre) section of the Leeds & Liverpool Canal corridor. A project that seeks to marry physical improvements to landscape, infrastructure and buildings, to expansive programmes of environmental, cultural, leisure, educational and economic activity. The aim is to create a Linear Park that transforms quality of life as well as the environment, through ambitious and innovative processes of change.

5.2.2 The proposals cover a section of the Leeds & Liverpool Canal that spans the four district authorities of Blackburn with Darwen, Hyndburn, Burnley and Pendle. It passes through several towns built around the textile industry, including Blackburn, Accrington, Burnley and Nelson as shown in Figure 5.1.

**Figure 5.1 – Pennine Lancashire Linear Park Study Area**



5.2.3 Over 70,000 people live along the canal corridor across 34 neighbourhood wards, many ranked among the 10% most deprived areas in the country. The neighbourhoods along the canal corridor are characterised by largely monocultural white working-class communities existing side by side with South Asian (predominantly Pakistani) neighbourhoods—a settlement pattern stemming from the inward migration of a South Asian workforce to the textile industries in the 1960s and 1970s.

5.2.4 The study identifies three interconnected pathways towards the creation of the Pennine Lancashire Linear Park. Each pathway describes four potential headline projects, and outlines an indicative timeline, project type, expected co-benefits and wider impact, and magnitude of investment required.

**Creating a green movement corridor** - The Linear Park as a green movement corridor, providing improved infrastructure for pedestrians, cyclists and boating communities and exploiting the canal's potential for waterborne freight and other uses.

**Providing for culture, leisure and tourism** - The Linear Park as an ecological and recreational destination, providing temporary and permanent civic, cultural, community and leisure activities and uses.

**Stimulating resilient local economies** - The Linear Park as a productive corridor, encouraging opportunities for sustainable local businesses and resilient communities through re-use of heritage and land assets, skills development, education and clean, green (inclusive) growth.

5.2.5 The headline projects include initiatives to improve walking and cycling infrastructure including:

**Towpath Improvements** - Improve surface treatments; widen towpaths; improve signage; install biodiversity-friendly lighting at appropriate locations; deliver additional public amenities. Promote health and wellbeing and support the ageing population through opportunities for increased activity and accessible movement along the canal for pedestrians and cyclists.

**Wider Improvements and Connections** - Improve pedestrian and cycle links to deliver area wide transport networks; deliver new infrastructure and wider public realm improvements; create new and improved access points and bridges at appropriate locations; promote clearer access from the wider area through signage and other interventions; improve sightlines to the canal; develop new and improved canalside public spaces to support waterborne passenger, freight and leisure opportunities and encourage active frontages near access points. Provide electric bikes and storage facilities near access points. Develop opportunities for parks and reservoirs to integrate with the canal more effectively, linking water-based uses with other park activities.

### 5.3 LCWIP Proposals for Leeds & Liverpool Canal

5.3.1 The Pennine Lancashire Linear Park proposals only extend into Blackburn with Darwen as far as Eanam Wharf. As such, it is proposed that the extension of the Pennine Lancashire Liner Park projects to improve the canal towpath and deliver wider improvements and connections be supported through the LCWIP.

5.3.2 Given the strategic importance of the Leeds & Liverpool Canal as an existing active travel corridor with a clear potential to act as a catalyst to further the uptake of walking, wheeling and cycling activity in the borough, a separate report to consider access and connectivity improvements linked to the Leeds & Liverpool canal is to be prepared as part of the LCWIP.

## 6 Liveable Neighbourhoods

### 6.1 What are Liveable Neighbourhoods?

6.1.1 LCWIPs were initially conceived as primarily a route-based approach to planning networks of cycling and walking routes. More recent government guidance in LTN 1/20 and Gear Change has emphasised the importance of area-based solutions to create Liveable Neighbourhoods (sometimes referred to as Low-Traffic Neighbourhoods). There is no one definition of a Liveable Neighbourhood. The Gear Change vision on liveable neighbourhoods is as follows:

*“Residential side streets across the country can be blighted by rat-running. Low-traffic neighbourhoods will be created in many more groups of residential streets by installing point closures – for example, bollards or planters – on some of the roads. It would still be possible to access any road in the area, but motor traffic would not be able to use the roads as through routes. Streets within the low traffic neighbourhoods will provide clear, direct routes for cyclists and pedestrians promoting walking and cycling. Accidents, pollution and noise will be dramatically reduced for residents.”*

6.1.2 Liveable Neighbourhoods should restrict motor vehicle traffic dominance using residential streets through interventions to create safer, greener, and efficient residential environments. These neighbourhoods could offer less hazardous and polluted outdoor spaces in the long-term along with better walking and cycling routes. This in turn will improve local air quality and promote active travelling for prioritised human health. Even though Liveable Neighbourhoods is not a part of the LCWIP process, they should be either carried further together or integrated with other programmes.

6.1.3 The areas tend to share characteristics in terms of being networks of largely residential streets where:

- Most people feel safe and comfortable cycling and walking, due to low motor traffic speeds and flows;
- Motor vehicle access is maintained for residents, businesses and visitors;
- The street environment is attractive, with low levels of traffic-related noise and air pollution.

6.1.4 Potential interventions to support and achieve these outcomes include (in alphabetical order):

- Cycle parking;
- Footway and crossing improvements to prioritise walking;
- Improvements to quality of the public space, including enhanced paving, and parklets, which use roadspace for planting and seating;
- ‘Modal filters’, which are measures to prevent non-local through-traffic whilst retaining motor vehicle access to all properties and, where applicable, enable bus services to pass through. These can for example be in the form of bollards, planters or traffic restrictions (at certain times or at all times), enabling access to certain vehicle types only;
- One-way streets;
- School streets, which are timed road closures to through motor traffic and parking restrictions close to schools at pick-up and drop-off times, to improve road safety;
- Seating;
- Speed limit reductions and features to calm traffic speeds;
- Traffic calming and speed limit restrictions;
- Trees and planting; and
- Restrictions to prevent HGVs passing through.

6.1.5 Whilst area-based analysis is not a discrete stage in the LCWIP process, Liveable Neighbourhood measures can help to create safe and direct cycling and walking networks. Analysis was therefore

undertaken to consider the potential for implementing Liveable Neighbourhood concepts across the BwD authority area.

## **6.2 Guidance**

6.2.1 Guidance from the government in LTN 1/20 and the Network Management Duty Guidance (initially issued during the Covid-19 pandemic) identifies that:

- effective engagement with the local community is essential to ensure the political and public acceptance of any scheme, particularly at an early stage, and is good practice even where there is no legal requirement to carry it out;
- the use of trials is recommended as a means of understanding potential impacts of introducing schemes, with suitable advance notification of the trial; and
- monitoring and engagement before, during and after the trial should be undertaken to understand the different impacts arising from the scheme.

## **6.3 Introduction to Analysis**

6.3.1 A two-stage process was used to identify locations that could have the greatest need for, or benefit most from, Liveable Neighbourhood measures. The two stages were as follows:

- Stage 1: Identifying Potential Liveable Neighbourhood Areas; and
- Stage 2: Suitability Assessment and Prioritisation.

## **6.4 Analysis Stage 1: Identifying Potential Liveable Neighbourhood Areas**

6.4.1 A mapping exercise was undertaken to consider which areas might be suitable as Liveable Neighbourhoods. This referred to available guidance published by Living Streets and Transport for London.

6.4.2 The starting point was to identify severance lines comprising:

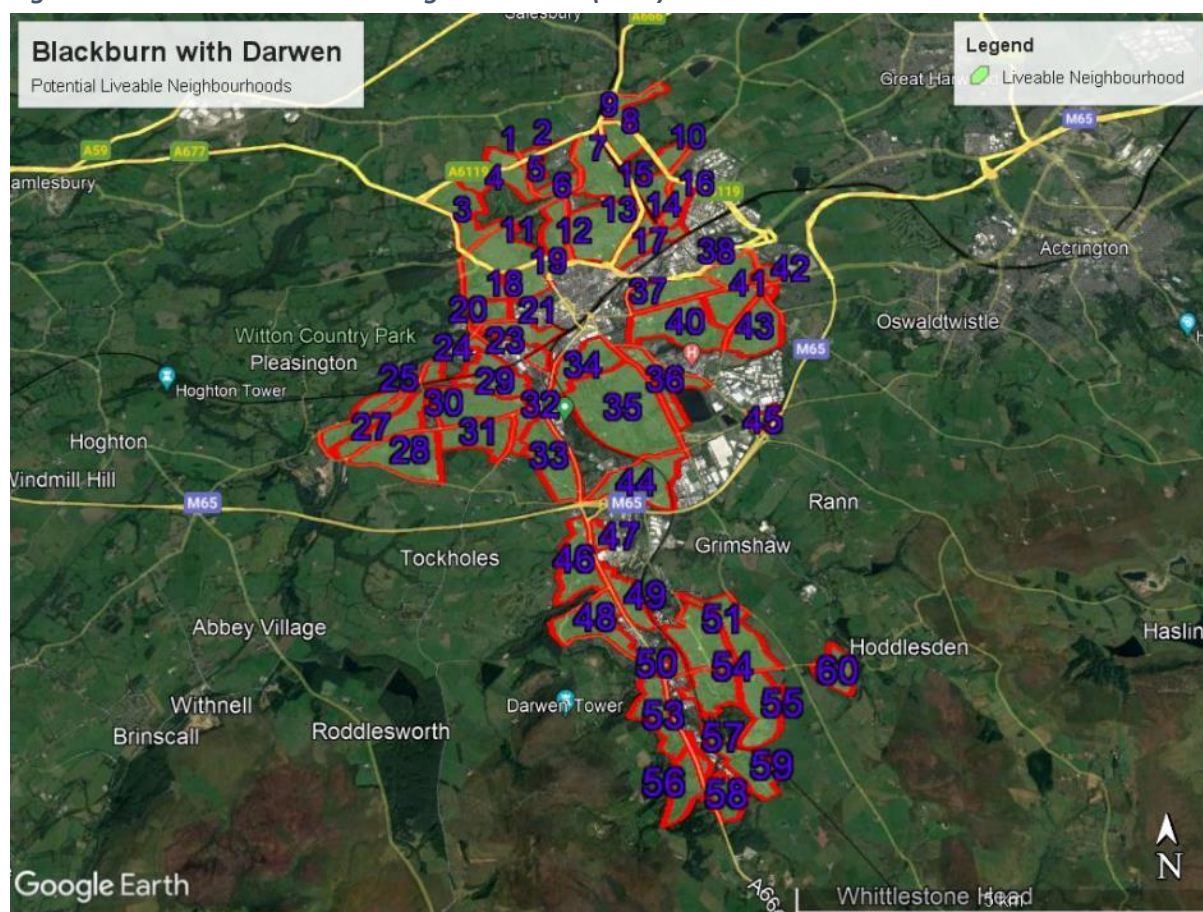
- Roads which are considered to be strategically important for motor vehicle traffic circulation:
  - o A- and B-road networks; and
  - o In areas where the A- and B-road networks are less dense, other roads which are considered to have a strategic traffic circulation function; and
- Other physical barriers to movement, such as rivers and railway lines.

6.4.3 All streets not identified by the process above were then included as part of a potential Liveable Neighbourhood area.

6.4.4 The methodology above identified a total of 60 potential Liveable Neighbourhood cells, each of which was assigned a reference number for analysis. The location and extent of the identified cells are shown in Figure 6.1. This is intended to guide further analysis and is not definitive. The plan also indicates which of the areas already have some Liveable Neighbourhood infrastructure in place.



Figure 6.1 – Potential Liveable Neighbourhoods (BwD)



## 6.5 Analysis Stage 2: Suitability Assessment and Prioritisation

- 6.5.1 A scoring framework was developed to prioritise residential areas that can be converted into Liveable Neighbourhoods. This framework uses a set of criteria which considers the availability of local facilities, the number of schools, demographics, recorded collisions and current levels of walking and cycling. This report considers the scoring and prioritisation of the Blackburn study area to the south of the M65.
- 6.5.2 Each criteria has been weighted depending on its importance in relation to creating a liveable neighbourhood. Typically, higher weightings are given to amenities that are likely to give rise to high levels of walking and cycling such as primary and secondary schools. In each of the proposed cells, the number of each amenity is multiplied by the weighting to give an overall score for the cell.
- 6.5.3 Table 6.1 and Table 6.2 summarise the ‘strategic case’ and ‘potential beneficiaries’ criteria. Each criterion was assessed on a 5-point scale for consistency. 130 was the highest possible score, representing areas which may be most suitable for Liveable Neighbourhood measures.

**Table 6.1 – Criteria Used for Liveable Neighbourhood Suitability Assessment – Strategic Case**

Criteria	Description	Data Source
Road safety	The number of recorded pedestrian and cyclist casualties in the proposed district weighted by severity	CrashMap
Local and district centres	The number of the local facilities accessible within the potential Liveable Neighbourhoods district	Google Earth – desktop research
Cycling and walking routes	The number of cycling and walking routes passing within/by potential Liveable Neighbourhoods	Propensity to Cycle Tool
Leisure activities	Involving access to historic parks, sport facilities, supermarkets	Blackburn with Darwen Borough Council
Car ownership (%)	The percentage of cars owned by the households within the Liveable Neighbourhood	Census 2011

**Table 6.2 – Criteria Used for Liveable Neighbourhood Suitability Assessment – Potential Beneficiaries**

Criteria	Description	Data Source
Deprivation	Index of multiple deprivation at local level and the lower-layer super output areas (LSOAs) within each district	Ministry of Housing, Communities and Local Government
Primary and secondary schools	The number of schools located within the district	Google Earth – desktop research
Population density	The number people per hectare within the proposed area	Census 2011
Cycling and walking percentages	The percentage of cycle and walking activities within the Liveable Neighbourhoods	Census 2011

## 6.6 Results

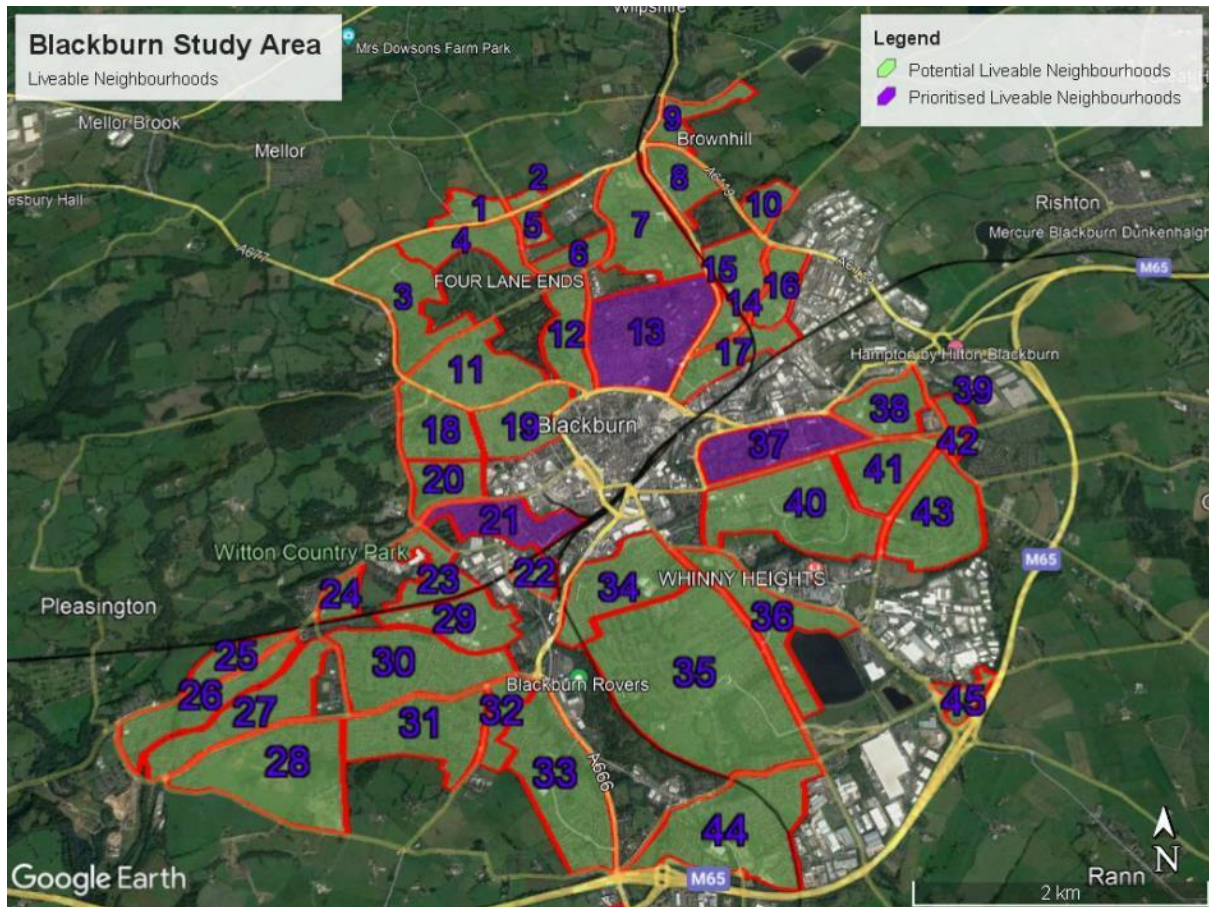
6.6.1 Table 6.3 below sets out the results of the stage 2 analysis, identifying the areas which may be most suitable for Liveable Neighbourhood measures. Figure 6.2 identifies the locations of the potential Liveable Neighbourhood areas listed in the table.

**Table 6.3 – Liveable Neighbourhoods Suitability Assessment – Top Scoring Areas Blackburn**

Area Reference	Area Covered	Boundary Roads or Features
13	Whalley Range	A666, St. James's Road, B6232, Barbara Castle Way
21	Bank Top	A674, Bank Top, Shakespeare Way, Galligreaves Way
37	Audley Range	Higher Audley Street, A678, A679, Audley Range

6.6.2 Further work will be required to better understand the nature of the transport problems in each area and the best possible solutions (which may include Liveable Neighbourhood measures). Extensive engagement with communities will form a key part of this process.

Figure 6.2 – Liveable Neighbourhood Suitability Assessment Results (Blackburn)





## **7 Next Steps**

### **7.1 Prioritisation**

7.1.1 Stage 5 of the LCWIP process is prioritising improvements, with the key output being a prioritised programme of improvements (a Delivery Plan). A prioritisation exercise shall be undertaken to consider which interventions should form a short, medium and long-term investment programme for the BwD LCWIP. The Technical Guidance identifies three categories as follows:

- Shorter-term: improvements which can be implemented quickly or are under development;
- Medium term: improvements where there is a clear intention to act, but delivery is dependent on further funding availability or other issues (e.g. detailed design, securing planning permissions, land acquisition, etc); and
- Longer-term: more aspirational improvements or those awaiting a defined solution.

7.1.2 The prioritisation is intended to be indicative and flexible, to take account of available funding and changes in circumstances. An approach which prioritises whole corridors is likely to give greatest benefits, but this is reliant on securing large-scale funding.

### **7.2 Integrating the LCWIP within Local Policies and Plans**

7.2.1 Once published, the LCWIP will help make the case for future funding for cycling and walking infrastructure. The LCWIP will be incorporated and/or referenced in other council policies, strategies and plans, including in the following ways:

- The new Local Transport Plan will set out the policy basis which supports the LCWIP;
- The LCWIP Delivery Plan will contribute to the Local Transport Plan Implementation Plans; and
- The LCWIP will form evidence to develop the new BwD Local Plan.

### **7.3 Consultation**

7.3.1 Blackburn with Darwen Borough Council has an ongoing 'Have your say on Walking and Cycling' online public consultation. This enables Blackburn with Darwen residents to give their views and opinions on existing issues and to identify areas for improvement by pin-pointing locations on a map. The comments received to date have been considered as part of the LCWIP network planning and shall be reviewed periodically as part of any future updates.

7.3.2 The BwD Walking, Cycling and Wheeling Operational Group comprises internal stakeholders. The group are to be consulted on the draft LCWIP walking and cycling network proposals for both Blackburn and Darwen study areas (this Phase 2 report) and shall feed into the route prioritisation process (Phase 3 report).

7.3.3 Prioritised routes/schemes shall be developed in readiness for future funding opportunities. The design development shall include public consultation giving residents an opportunity to comment and shape the proposals.

### **7.4 Scheme Development**

7.4.1 The highest priority improvement schemes shall be developed into shovel ready schemes in readiness for future funding opportunities.

7.4.2 A substantial range of tools and guidance is available to guide the development of cycling and walking improvements outlined in the LCWIP. This includes:

- LTN 1/20 provides comprehensive guidance on standards to apply to cycle infrastructure designs, along with design principles and processes to follow. It recommends using the Cycling



Level of Service (CLOs) and the Junction Assessment tools (JAT) to identify whether proposed schemes meet minimum quality criteria;

- The Healthy Streets approach, which focuses on creating streets that are pleasant, safe and attractive, where noise, air pollution, accessibility and lack of seating and shelter are not barriers that prevent people - particularly the most vulnerable people - from getting out and about. It is based on ten indicators and includes a checklist for designers;
- The Manual for Streets (2007), setting out design guidance for new residential streets, and Manual for Streets 2 (2010), setting out design guidance for all urban and rural streets and roads. A new Manual for Streets is currently being drafted to replace the two existing documents and is expected to be published in 2022.
- The Planning for Walking Toolkit (2020) published by Transport for London, is a handbook providing advice of planners and designers involved in the redesign of creation of public spaces, including streets and footpaths.

## **7.5 Using the LCWIP to Secure Funding**

7.5.1 Technical work on the LCWIP prioritisation (see the Phase 3 report) shall be used as supporting evidence in future funding bid submissions to the DfT/Active Travel England.

7.5.2 The LCWIP will be used to support and inform other bids, strategies and delivery plans as they arise.

## **7.6 Reviewing and Updating the LCWIP**

7.6.1 The LCWIP will be periodically reviewed and updated to reflect any relevant local changes (such as new polices, funding and developments). It will take account of progress in delivering proposals identified in the LCWIP Prioritisation and Delivery Plan.