DRAFT

Redditch Local Cycling and Walking Infrastructure Plan (LCWIP) 2024

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Contents

Executive Summary

Local Cycling and Walking Infrastructure Plans (LCWIPs) were introduced in the Government's Cycling and Walking Investment Strategy (2017) and are a strategic approach to identifying priorities for active travel improvements. A key objective of this strategy is for 50% of local trips in towns and cities to be on foot or by bicycle by 2030.

This draft Redditch LCWIP report builds on the 'emerging networks' public engagement exercise undertaken in late 2023 and sets out more detailed proposals to develop a long-term plan for active travel in Redditch. The development of this LCWIP does not guarantee funding but allows Worcestershire to make the case for funding of future cycling, walking and wheeling schemes.

The key outputs included in this LCWIP document are:

- Network plans for walking, wheeling and cycling which identify preferred routes.
- A prioritised 15-year delivery programme of infrastructure improvements.

For reporting purposes, this LCWIP distinguishes cycling from walking and wheeling routes. However, as part of the commitment to making active travel accessible to everyone, all cycling corridors will include corridor-wide improvements for walking and wheeling where possible.

Redditch LCWIP Cycle Network

This draft Redditch LCWIP identifies:

- 10 primary cycling routes (approx. 45kms)
- 11 secondary and 12 link cycling routes (approx. 42kms)

Redditch LCWIP Walking and Wheeling Network

- Redditch town centre core walking zone
- 8 primary town centre walking and wheeling routes

Prioritisation

The active travel network set out in this Redditch LCWIP is extensive and ambitious and will require incremental improvement year on year to enhance active travel networks. The prioritisation process set out in Chapter 5 is a key part of this LCWIP and has identified 'priority' routes and links which will be a focus for the public engagement exercise on this draft report during Autumn 2024.

The infrastructure improvements and indicative costings set out in this report are high level and will need to be subject to more detailed analysis and local engagement. The 15-year prioritised delivery programme set out in this report will also be subject to regular reviews as the implementation process progresses and will be heavily influenced by local engagement and available funding.

Introduction

Worcestershire County Council (WCC) have commissioned Sustrans to develop this Local Cycling and Walking Infrastructure Plan (LCWIP) for the town of Redditch. WCC is developing a series of LCWIPs across Worcestershire which will set out the vision and priorities for cycling, walking and wheeling that aim to create safe, more attractive and coherent cycling and walking networks.

This draft LCWIP sets out the underlying analysis conducted and provides a narrative which supports the identified improvements and network. The development of this LCWIP is informed by guidance issued by the Department for Transport (DfT) which suggests a staged approach to ensure that proposals are robust, and evidence led.

What is an LCWIP and why does it matter?

Local Cycling and Walking Infrastructure Plans (LCWIPs) were introduced in the Government's Cycling and Walking Investment Strategy (2017). They are a strategic approach to identifying priorities for active travel improvements to help deliver transformational change in how we travel locally. LCWIPs set out the vision and key priorities for infrastructure improvements to create attractive, joined-up priority cycling and walking networks, encouraging, and enabling people to travel more sustainably and safely. The LCWIPs are a key mechanism to help improve public health and the environment, reducing congestion, connecting our communities and creating cleaner, greener, happier places.

The Government executive agency Active Travel England (ATE) wants half of all trips in England's towns and cities to be walked, wheeled, or cycled by 2030 and LCWIPs will help local authorities plan for this. LCWIPs are key plans in helping to secure funding to deliver improvements to cycling and walking routes, including via Government bidding opportunities and from developers. LCWIPs will also inform future revisions to Local Transport Plans. In summary this LCWIP will assist WCC and its partners in:

- Identifying infrastructure improvements and prioritising these for short, medium and long-term delivery.
- Ensuring that cycling, walking and wheeling are given appropriate consideration in local planning and transport policies and strategies.
- Making the case for funding for future cycling, walking and wheeling schemes.

LCWIPs include different 'active' ways to travel, such as bicycles, trikes, e-cycles, scooters and equestrian users. LCWIPs also include those using wheelchairs and mobility scooters, which is why the term "wheeling" is used in this report.

LCWIP objectives

LCWIPs set out the vision and key priorities for infrastructure improvements to help create attractive, joined-up priority cycling and walking networks. The key objectives in developing this Redditch LCWIP are to:

- Improve paths and routes for cycling, walking, and wheeling.
- Support residents in Redditch in traveling by walking, cycling, or using mobility aids.
- Encourage more people to choose active travel, reducing congestion and saving residents money.
- Encourage more young people to go on foot or cycle to school, which also helps foster their independence.
- Enhance the safety of highways and footways for everyone.

Document structure

The development of this LCWIP is informed by the technical guidance for developing LCWIPs published by Department for Transport (DfT) which suggest a six-stage approach. Using this approach, this draft Redditch LCWIP is structured as below:

Stage 1: Determining Scope

This section sets out the geographical scope of the LCWIP, its relationship with neighbouring authorities and document management.

Stage 2: Gathering Information

This section sets out the wide variety of information that has been used to inform the development of this LCWIP. It includes a review of relevant policy areas and local characteristics that influence travel choices.

Stage 3: Network Plan for Cycling

This section sets out the proposed LCWIP cycling networks which are informed by the LCWIP technical guidance which focuses on creating a network based on key origins and destinations and desire lines. It sets out the data and tools such as the Propensity to Cycle Tool which has helped identify potential routes and links which could benefit from improvements. This section also sets out the type of improvements that have been considered.

Stage 4: Network Plan for Walking and Wheeling

This section sets out the proposed LCWIP walking and wheeling network which for the first Redditch LCWIP focuses on the core town centre. This sets out the details of the Healthy Streets Audit used to assess the walking and wheeling network.

Stage 5: Costing and Prioritisation

Using the plans set out in the previous sections (Stages 3 and 4), this section sets out the indicative costings and the prioritisation process used to inform this LCWIP.

Stage 6: Integration and Application

This last section sets out a 15-year indicative delivery programme, funding context and how the Redditch LCWIP can integrate with other planning and transportation policies.

Stage 1: Determining the Scope

LCWIP Study Area

In defining the study area for this first Redditch LCWIP a key focus is on those shorter urban journeys which may be possible by active travel - up to 2km for walking/ wheeling, and up to 10km for cycling. The DfT guidance on developing LCWIPs suggests that local authorities should prioritise areas which have the greatest potential for growing cycling and walking trips. The LCWIP study area comprises the Redditch urban area where 93% of the borough population live and includes the new residential developments at Brockhill and Foxlydiate (Figure 1).

Following the public engagement exercise in late 2023, the study area was refined to include links to Astwood Bank, Hunt End and Callow Hill. The Redditch LCWIP also considers links beyond the study area to Beoley and Holt End (Bromsgrove District) and Mappleborough Green and Studley (Warwickshire).

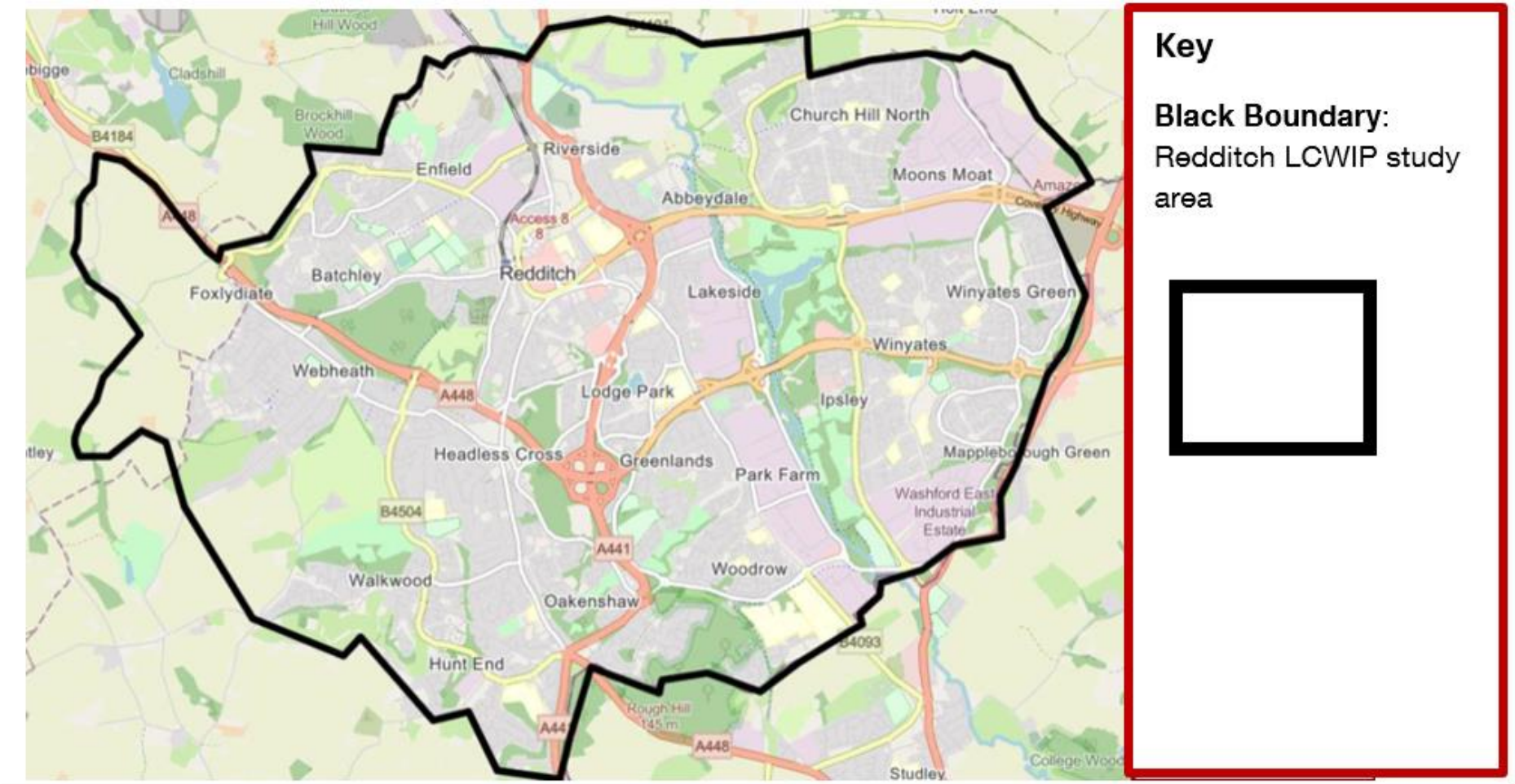


Figure 1: Redditch LCWIP Study Area

Neighbouring Local Authorities

Active Travel England are keen that local authorities work together where possible in the development of LCWIPs to enhance cross-boundary connections. Particularly for connecting active travel with public transport options (bus and train) to improve longer distance trips lor commuting and leisure. Within Worcestershire, the Redditch LCWIP has key links with Bromsgrove and cross boundary links with Warwickshire. Officers from Worcestershire and Warwickshire County Councils are already engaging on this Redditch LCWIP in relation to links at Studley.

LCWIP public engagement

Engaging with local stakeholders and residents is fundamental to the development of the Redditch LCWIP. Redditch Borough Council is a key stakeholder and has provided valuable feedback throughout the development of the LCWIP. To inform this LCWIP, engagement on the emerging LCWIP networks was undertaken in late 2023 which provided valuable feedback and has resulted in alterations to the emerging LCWIP network.

The feedback from the 2023 engagement has also helped inform the LCWIP prioritisation process (see chapter 5). Additional sources of residents' feedback on active travel provision that have helped inform this Redditch LCWIP include Worcestershire's annual Viewpoint Survey.

Document management

This first Redditch LCWIP aims to cover a 15-year period (2025-2040). Guidance on the development of LCWIPs suggests that they should be regularly reviewed and updated to reflect progress made. This is particularly the case, if there are any significant changes in local circumstances, such as the publication of new policies or strategies and as walking and cycling networks mature and expand.

Stage 2: Gathering Information

LCWIPs are transport plans, however, when assessing transport provision many local factors should be considered such as health and wellbeing, access to key services and the environment. The guidance on the development of LCWIPs also suggest that they should be evidence led.

This section sets out the wide variety of information that has been used to inform the development of this LCWIP. It includes a review of relevant policy areas and local characteristics that impact active travel. Information gathered as part of the initial engagement in late 2023 is also a key data source and a review of this is set out in Stage 3.

National Policy

Manual for Streets 1-3 (various dates, MSF3 under development)

Outlines design principles which Local Authorities should follow in designing new residential streets and redesigning current residential streets to be people focused.

Gear Change: A Bold Vision for Cycling and Walking (2020) – Department for Transport

The policy sets out the Government's ambition to significantly increase walking and cycling, aiming to realise the associated benefits to health, the environment, and more. This policy has shaped the ambitions and proposed interventions within the LCWIP.

Cycling Infrastructure Design Guidance LTN 1/20 – Department for Transport

The Government's design standards for walking and cycling infrastructure against which inspections are conducted by Active Travel England (ATE). LCWIP schemes are expected to comply with these standards where possible. Sustrans have delivered LTN 1/20 workshops with officers at Worcestershire County Council to help inform scheme designs.

Cycling and Walking Investment Strategy 2 (2021) – Department for Transport

The policy affirms the Government's commitment to funding walking, wheeling, and cycling as a wise investment, guiding the prioritisation of initiatives in this LCWIP.

Decarbonising Transport: A Better, Greener Britain (2021) – Department for Transport

Sets out how the Government's path to Net Zero and how it will decarbonise transport and reduce emissions. This includes further funding for Active Travel and the aim to create a world-class active travel network by 2040. Accelerating the modal shift to public and active transport is the number one strategic priority.

Gear Change: One Year On (2021) – Department for Transport

Outlines the success of Gear Change and the Government's commitment to delivering more cycle lanes, low-traffic neighbourhoods, and school streets.

Inclusive Mobility Guidance (2021)

Provides guidance and best practice inclusivity practice for designing and installing inclusive infrastructure for public transport and active travel.

Local Policy

Local Transport Plan 4 (2018-2030)

LTP4 sets out Worcestershire's strategic vision for transport and proposed targeted investment in the three broad areas of transport technology, travel choice and capacity enhancement. LTP4 includes scheme R2 - Redditch Active Travel Network Investment Programme which will be developed as part of this Redditch LCWIP. At time of writing, guidance for new local transport plans is awaited but LCWIPs will be key documents for identifying future schemes.

Worcestershire County Council Corporate Plan (2022-2027)

Worcestershire County Council's corporate plan "Shaping Worcestershire's Future" sets out the Council's long-term vision and priorities based on the four key priorities:

1. Open for Business
2. Protecting the environment
3. Supporting children and families
4. Promoting health and wellbeing

Worcestershire Joint Local Health and Wellbeing Strategy

Worcestershire's 'Health and Wellbeing Strategy' identifies three priorities for action:

1. good mental health and well-being throughout life
2. being active at every age
3. reducing harm from alcohol at all ages.

Worcestershire Streetscape Design Guide

A guide for housing development, complementing national manuals, ensuring low traffic speeds, environmental links, and accessibility for all.

Worcestershire Bus Service Improvement Plan (BSIP) 2021

BSIP focuses on boosting bus usage, addressing cross-authority services, and enhancing the local bus market, infrastructure, and service frequency.

Worcestershire County Council's Rail Investment Strategy 2017

Adopted in 2017, this strategy supports LTP4, aiming for train service enhancements, improved rail infrastructure, and a modal shift from road to rail.

Borough of Redditch Local Plan No. 4 (BORLP4) 2011-2030

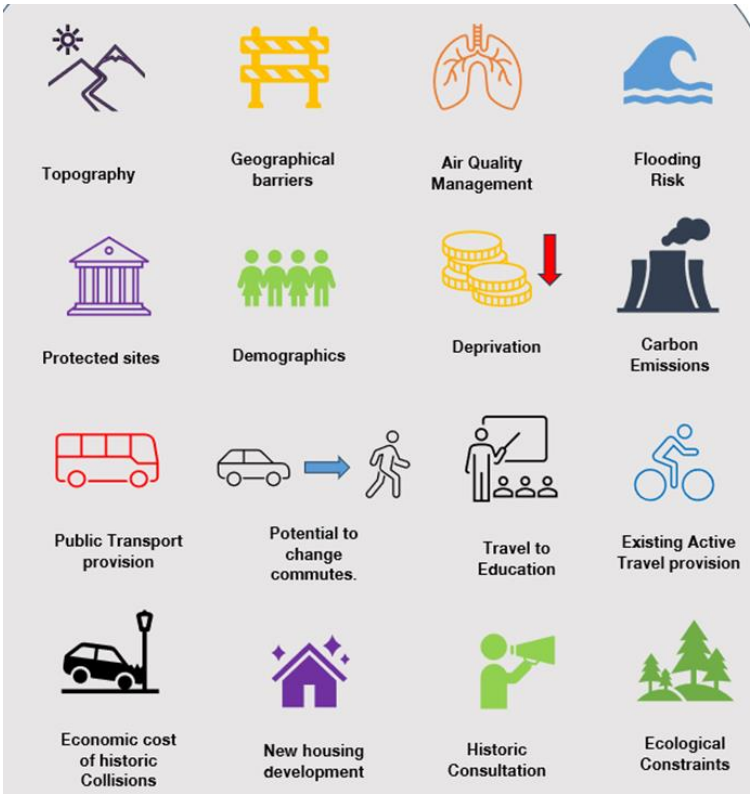
The BORLP4 was adopted in 2017 and is the statutory development plan for Redditch and provides the framework for delivering the borough's spatial planning strategy. This LCWIP aims to support the BORLP4 2030 vision:

"Redditch will be successful and vibrant with communities that have access to good job opportunities, good education, good health and are communities that people will be proud to live and work in."

Redditch LCWIP local area context

The guidance on the development of LCWIP's suggest they are evidence-led, and a large number of local factors have been considered as part of the data gathering exercise as shown in Figure 2.

Figure 2: Redditch LCWIP local factors



Topography

Redditch is hilly, particularly heading south-north, which makes active travel a less attractive option and a challenge for residents with limited mobility. Ideally, and where it is possible, gradients of under 5% are recommended for walkers and wheelers over longer distances.

Flood Risk Zones

Flooding from watercourses and surface water flooding poses long-term risks to transport infrastructure and needs to be considered in the LCWIP process.

Natural and historic environment sites

As with flood risks, sites of natural and historic significance need to be considered in the LCWIP process to ensure proposals do not negatively impact these sites. Key sites within the Redditch LCWIP area include Bordesley Abbey (Forge Mill Needle Museum).

Air Quality

Redditch does not have any Air Quality Management Areas (AQMAs), but it is acknowledged that air quality has an impact on the health of residents and particularly on some of the most vulnerable and disadvantaged people in the community. A key focus for this Redditch LCWIP is making active travel a more attractive option, especially for shorter journeys which will have the additional benefit of helping to clean the air and, at the same time, improve people's health through higher levels of physical activity.

Barriers to movement (severance)

As well as gradients and slopes, Redditch has numerous physical barriers primarily due to the highway network which includes a large number of dual carriageways and heavily trafficked roads, with limited crossing points. In the town centre, the Ringway is a significant barrier to active travel. There are also many highway underpasses which bring their own safety concerns, especially after dark. Other barriers include the railway line and water courses (see Figure 3) overleaf.

Demographic data

In developing this LCWIP and to assess the potential for more trips to be undertaken by active travel, it is helpful to understand local demographic characteristics in Redditch. Furthermore, guidance on the development of LCWIPs states that local authorities must consider the needs of all users under the Equalities Act 2010.

To help with local analysis, census boundaries known as 'output areas' are referenced in this report. Using MSOAs (Middle Layer Super Output Areas) and LSOAs (Lower Layer Super Output Areas) allow us to divide larger areas into smaller parts, helping us to better understand local characteristics such as where and how people travel, based on census data from 2011 and 2021.

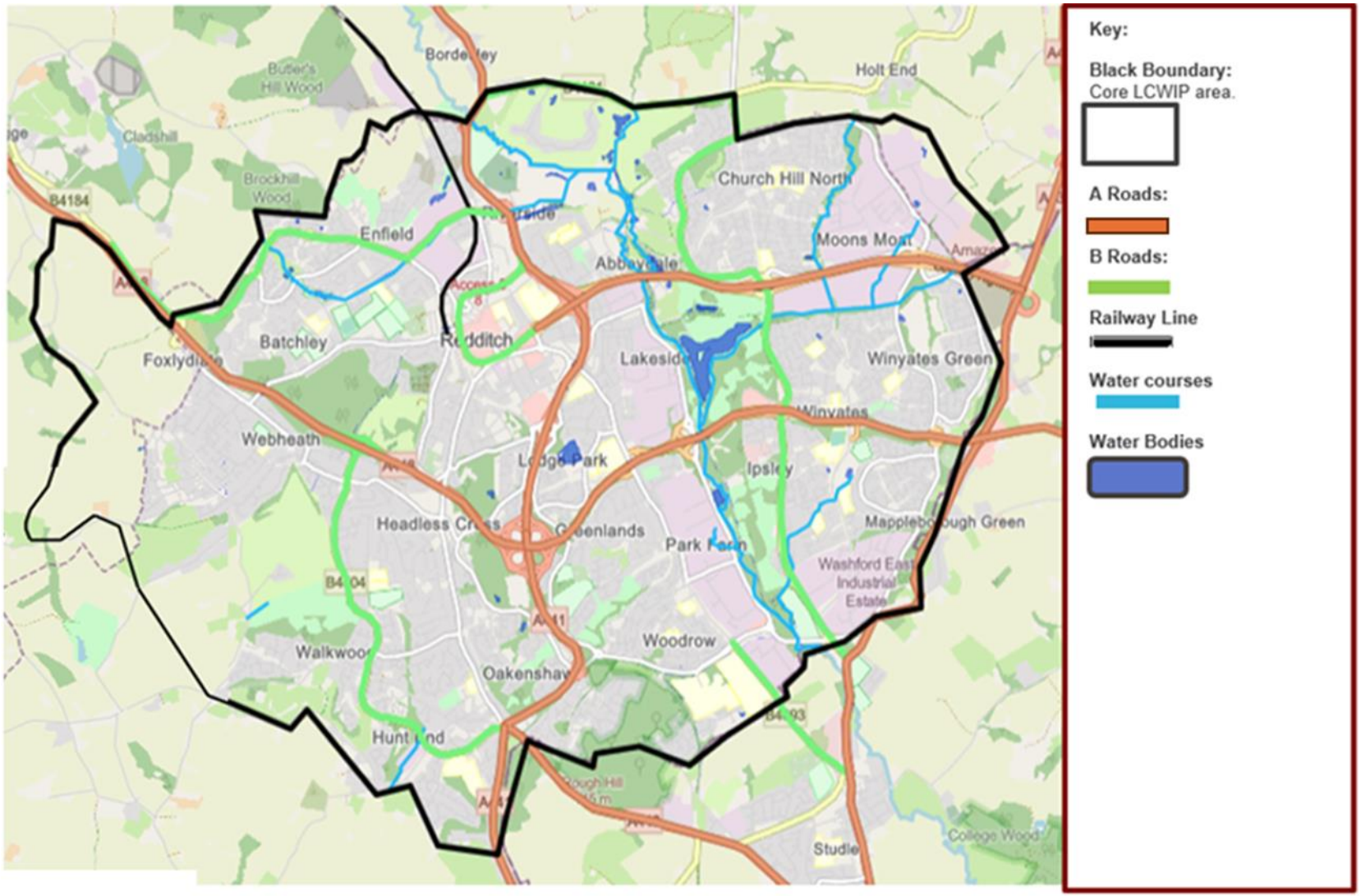


Figure 3: Redditch LCWIP Barriers to movement

Population

The population of the LCWIP area is approximately 80,910 residents. Of these, 50.6% are female and 49.4% male. (source: Census 2021). The age profile of the area is younger in Redditch than the Worcestershire average, although on par with the West Midlands as a whole. However, between 2011 and 2021, the number of people aged 65 to 74 years increased by 40.5%, while the number of residents between 20 and 24 years decreased by 13.3%. Families make up 56.55% of the population. Older populations in Redditch are mostly based in suburbs such as Webheath, young adults in the town centre and families in suburbs, particularly Greenlands.

Redditch is more ethnically diverse than the Worcestershire average, with 17.6% non-white British compared to the Worcestershire average of 11.3%. Census data by ethnic group is available at Lower-layer Super Output Area level (LSOA) and this shows that there are some small areas in Redditch with proportions of 30% and higher from ethnic minorities including the Trinity High school area, St George's, Mayfields Park and Smallwood.

Population and active travel

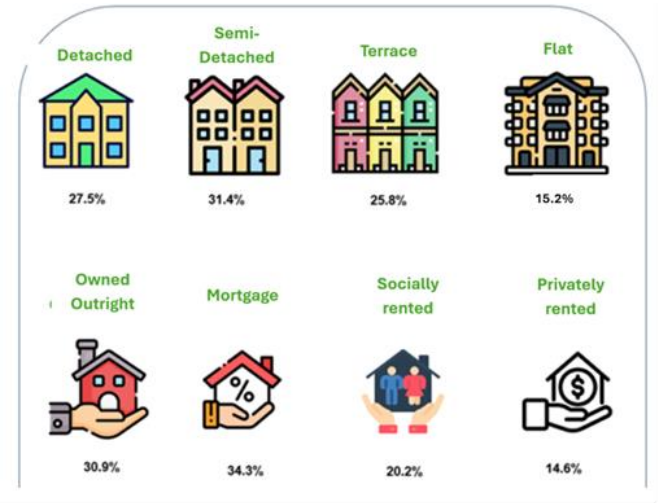
Women are slightly more likely to engage with active travel overall, but men are over double more likely to cycle (National Travel Survey – NTS 2022). Sustrans published a report in 2018 "Women: reducing the gender gap" which suggests that co-designing interventions and considering gender budgeting can improve women's and girls' engagement with active travel. Different age groups have distinct needs linked to education, career, and life stages. Young people are most active, and cycling peaks for 30–59-year-olds, showing the value of corridors linking commuting and education (NTS, 2022).

The differences in the uptake of active travel will be a key consideration as this LCWIP develops to ensure that all residents' perspectives and views are sought, especially during engagement when schemes come forward.

Housing type and tenure

Redditch neighbourhoods differ in their housing type and tenure. This can impact storage and adaption provision for active travel. Age and deprivation correlate, with young and impoverished residents often accommodated in private or socially rented flats and terraces. Public on-street cycle storage can make a significant difference to commuters and families. Figure 4 shows the breakdown of housing type and tenure for Redditch.

Figure 4: Housing Types and Tenure in Redditch (Sustrans using ONS data)



Disability and Health

The most recent health data finds that 66.9% of adults in Worcestershire, including Redditch, were classified as overweight or obese in 2021/22 (Public Health Outcomes Framework). For children, 21.8% of reception age children (ages 4-5) were overweight, including obesity, with an increasing trend seen in year six children (ages 10-11) where 36.3% were overweight, including obesity (PHOF).

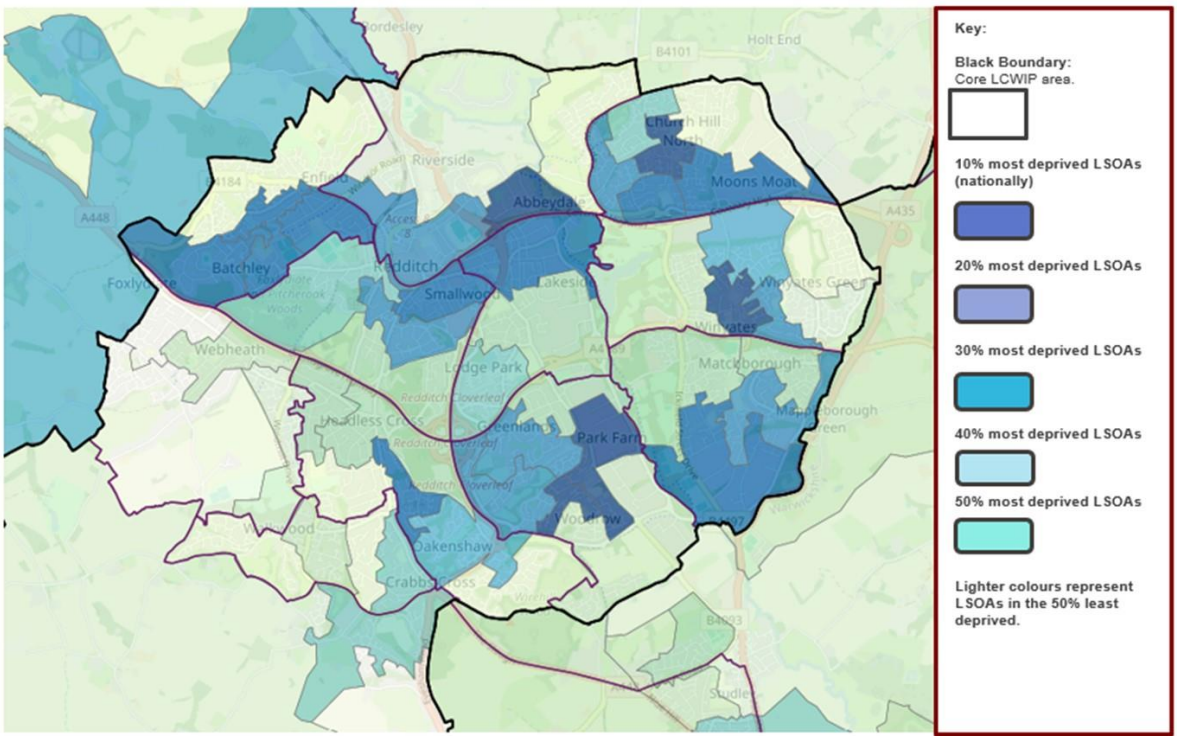
Additionally, 26% of adults in Worcestershire were classified as physically inactive, engaging in less than 30 minutes of physical activity per week (Sport England Active Lives Survey 2021/22). Physical inactivity is a significant concern, being the fourth leading risk factor for global mortality, accounting for 6% of deaths globally, and contributing to higher risks of cardiovascular diseases, diabetes, obesity, and certain cancers (Public Health Outcomes Framework).

By providing safe and accessible routes, the LCWIP can help reduce obesity rates and physical inactivity, improving overall health outcomes and reducing the healthcare burden associated with sedentary lifestyles.

Indices of Deprivation (IMD)

Indices of Deprivation are a measure of relative deprivation at lower super output layer level (LSOA) across England. Figure 5 overleaf shows the areas of deprivation in Redditch (dark blue areas being the most deprived). There are 57 Redditch LSOA neighbourhoods, 13 of which are in the top 10% or 20% nationally for deprivation. In developing this LCWIP and identifying interventions it is important to consider those areas of highest deprivation as improved active travel provision can enhance access to employment and education while improving health and the living environment.

Figure 5: Indices of deprivation map 2019. (Ministry of Housing, Communities and Local Government, 2018-2021)



Road Safety

When considering active travel provision, safety is the prime consideration. Improving safety for pedestrians and cyclists is a key consideration for Worcestershire County Council. The maps and data below have been sourced from Worcestershire County Council to show the injury accidents involving cyclists (Figure 6) and pedestrians (Figure 7) that have occurred in the last ten years in Redditch from 2014 to 2024.

The accident data will help inform and identify highway improvements for walking and cycling across Redditch to reduce the potential for injury accidents to vulnerable road users and provide a road environment that is safe for all users.

Economically, each injury accident incurs significant societal, healthcare and productivity costs that are far greater than the investment required for a cohesive travel network.

Figure 6: Cyclist injury map in Redditch

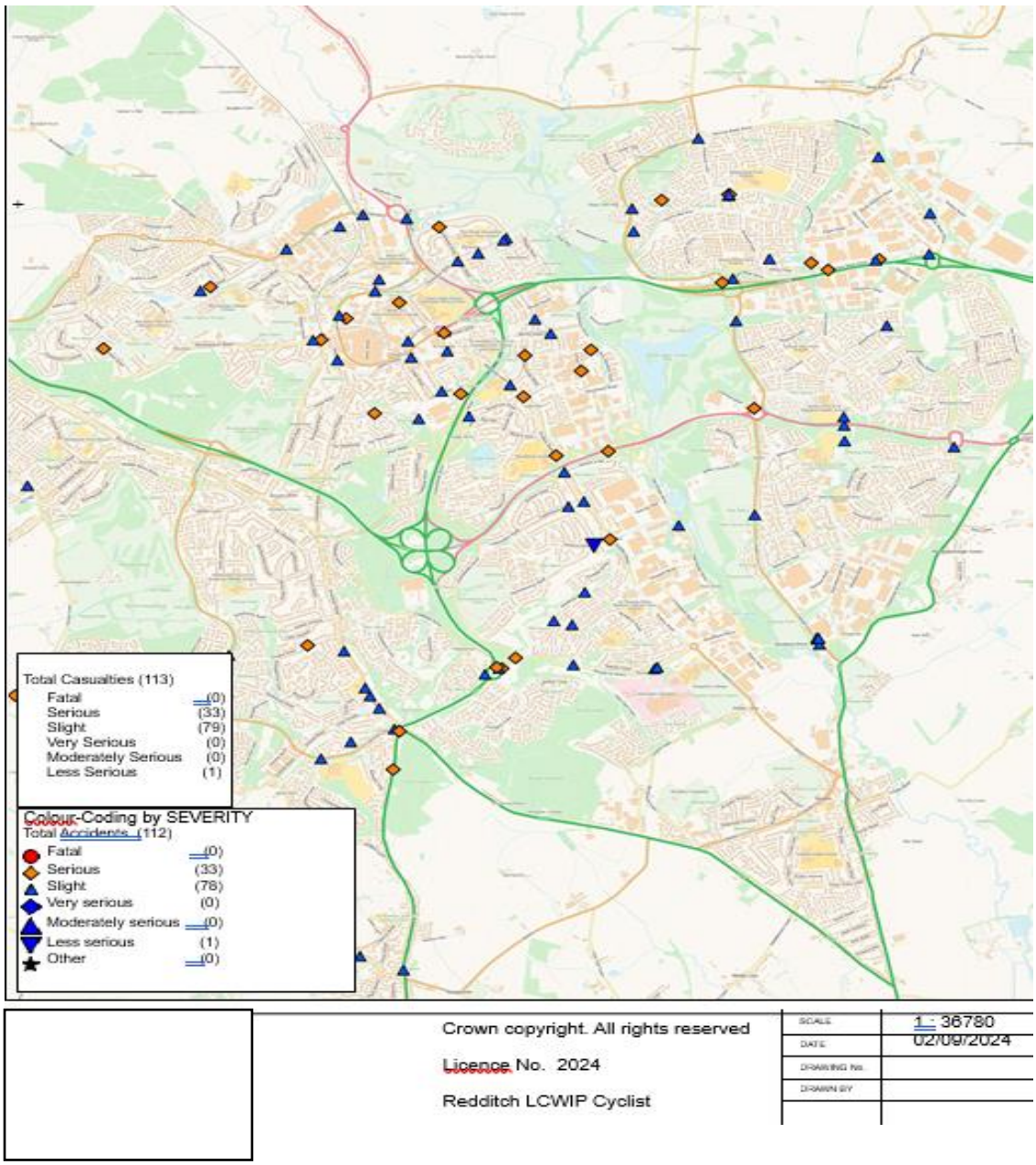
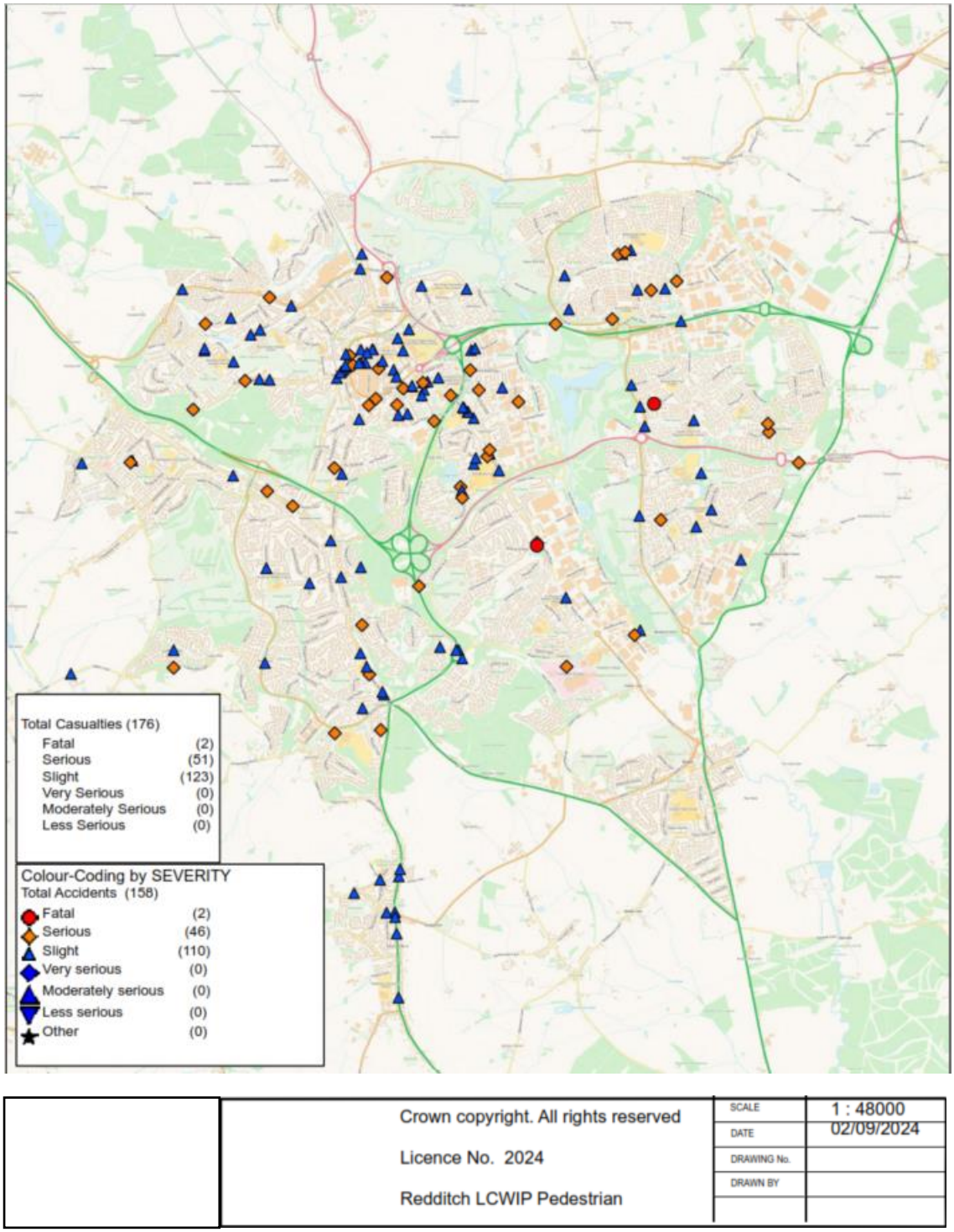


Figure 7: Pedestrian injury map in Redditch



Existing transport networks

Highway networks

The development of Redditch as a 'new town' has provided some key advantages, especially for its extensive local and strategic highway network, traffic-free cycle routes, with underpasses and over bridges, linking all areas of the former 'new town' with each other. However, these underpasses and bridges no longer meet the latest Inclusive Mobility design guidance. Redditch town centre has low

levels of congestion compared to other urban centres but does suffer from peak-time delays on key routes such as Bromsgrove Road and Holloway Lane/Studley Road. The B4190 Redditch Ringway is the prime access to the town centre car parks but also serves the town centre and creates an imposing feature especially near the bus station and railway station at the bottom of Unicorn Hill.

Active travel

A positive legacy of the new town development is a network of surfaced walk and cycle paths in the wider Redditch area. The project called 'Choose How You Move' (2012-2015) made improvements to active travel infrastructure and promoted active modes. The prime cycle route in Redditch is the National Cycle Network Route 5 (NCN5) (Bromsgrove-Redditch-Birmingham) which is an on-road route and enters the Borough at Webheath. It runs via the town centre (Unicorn Hill and Church Green West) and continues via Riverside and Church Hill as NCN55 northward to Birmingham; the NCN5 traffic-free route enters the Borough near Studley and runs northbound via Arrow Valley Country Park to Riverside and Church Hill.

Bus services

Redditch bus station is the prime bus interchange. Along with the wider town centre, the Bus Station and Railway Station are key destinations for this LCWIP and the NCN5 runs past both locations along Bromsgrove Road. A unique feature of the bus network in Redditch is the provision of bus-only routes (busways) linking the local District centres. These bus-ways provide opportunities to enhance active travel, and these are considered in chapter 3 of this LCWIP.

Rail Services

Redditch Railway Station is the southern terminus of the Redditch-Birmingham-Lichfield 'Cross City' Line and is the third busiest railway station in Worcestershire. The area adjacent to the station access on Bromsgrove Road and Unicorn Hill is to be improved as part of town centre public realm enhancements and there are wider plans for the regeneration of the station to create a new gateway to the town centre. This Redditch LCWIP is, therefore, timely for considering better active travel connections and infrastructure to complement planned and potential improvements for the railway station and wider area.

Schemes and developments

Schemes currently in development include the final phase of public realm improvements in Redditch town centre which focus on Unicorn Hill, Church Green West and St Stephen's churchyard. There is also the planned redevelopment of the railway station which was identified in the Borough of Redditch Local Plan and the Regenerating Redditch Masterplan. Also identified in the local plan are the large residential developments at Foxlydiate and Brockhill East (Weights Lane).

How people travel in Redditch Travel to work.

According to 2021 census data, approximately 55.6% of Redditch's population work within the Borough, 35.5% of whom commute for work, and the private car/van is the dominant mode of travel to work with 84% of all commutes (excluding work from home) on average. %). Most private car commutes are in the suburbs such as Church Hill South, Oakenshaw, Matchborough and Park Farm, Arrow Valley and Ipsley, and Greenlands.

The next most popular method of commuting is walking and wheeling, making up 8.3% of commutes. This is particularly high in Redditch town centre and Abbeydale, making up 14.8% but as low as 4.4% in Crabbs Cross. Cycling accounts for 1.8% of commutes on average throughout the area, between 0.7% in Webheath and 3.2% in Winyates Green.

Most journeys to (discounting work from home) in Redditch are under 10km (55.4%), journeys under 2km where walking is a potential mode shift, are 18% of journeys on average, and make up as much

as 26% in Greenlands and Church Hill South. This suggests that there is a high potential for modal shift from private car to cycling and walking for travel to work within the Redditch LCWIP area.

Travel to education.

The Department for Transport's National Travel Survey identified that 11% of 16-24-year-olds cycle at least once a week for travel purposes, as opposed to for fitness or leisure. This is followed by 25–34-year-olds and 35-44-year-olds, both at 8%.

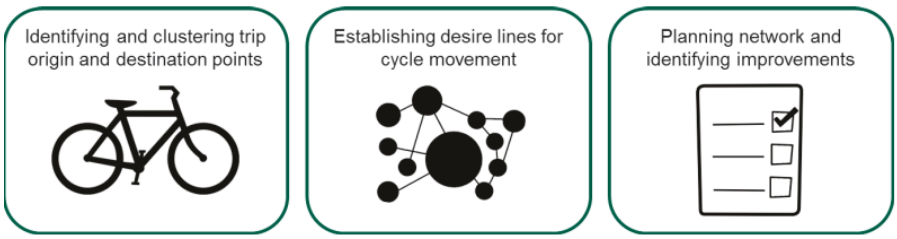
These age groups account for 38.2% of the Redditch LCWIP area population. This suggests that there could be a good scope to encourage walking and cycling travel to further and higher education. Under 15-year-olds make up 19.3% of the population, indicating that of the estimated 11,633 students enrolled in education in Redditch, 30.8% of whom are currently driven to school, there is high potential for primary and secondary journeys to school with the right support.

Stage 3: Network Plan for Cycling

The information set out in the previous two chapters has informed a baseline position for active travel in the Redditch LCWIP area from which potential for improvement can be identified. This chapter sets out the proposed LCWIP networks which are informed by the LCWIP technical guidance which focuses on creating a network based on key origins and destinations and desire lines. As part of the commitment to making active travel accessible to everyone, all cycling corridors will include corridor-wide improvements for walking and wheeling where possible.

Developing an emerging cycle network

The LCWIP technical guidance outlines the following steps for crafting priority cycling network plans as per the image below:



Identifying key origins and destinations

Active travel journeys typically start at home and go to key destinations or trip attractors. These key destinations for Redditch have been mapped and include:

- Healthcare facilities
- Planned employment sites.
- Existing employment sites
- Retail centres
- Primary schools
- Secondary and Higher Education
- Public Transport Hubs
- Libraries and Youth Centres
- Sports stadiums and pitches
- Nature spaces and trails
- History and culture spaces.

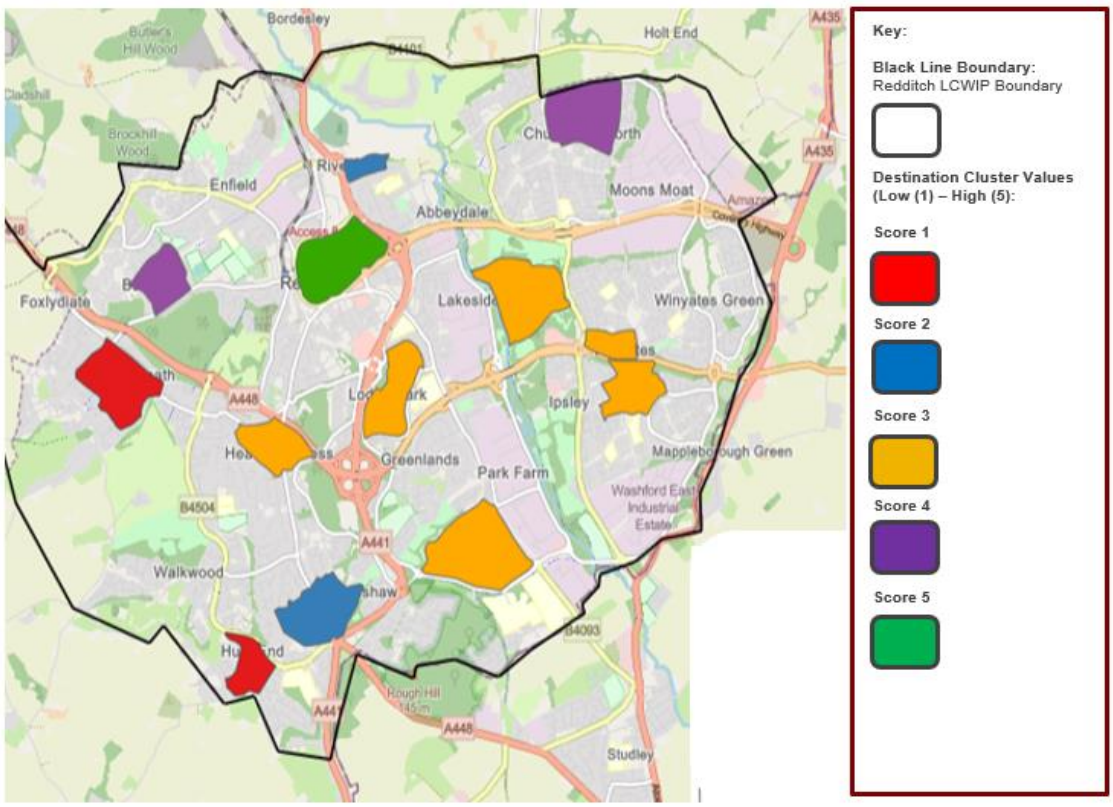
Clustering origins and destinations

In the development of the LCWIP, clustering origins and destinations is vital for simplifying the analysis and planning of preferred active travel routes. By grouping locations that are within 400m of each other, as recommended by the LCWIP technical guidance, planners can more effectively identify key hubs of activity and ensure that routes are designed to serve areas with the highest potential demand. This approach is particularly beneficial in Redditch, where clustering helps prioritise routes that connect areas of high employment, transport hubs, and schools, thereby improving the overall effectiveness of the active travel network.

Figure 8 shows the clustered 'destination centres' in Redditch, focusing on the town centre, district centres, and other high-demand areas. These destination clusters were given a value between 1 and 5, depending on the type and quantity of key sites, with higher values prioritising employment hubs, transport links, and educational institutions. High-scoring areas, with values of 4-5, include Redditch town centre, Batchley, and Church Hill. Further destination clusters were identified in areas such as Riverside, Oakenshaw, Hunt End, and Webheath to ensure broad connectivity.

These findings are critical for developing the Redditch LCWIP active travel routes, as they inform the planning of primary routes that focus on high-scoring centres, while secondary and link routes are designed to connect the lower-scoring clusters, ensuring a balanced and efficient active travel network across the town.

Figure 8: Redditch LCWIP - Clustered Destination Centres

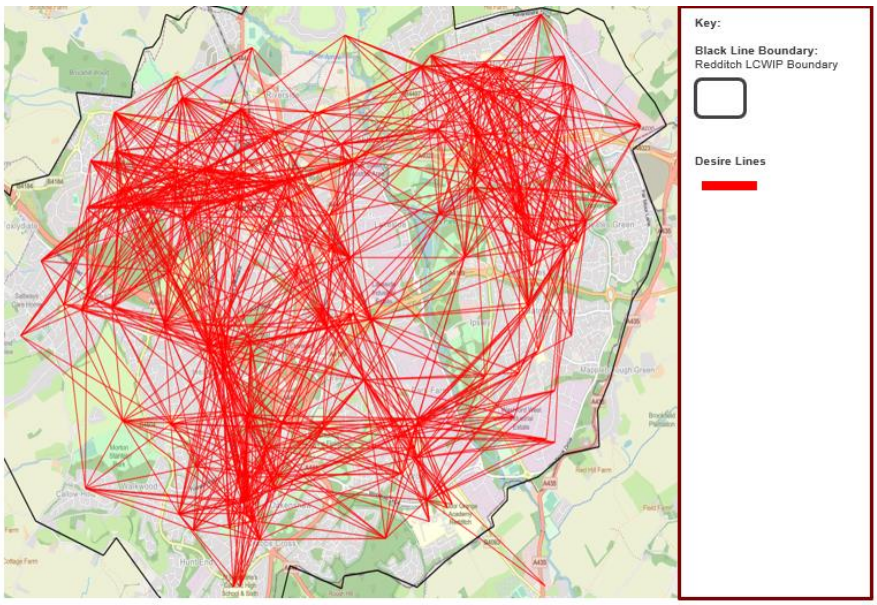


Identifying desire lines for cycling

LCWIP guidance recommends identifying 'as the crow flies' desire lines between origin points (where people live) and individual destination points (where they may want to visit). Origin points were identified using weighted LSOA population centres, and destination points were mapped using ArcGIS for the Redditch LCWIP area, including schools, leisure activities, tourism spots, shopping, local centres and hospitals (Figure 9).

As these are ‘as the crow flies’ lines, they give a baseline for travel demand between origins and destinations, including where the highest level of travel is likely to be, but do not indicate specific routes. Figure 9 shows that the highest concentration of desire lines go to the west of Redditch in Batchley, Abbey fields, and the town centre; south in the Oakenshaw/ Headless Cross area; and northeast in Matchborough and Church Hill North area. This analysis has helped inform the identification of primary and secondary routes.

Figure 9: Redditch LCWIP Desire Lines (mapped using ArcGIS)



Identifying preferred routes

Once ‘as the crow flies’ desire lines were identified, specific preferred routes for travel could then be developed. A combination of methods has been used to develop the preferred routes, as below:

- DataShine Commute Tool
- Propensity to Cycle Tool
- Site visits by Sustrans
- Public and stakeholder engagement

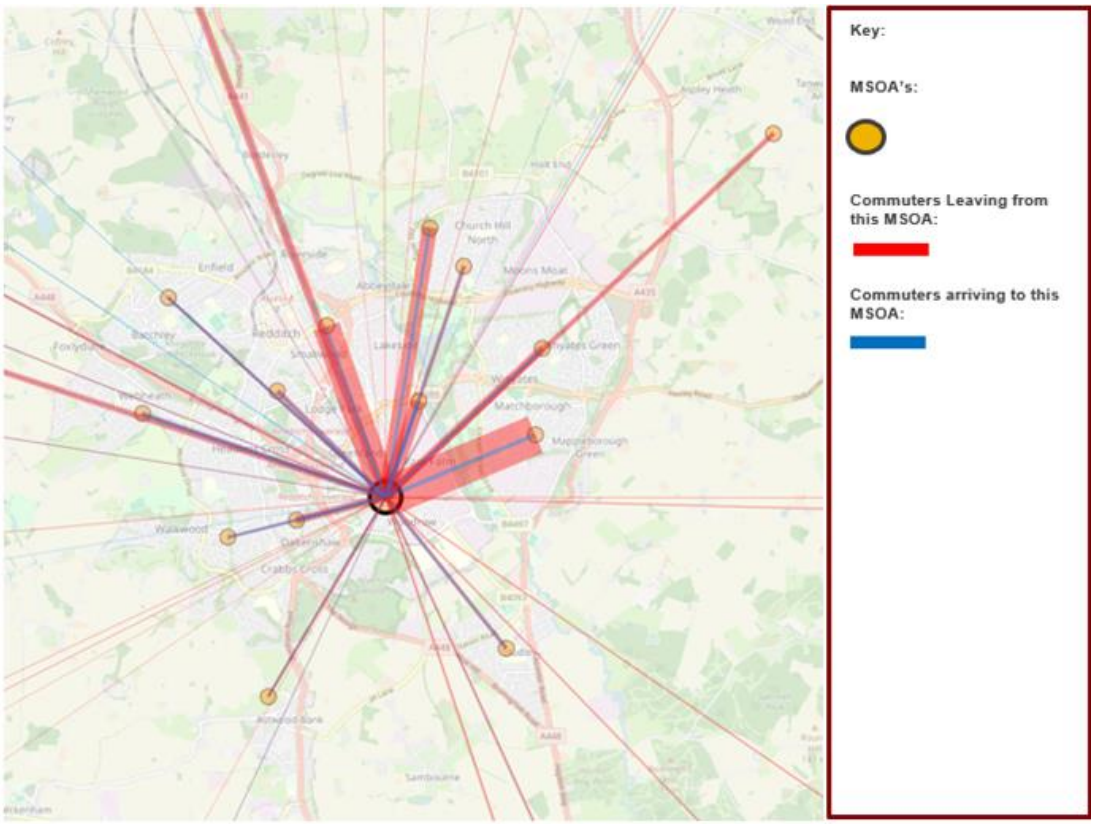
DataShine Commute Tool

The DataShine Commute Tool, which uses Census 2011 journey to work data, was used to help identify the potential cycling routes in Redditch. This tool shows the travel mode and origins and destinations for commuting which highlights the most common commuting paths. This information helps to identify key travel corridors, ensuring that proposed cycling routes are focused on the areas of greatest demand and are designed to support practical commuting patterns. The tool helps to identify how far people are willing to travel by bicycle and so routes can then be planned that are not too long or too difficult. With this information, cycling routes can be made better for everyone in Redditch, ensuring they connect important places like schools, shops, and workplaces.

Figure 10 is an example of the type of outputs available using the DataShine Commute Tool. This example shows commuting trips for Woodrow/Greenlands MSOA (Middle Layer Super Output Area), which is a largely residential area. The red lines represent significant outbound commuting journeys from this MSOA to other areas, with thicker lines indicating higher volumes of travel, particularly towards the town centre and Matchborough. The blue lines show inbound commuting journeys into

the Woodrow/Greenlands MSOA. Importantly, the data assumes that these journeys account for return trips, meaning that both outward and return commutes are considered.

Figure 10: Commuting patterns for the Woodrow/ Greenlands MSOA



Propensity to Cycle Tool (PCT)

The PCT is an assessment tool that helps understand cycling trends by using information from the 2011 census. It analyses how people travel to work and school, highlighting the most likely routes for cycling. This tool indicates the number of cycling trips that occur on weekdays, based on the 'main mode of work travel' data. By understanding these patterns, better cycling routes can be planned, making cycling a more accessible mode of transportation. PCT also allows for modelling expected cycle use depending on levels of cycling uptake in the local population. This can be set at 'Government target' level, and 'Dutch levels' which would each require increasing investment in cycling infrastructure to achieve. Table 1 overleaf shows the locations where cycling for work has a relatively high baseline (number of trips from Census 2011) along with the forecast trips at the Government target and Dutch levels.

Table 1: PCT Cycling for work trips

Route/streets	Cycling for work trips (Baseline Census 2011)	Cycling for work trips at Government Target model level	Cycling for work trips at Dutch model level
Tanhouse Lane – Dolphin Road	82	212	579
Woodrow Drive	62	176	661
Studley Road	56	183	612
Icknield Drive/Arrow Valley	53	160	569
Washford Drive	53	131	458
Easemore Road	48	151	612
Unicorn Hill/ Church Green West	47	149	589
Church Hill/ Matchborough/ Winyates Way	45	99	351
Windsor Road	33	93	286
Plymouth Road /Birchfield Road	21	71	311

Figure 11 overleaf is an output from the PCT which shows the areas in Redditch where cycling is most common. It focuses on the top 30% of popular cycling routes, with thicker lines representing higher usage. The thickest lines, indicating the highest cycling usage, are found in central Redditch, particularly around the town centre, and extend to areas like Lodge Park, Greenlands, and Abbeydale. This information is important for identifying which routes to improve for cyclists, enhancing safety and connectivity within the cycling network.

The PCT routing is indicative only as it uses the existing highway network but route planning for the LCWIP will focus on routes more suitable for cycling; the PCT also struggles to model greenways and developments built out after 2011.

Figure 11: Redditch LWCIP - Propensity to Cycle Tool (PCT).

Mode shift potential

A multi-analysis of PCT data, DataShine commute data, and Census 2021 data can provide an indication of how many commuting journeys might switch from using cars or vans to active travel (modal shift). The data is provided at MSOA neighbourhood level and shown in Table 2.

For the PCT model, the 'Dutch' scenario has been used. This scenario simulates what cycle commutes could look like if Redditch had a level of cycling like the Netherlands, which would require significant investment over the 15-year period of this LCWIP. The Department for Transport (DFT) and Active Travel England (ATE) assumptions are used, suggesting that the maximum walking or wheeling commute is likely to be 2km, and that 80% of residents could be encouraged to walk or wheel this distance.

Analysis of Table 3 shows that areas such as Church Hill South, Greenlands, Matchborough, Park Farm and Winyates Green have the highest potential for a shift to active travel, with over 39% of commutes potentially being made by walking or cycling. Conversely, areas like Crabbs Cross, Hunt End, Feckenham and Webheath have lower potential, with less than 25% of commutes likely to shift from cars. Overall, the data highlights significant opportunities to reduce car usage and promote healthier, more sustainable commuting options in Redditch, especially in areas with high current walking and cycling rates. This information is crucial for targeting the LCWIP to achieve the greatest impact.

Areas with high potential for active travel commuting include both urban and suburban regions. Urban areas such as Redditch Town, Abbeydale, and Matchborough have dense populations and higher rates of current walking and cycling, with some neighbourhoods experiencing higher levels of economic hardship.

Suburban areas like Batchley, Greenlands, and Church Hill South, although less densely populated, also show high potential due to existing social infrastructure and community assets. Conversely, more rural areas like Webheath and Hunt End, which are less densely populated and have lower current active travel rates, show less potential for modal shift.

Cross referencing with deprivation maps indicates that some of the areas with the highest potential for increasing active travel, such as Greenlands and Church Hill South, are also among the more deprived neighbourhoods. This suggests that improvements in active travel infrastructure could have additional social benefits, providing affordable and accessible transportation options in economically disadvantaged areas.

Table 2: Redditch LCWIP Mode shift potential

MSOA Area	Max (80%) est. walking/ wheeling commutes (0-2km)	Est. cycle commutes at Dutch investment level (%)	Est. total active travel commute potential (%)	Est. local commutes shifted from private vehicles to active travel (%)
Arrow Valley and Ipsley	14.80%	20.0%	34.8%	68.40%
Batchley and Brockhill	9.70%	16.0%	25.7%	52.60%
Church Hill South	18.00%	23.0%	41.0%	67.10%
Crabbs Cross	5.00%	12.0%	17.0%	40.90%
Greenlands	17.80%	19.0%	36.8%	58.40%
Hunt End and Feckenham (Partial)	3.60%	11.0%	14.6%	41.10%

MSOA Area	Max (80%) est. walking/ wheeling commutes (0-2km)	Est. cycle commutes at Dutch investment level (%)	Est. total active travel commute potential (%)	Est. local commutes shifted from private vehicles to active travel (%)
Matchborough and Park Farm	12.30%	21.0%	33.3%	69.10%
Oakenshaw	9.30%	16.0%	25.3%	53%
Redditch Town and Abbeydale	15.00%	20.0%	35.0%	54.10%
Riverside and Church Hill North	8%	15.0%	23.0%	55.70%
Southcrest	14.20%	16.0%	30.2%	53.30%
Webheath	4.40%	13.0%	17.4%	45%
Winyates Green	16.70%	21.0%	37.7%	66.80%

Using Propensity to Cycle Tool (PCT) for travel to school analysis

The Propensity to Cycle Tool (PCT) was used to model school journeys within the Redditch LCWIP area, offering valuable insights into the potential for increasing cycling among school children. By incorporating local demographic data and updated 2023/24 school enrolment figures, the analysis provides a comprehensive view of current travel patterns and opportunities to encourage more students to cycle instead of travelling by car. This understanding of where students live and how far they travel to school enables the LCWIP to plan more effective cycling infrastructure improvements.

The current low levels of students cycling to school in Redditch, as reflected in the data, are largely due to the technical analysis conducted by the Propensity to Cycle Tool (PCT). This tool, which uses data from 2011 National School Census, models cycling likelihood based on factors such as distance between home and school and the other route's gradient. In cases where the tool identifies longer distances or challenging terrain, it predicts lower or zero cycling levels. These findings underscore the need for targeted infrastructure improvements and supportive measures to address these barriers and encourage more students to cycle to school safely and confidently.

Key findings from the data include:

- There are 12,272 students enrolled in the Redditch LCWIP area.
- Around 30 out of every 100 students (3,632) currently travel to school by car.
- Just over 1 out of every 100 students (144) currently cycle to school.
- If cycling were made easier and safer, about 42 out of every 100 students (5,153) could potentially cycle to school.
- This could lead to a reduction of 43 out of every 100 car trips to school (1,701 car trips).

These figures underscore the importance of not only building infrastructure but also supporting it with cycling training and behaviour change initiatives to maximise usage. Full data for each school is available in **Appendix L.**

For Redditch, this data suggests several key opportunities:

Schools with High Cycling Potential:

Ipsley CE Middle School and St. Augustine's Catholic High School show significant potential for increased cycling, with 63% and 50% of students, respectively, who could switch to cycling if safer routes are provided. Encouraging students to cycle at these schools could substantially reduce the number of car journeys.

Child-Friendly Cycling Infrastructure:

Schools like Church Hill Middle School and Birchensale Middle School currently appear to have lower uptake in cycling in the PCT model, but there is considerable potential for improvement (64% and 54% could cycle). Developing safe, child-friendly cycling routes near these schools could encourage many more students to cycle.

Encouraging Cycling Uptake:

Beoley First School and Walkwood C.E. Middle School have a high percentage of students currently travelling by car (79% and 45%, respectively). Encouraging students to switch to cycling at these schools could eliminate a substantial number of car trips (by 10 and 178 trips, respectively).

The impact of these findings on route planning is illustrated in Figure 12 overleaf, which shows a PCT output for school cycling routes showing the top 30% desire lines.

Figure 12: PCT output for school cycling routes

Table 3: summarises the data used for this output, for the Top 30% cycling school trips (PCT).

Route/streets	Cycling Baseline	Cycling uptake at Government Target model level	Cycling uptake expected at Dutch model level.
Woodrow Drive	5	16	654
Green Sward Lane/ Icknield Street	22	52	644
Stonepits Lane (Hunt end)	15	21	453
Studley Road	2	10	391
Tennyson Road	12	24	388
Greenlands Drive	2	6	388
Church Green West	3	11	300
Birchfield Road	3	11	288
Evesham Road (incl. to Astwood Bank Ridgeway Middle school)	13	22	263
Wood Piece Lane	2	11	202

Site visits

Sustrans undertook several site visits to establish patterns of local usage comparative to the PCT and DataShine modelling. These site visits were particularly focused on off-road greenway routes such as Arrow Valley where the PCT model has difficulties estimating usage. Photo evidence was taken for further records.

Public engagement on emerging networks

A stakeholder and wider public engagement exercise was undertaken during 2023. This exercise sought views on an emerging LCWIP network and feedback from this has led to refinements in the network maps, including additional routes and alternative routing. The online public engagement in late 2023 received 118 responses and WCC have produced a consultation report summarising the feedback received which highlighted key themes and concerns.

Significant feedback highlighted the demand for safe, segregated cycling infrastructure away from cars and pedestrians, expressing a preference against narrow shared spaces under 3m in width. Concerns included cars parking in current and proposed cycle lanes. Safety concerns around greenway routes, specifically lighting and underpasses, were frequently raised. Accessibility for visually impaired users and integration with public transport services was also raised. Suggestions for new connections, including northwest Redditch, were frequent, and alternative routes were proposed for gradients, notably on Routes 3 and 4.

Respectful weight has been given to the feedback and requested changes made by the public and specific stakeholder groups. Over 25 specific route requests and many minor adaptions to initial proposed routes were received.

Most suggested corridor changes were agreed in some form, for example where suggestions fell inside of scope, or just outside. Some suggestions for corridor connections far outside of this scope were not included at this stage but have been noted for future LCWIP updates which will consider rural and long-distance connections.

There were minor changes to primary corridors 2, 4, 5, 6, 8 and 9 and significant changes to corridors 1 and 3. Corridor 7 remained relatively unchanged although the LCWIP has considered how this route can have improved connections to the employment areas to the west of Arrow Valley (e.g. Park Farm

and Lakeside). A new northwest corridor (10) has been added to connect Foxlydiate, Batchley, Riverside, and Church Hill North.

Appendix A has more details on the public engagement exercise including the emerging networks plans and a plan showing the specific route requests.

Identifying a route hierarchy.

The Government's LCWIP technical guidance outlines criteria for prioritising cycling routes in LCWIPs, classifying them into three categories:

Primary: Forecasting high cyclist flows along desire lines connecting large residential areas to key destinations, like town centres.

Secondary: Forecasting medium cyclist flows along desire lines linking to attractions such as schools, colleges, and employment sites.

Link: Forecasting lower cyclist flows along desire lines catering to local trips, often serving as links to primary or secondary routes.

The prioritisation process (chapter 5) will include consideration of Secondary and Link routes as some smaller routes are likely to score highly for estimated usage or utility to the wider network.

The Proposed Redditch LCWIP Cycle Network.

Completing the previous steps in the LCWIP process has resulted in the identification of a Redditch LCWIP cycling network consisting of 10 primary routes, 11 secondary routes and 12 link routes (see Tables 4-6 and Figures 13-16). As part of the commitment to making active travel accessible to everyone, all cycling corridors will include corridor-wide improvements for walking and wheeling where possible.

Table 4: Redditch LCWIP cycling network Primary routes

Route Ref.	Origin	Destination	Length
P1	Birchfield Road (Webheath)	Abbey Stadium (via town centre).	3.71 km
P2	Foxlydiate (Birchfield Road)	Headless Cross (Plymouth Close)	2.95km
P3	Crabbs Cross Island	Town centre (Unicorn Hill)	3.46km
P4	Morton Stanley Park (Green	Studley Road (via Greenlands)	4.61km
P5	Greenlands (Studley Road)	Arrow Vale High school and Matchborough Centre	2.01km
P6	Woodrow (Studley Island)	Town centre (Church Green West)	8.15km
P7	Abbeydale (Dolphin Road)	Washford (via Arrow Valley Country Park)	4.80km
P8	Lakeside (Studley Road)	Mappleborough Green	4.32km
P9	Alexandra Hospital	Town centre (Church Green East)	5.01km
P10	Foxlydiate (Monks Path)	Church Hill North (Tanhouse Lane)	6.76km

Table 5: Redditch LCWIP cycling network Secondary routes

Route Ref.	Origin	Destination	Length
S1	Birchfield Road	Bromsgrove Road (via Muskett's Way)	1.18km
S2	Foxlydiate Lane	Crabbs Cross Island (via Callow Hill)	5.16km
S3	Dagtail End	Walkwood	2.10km
S4	Crabbs Cross Island	Alexandra Hospital	1.80km
S5	Alexandra Hospital	Town centre (Ipsley Street)	4.14km
S6	Plymouth Road	Lodge Park (Studley Road)	2.12km
S7	Bromsgrove Road	Bromsgrove Road (town centre)	2.33km
S8	Easemore Road	Weights Lane	1.39km
S9	Tenacres First school	Church Hill Way	3.60km
S10	Washford Industrial Estate	Moons Moat Industrial Estate	4.06km
S11	Alexandra Hospital	Studley	0.20km

Table 6: Redditch LCWIP- cycling network Link Routes

Route Ref.	Origin	Destination	Length
L1	Evesham Rd	Birchfield Road	1.6km
L2	Middle Piece Drive	Morton Stanley Park (Windmill Drive)	1.4km
L3	Birchfield Road	Church Road (Webheath)	0.8km
L4	Bromsgrove Road	Britten Street (via Redditch United Football Club)	0.6km
L5	Foxlydiate (Monks Path)	Batchley Shops	1.3km
L6	Battens Drive subway	Winyates Way	0.4km
L7	Church Hill Way	Beoley and Holt End	1.2km
L8	Seven acres Lane	Battens Drive (Blacksoils Brook)	1.1km
L9	Church Hill Way	Stoke Lane	1.4km
L10	Arrow Valley Country Park	Winyates Way (Roman Way First school)	1.65km
L11	Arrow Valley (Millers Trail)	Papermill Weir	0.2km
L12	Dagtail Lane	Astwood Bank (Ridgeway school)	2.32km

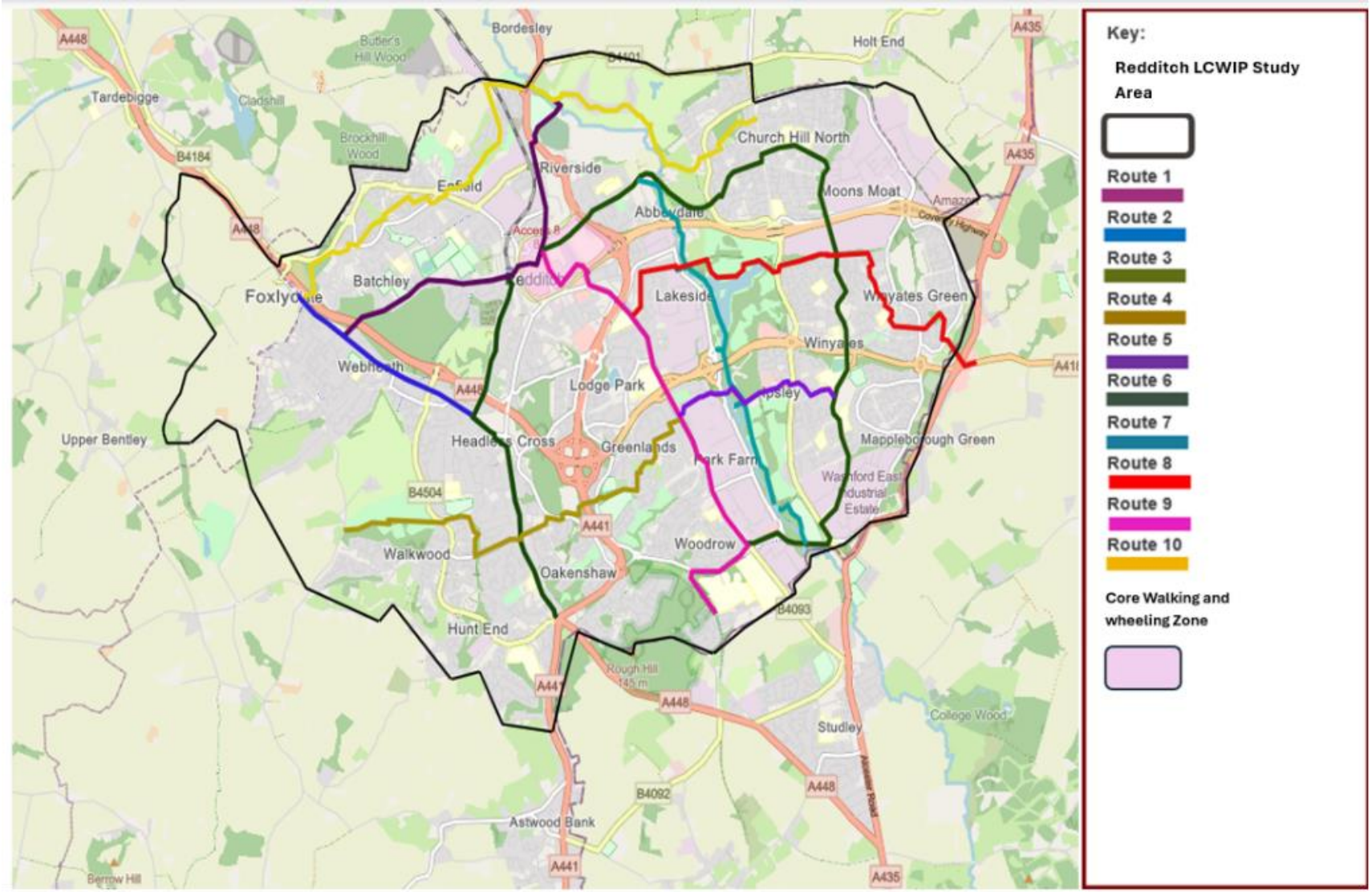


Figure 13: Redditch LCWIP Cycling network (Primary routes)

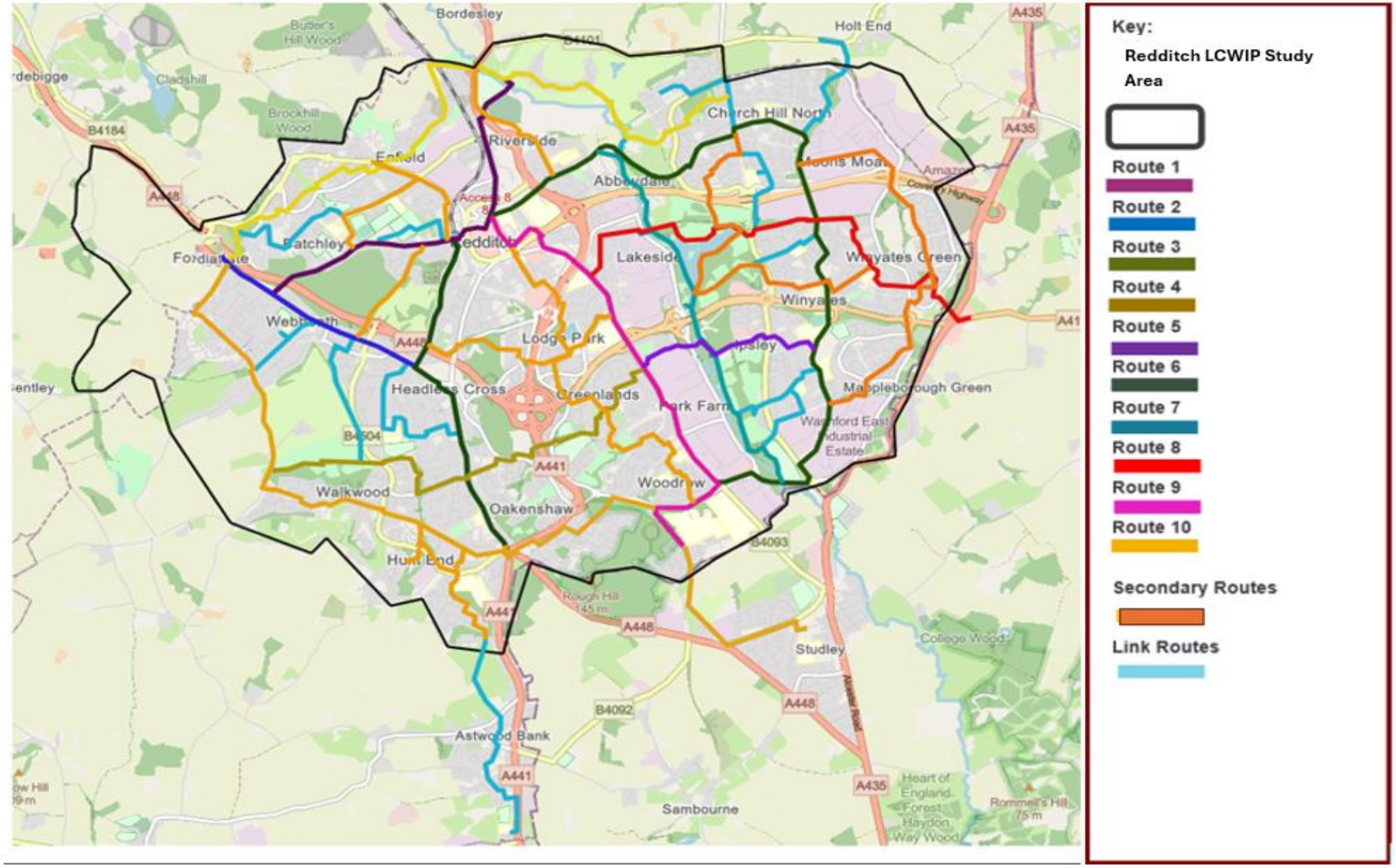


Figure 14: Redditch LCWIP Cycling network (All routes)

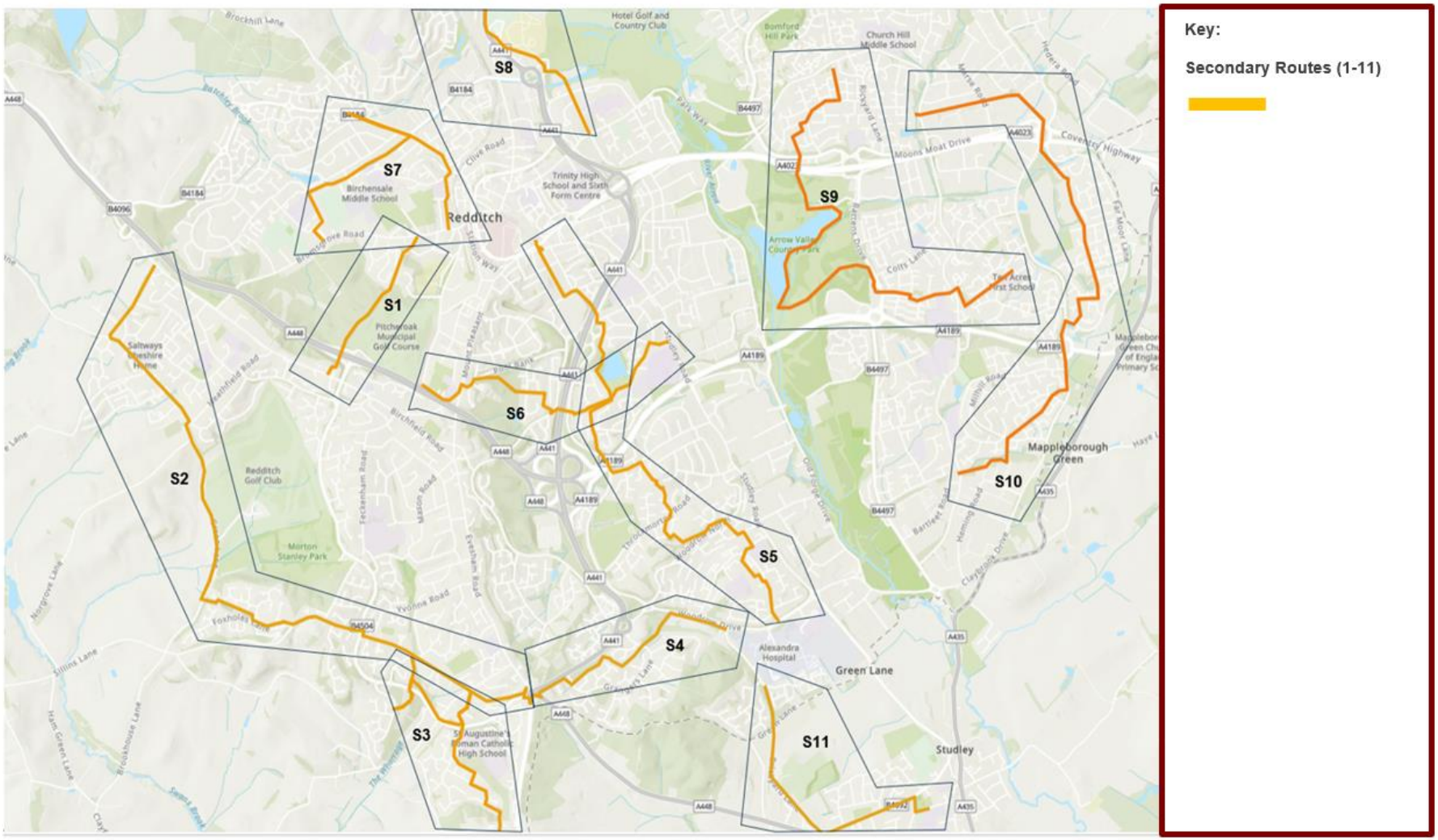


Figure 15: Redditch LCWIP cycling network (Secondary routes only)

Figure 16: Redditch LCWIP cycling network (Link routes only)

Cycle Route Design Principles

Cycling routes were assessed using desktop and on-site audits to help identify what measures could be implemented to improve active travel provision. The audit involved completing on-site surveys, cycling each corridor in both directions, and assessing high-level feasibility. If a corridor or segment of corridor was deemed as not being possible to improve to an acceptable standard, the next most direct corridor or alternative solution was assessed. The criteria that have been used for assessing potential cycle routes is informed by the LCWIP technical guidance:

- A coherent network with a consistent route quality which is easy to navigate.
- A direct and fast route between origins and destinations.
- A network that is through an environment that feels safe and removes conflict with motor vehicles.
- A network that is smooth and comfortable to ride.
- An attractive network that makes cycling a pleasurable activity.

Active Travel England have developed the 2024 ATE Route Check Tool and this Redditch LCWIP follows the design principles set out by ATE.

Types of active travel improvements

This first Redditch LCWIP looks to enhance existing and define new active travel routes with a strong focus on:

Safety	**Accessibility**	**Comfort**
Attractiveness	**Cohesion**	**Social Activity**
Character and Legibility	**Directness**	**Personal Security**

- Lightly segregated routes
- Delineated shared use paths
- Quietways

As part of the commitment to making active travel accessible to everyone, all cycling corridors will include corridor-wide improvements for walking and wheeling where possible. Figure 17: shows the type of interventions that are being considered informed by the guidance set out in LTN 1/20.

Figure 17: Potential cycling and pedestrian infrastructure interventions considered in line with LTN 1/20.

Low-level rainwater garden

Pocket park

Segregated one-way cycleway

Side road entry treatment/raised table, with cycle crossing

Dutch-style entrance kerbs

Bi-directional cycleway

On-carriageway cycling

Cycle signals

Advanced stop lines

Parallel crossing

New intervention approaches such as zebra crossings on side road junctions and improvements to accessibility for bus stop borders are being trialled in the West Midlands Combined Authority. WCC is awaiting the outcomes of these trials to consider how they can best be integrated into future LCWIP plans. Similarly, where major interventions such as CYCLOPS (Cyclist Optimised Signal Intersection junctions) are being developed by other local authorities the results will be considered for potential future schemes.

Proposed interventions aim to meet LTN 1/20 where possible and to ensure that corridors are useable for all. This includes the safety of pedestrians, cyclists, and equestrians, as well as accessibility for all disabled users, in line with Wheels for Wellbeing standards. It is also important to consider how the LCWIP process and future schemes can strengthen the connection between people and the places they share and so placemaking has been considered in line with the ATE Route Check Toolkit and Healthy Streets guidance. Key to the design of future active travel schemes will also be engagement with local residents and stakeholders.

Area wide improvement measures

In addition to specific route improvements proposed in this Redditch LCWIP, it is recommended that area wide interventions are considered to include:

- **Equitable accessibility** for disabled users through tactiles, physical barrier removal, Dutch entry kerbs, and accessible wayfinding and legibility. This is in line with Inclusive Mobility Guidance and best practice from Wheels for Wellbeing, Transport for All, and Sustrans.

- **New or improved wayfinding provision** for key destinations e.g. local schools, employment hubs, transport interchanges, leisure areas, green spaces, and points of interest.

- **Footway and pedestrian provision** with a 1.5m minimum walking/ wheeling space and an aim for 2.5m for pedestrians where possible. Interventions to discourage pavement parking and changes to crossings to give pedestrian priority to vulnerable users.

- **Traffic calming and speed reduction** on corridors where cyclists are mixing with traffic or only lightly segregated on LCWIP corridors or outside schools.

- **Benches with mobility aid parking** where practical at relevant stopping points such as bus stops and green spaces to increase mobility for vulnerable users, and cycle safety.

- **Ecology Enhancement** ensuring that any route improvements that green space, have funding allocated to provide alternative local ecological and biodiversity improvements.

Ecology considerations

Figure 18: Redditch LCWIP - key ecological constraints and opportunities

For this draft Redditch LCWIP, Sustrans have undertaken desk-based ecological assessments to identify important ecological constraints and opportunities in relation to the LCWIP cycling route proposals. Figure 18 shows key ecological considerations and **Appendix F** has more details on the initial desk-based assessment undertaken.

Stage 4: Network Plan for Walking and Wheeling

LCWIP technical guidance outlines the methodological steps to develop a walking and wheeling infrastructure improvement network as the image below:

For this first Redditch LCWIP, we have deviated from the standard LCWIP technical guidance by focusing on developing a single core walking and wheeling zone within Redditch town centre, instead of identifying multiple zones. This core zone includes 8 primary routes, which are the main pedestrian corridors. Rather than formally classifying additional routes as secondary or link routes, the remaining walking and wheeling routes within the town centre are covered by area-wide measures. These measures ensure that walking and wheeling provision is improved holistically, without the need for formal route classifications outside of the primary routes.

Public engagement in late 2023 highlighted the need for walking routes to be considered in the local District centres across Redditch. While these routes have not been formally established in this first LCWIP, many are integrated into the cycling route proposals, with walking interventions included in the schemes. This approach allows us to address walking and wheeling needs across the broader area while focusing immediate efforts on Redditch town centre. It is likely that future active travel plans will consider provision for the local District centres and extend beyond the study area of this LCWIP.

Appendix E has more details on the public engagement from late 2023 including a review of the feedback received.

Redditch LCWIP Walking and Wheeling Network

Completing the previous steps in the LCWIP process has resulted in the identification of a town centre walking and wheeling network consisting of the core town centre walking and wheeling zone and 8 routes (see Table 7 and Figure 19).

The 8 routes have been assessed during site visits and using the Healthy Streets Assessment Toolkit, a toolkit which is supported by Active Travel England. The Healthy Streets Tool established a baseline score and allowed for interventions to be considered to raise the score, based on the 10 criteria, scored out of 100 (see Table 8 and Figure 20).

Potential interventions included in this LCWIP for walking and wheeling include improvements to lighting, traffic calming and speed reduction, cycle parking, wayfinding, seating improvements, bus stop improvements, parking management reviews, and green infrastructure, including spaces for young people to play.

Table 7: Redditch LCWIP Town Centre Walking and Wheeling Routes

Reference	Route	Length (Km)
CWZR1	Hemmings Entry, Clive Road, Hewell Road	0.97
CWZR2	Church Green West, Prospect Hill, Birmingham Road	0.51
CWZR3	Easemore Road	0.7
CWZR4	Grove Street, Other Road	0.64
CWZR5	Ipsley Street, Station Way	0.51
CWZR6	Evesham Street, Evesham Walk, Station Way,	0.45
CWZR7	Unicorn Hill, Bromsgrove Road	0.8
CWZR8	Alcester Street, Market Place	0.4

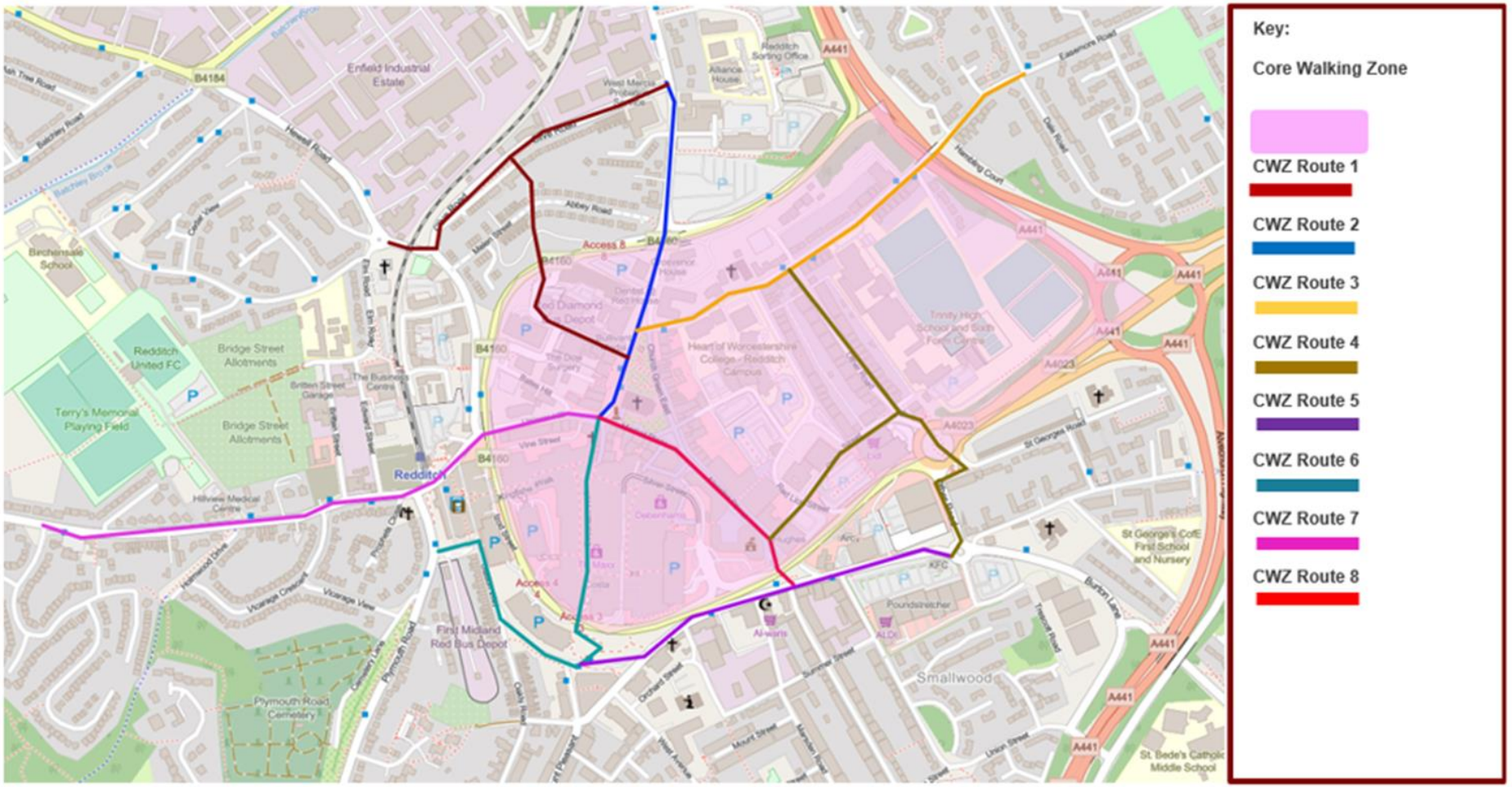


Figure 19: Redditch LCWIP Town Centre Walking & Wheeling Network

Table 8: Healthy Streets score for each of the proposed Core Walking and Wheeling Zone routes

CWZ Route Ref.	Everyone feels welcome	Easy to cross	Shade and shelter	Places to stop and rest	Not too noisy	People chose to walk and cycle	People feel safe	Things to see and do	People feel relaxed	Clean air	Base score
CWZR1	31	29	67	0	53	31	31	56	31	50	38
CWZR2	24	13	67	0	20	24	18	56	24	17	26
CWZR3	20	17	33	0	27	20	21	22	20	25	21
CWZR4	23	13	50	13	20	23	15	44	23	25	25
CWZR5	25	8	50	13	27	25	21	44	25	8	25
CWZR6	67	58	100	60	60	67	69	67	67	58	67
CWZR7	24	17	33	0	33	24	21	44	24	33	25
CWZR8	91	100	33	75	100	91	100	78	91	100	86

Figure 20: Redditch LCWIP Town Centre walking and wheeling network- Healthy Streets Audit

Stage 5 Costing and Prioritisation

The LCWIP technical guidance provides a framework for prioritising improvements based on effectiveness, cost, and deliverability. To inform this process, indicative costings for the LCWIP network have been developed. The indicative costings along with a range of qualitative criteria, including Value for Money (VfM), have then been used to create a prioritised list of schemes. The prioritised list of schemes has informed the development of a 15-year delivery programme set out in the last chapter (Stage 6).

Indicative costs (Redditch LCWIP cycling network)

The indicative costings have been developed using a combination of Sustrans 2023 Paths for Everyone Cost calculator and local case studies. All indicative costings are subject to detailed feasibility studies and local engagement.

To develop the indicative costs (and help inform the VfM calculations), an initial route assessment has been undertaken to identify interventions along each of the proposed cycling routes. This assessment will inform the detailed design process as the LCWIP develops. To develop the costings for the primary cycling routes, the routes have been split into segments to reflect the type of intervention proposed e.g. delineated shared-use path or light segregation (see **Appendix G**). Table 9 sets out indicative costs for the primary route network (£44m) and Table 10 sets out indicative costs for the secondary and link routes (£27m).

Table 9: Indicative Costs (Redditch LCWIP cycling network – primary routes)

Type of improvement	Cost (£m)	Percentage of total proposed costs
Corridor building (including ecology and lighting)	27.1	61.93%
Crossings, walking improvements and underpasses	10.45	23.88%
Major interventions (bridges and roundabouts)	5.25	11.99%
Speed reduction, parking, bus stops and modal filters/ school streets	0.972	2.22%
Area wide measures (cycle parking, benches, and wayfinding)	1.8	4.11%
Total	**43.76**	

Additional cost factors will need to be considered as schemes come forward:

- Ancillary costs such as drainage and contractor preliminaries can be as much as an additional 30% on top of capital costs.
- Staffing costs can be as much as an additional 25%.
- As the costings are indicative, an optimism bias of 32.5% should be applied in line with Government Treasury Green Book best practice.
- Biodiversity Net Gain (BNG)

A more detailed breakdown of indicative costs is set out in **Appendix G.**

Table 10: Indicative Costs (Redditch LCWIP cycling network -secondary and link routes)

Type of improvement	Cost (£m)	Percentage of total proposed costs
Corridor building (including ecology and lighting)	16.05	61.3%
Crossings, walking improvements and underpasses	8.63	32.1%
Major interventions (bridges and roundabouts)	1.0	3.9%
Speed reduction, parking, bus stops and modal filters/ school streets	0.06	0.3%
Area wide measures	1.58	6.3%
Total	**27.32**	

Indicative costs (Redditch LCWIP walking and wheeling network)

Table 11 sets out indicative costs for the walking and wheeling network (£5.2m) and a more detailed breakdown of indicative costs is set out in **Appendix H** The indicative costings have been developed using a combination of Sustrans 2023 Paths for Everyone Cost calculator and local case studies. All indicative costings are subject to detailed feasibility studies and local engagement. As with the costings developed for the Redditch LCWIP cycling network, the following assumptions have been made for the walking and cycling network:

- Ancillary costs such as drainage and contractor preliminaries can be as much as an additional 30% on top of capital costs.
- Staffing costs can be as much as an additional 25%.
- As the costings are indicative, an optimism bias of 32.5% should be applied in line with Government Treasury Green Book best practice.

Table 11: Indicative Costs (Redditch LCWIP walking and wheeling network)

Type of improvement	Cost (£M)	Percentage of budget
Footway resurfacing	1.77	34.04%
Crossings, walking improvements and underpasses	1.3	25.0%
Speed reduction, parking management, bus stops and modal filters.	0.1	1.92%
Area Wide Measures (including minor streets in the CWZ)	2.03	39.04%
Total	**5.2**	

Prioritisation

To help inform the prioritisation process, the LCWIP network (cycling and walking/wheeling routes) have been assessed against 11 quality criteria as shown in Figure 21.

Figure 21: Redditch LCWIP - quality criteria

The cycling routes were given a score of 0–3 for each of the quality criteria with higher scores indicating where infrastructure improvements are likely to provide the greatest benefits. Individual primary cycling route segments were scored separately to account for the different interventions proposed for each part of the corridor. Schemes were then prioritised based on their overall score out of 33, categorised as:

- Low: 7 - 13
- Medium: 14 - 20
- High: 21 - 27
- Very High: 28 – 33

A summary of the segment scores can be found in Table 12 overleaf. Routes which indicate the most potential from our prioritisation criteria, include primary routes 1, 9 and 6, with route 3 also scoring well overall; secondary routes 5-10 and link routes 8 and 10 also score high against the quality criteria.

Table 12: Redditch LCWIP – summary of prioritisation scores

Score Category	Segments in this score category
Very High	1C, 9B, 9C, S7.
High	1B,1D, 3C, 6A, 6C, 6D,6E, 6F, 6G, 6I, 8A, 9A, 10A, S5, S6, S7, S8, S9, S10, L8, L10.
Medium	1A, 2A, 2B, 2C, 3A, 3B, 4C, 4D, 5A, 5B, 5D, 6B, 6H, 7, 8B, 8C, 10B, S2, S3, S4, L1, L3. L5, L6, L9, L11.
Low	4A, 4B, 5C, 10C, S1, S11, L2, L4, L7, L12.

Value for Money Process

A key element of the prioritisation process is assessing the value for money (VfM) for each route. The VfM was assessed using the Department for Transport's Active Mode Appraisal Toolkit (AMAT) with calculations based on evidence developed through the CFUT (Cycle and Foot Uplift Tool). The AMAT tool was used to assess:

- **Before Intervention Cycling Trips** - for corridor schemes, the number of cycling trips that would occur without the new scheme was determined using the Propensity to Cycle Tool (PCT). This tool utilizes data from the 2011 Census to indicate how many people cycle to work on each route. When multiple options were available for a scheme, the one with the highest number of trips was selected for the AMAT.
- **Walking and Wheeling Trip** - to estimate the number of walking and wheeling trips that would occur without the new scheme, the DataShine Tool was used, which displays travel-to-work data from the 2011 Census. This tool only accounts for work-related trips, which constituted 7.08% of all walking and wheeling trips in 2018. Therefore, the actual number of expected walking trips should be considered significantly higher.
- **After Intervention -** to assess the benefits of the new schemes, the number of additional cycling, walking, and wheeling trips likely to result from the changes was estimated using the Active Travel England Uplifts Tool. This tool calculates potential increases in trips based on factors such as the scheme's cost and the effectiveness of similar past projects, drawing on pre-COVID data and studies of about 200 projects. Each scheme was evaluated by entering details such as the scheme name, local authority, total cost, trips before the scheme, and costs for various parts of the infrastructure. The AMAT primarily relied on the middle estimate, considering local cycling and walking potential and car ownership.

The VfM assessment process provides a measurable score for each route or segment in form of a benefit-cost ratio (BCR). A BCR above 1 indicates that each pound spent is expected to generate more than a pound's worth of benefits. The table 13 overleaf shows how the Department for Transport categorises value for money.

Table 13: Shows the Department for Transport categorises to value money

VfM Category	Implied by
Very High	BCR greater than or equal to 4
High	BCR between 2 and 4
Medium	BCR between 1.5 and 2
Low	BCR between 1 and 1.5

Poor	BCR between 0 and 1
Very Poor	BCR less than or equal to 0

Value for Money Assessment (Benefit-Cost-Ratio BCR)

For this Redditch LCWIP, most routes have a BCR between 2 and 4, meaning they offer good value for money. It is worth noting that this accounts only for commuting and in the case of cycling, school journeys. Many more trips will be made for leisure purposes, including those by equestrians. The highest scoring cycle routes include:

Route 9: Connecting Alexandra Hospital to Church Green East, this route has one of the highest BCRs, with Segment P9.A scoring 3.79.

Route 7: The Arrow Valley route from Abbeydale to Washford scored 3.19, showing it is a strong investment.

The AMAT analysis shows that most of the proposed cycling and walking and wheeling routes in Redditch offer good to excellent value for money, often due to the combination of cycling and walking and wheeling interventions. Only 2 segments of the primary cycle routes scored below 2, and these were small sections of route 6, the longest route of the plan.

Secondary routes generally scored between 2-3, although link routes had greater variance and several scored below a 2 but still high enough to justify inclusion in the LCWIP network. The Redditch Town centre core walking zone scored very high (4.99) with a potential fourfold increase in walking trip if proposed interventions are delivered. Table 14 is a summary of the VfM scores, and **Appendix J** has a more detailed breakdown of VfM scores.

Table 14: Summary of the VfM scores, *S11 route sits mostly in Warwickshire

VfM Category	Routes/Segments in this score category
Very High	S11*, Core Walking and Wheeling Zone.
High	1, 2, 3, 4, 5, 6 (B, C, E-I), 7, 8, 9, 10, S1, S3-10, L1, L6 -L11.
Medium	6 (A, D), S2, L2, L3, L4, L5. L12
Low	None
Poor	None
Very Poor	None

Redditch LCWIP Priority Routes (Cycling)

The active travel network set out in this Redditch LCWIP is extensive and improvement to any of the proposed routes and links is considered to be worthwhile to promote active travel and create a better network. The prioritisation process has, however, allowed for key routes and links to be identified which will help inform future planning and bids for funding. These priority routes are:

1. **Primary route 9 (Alexandra Hospital to Redditch Town Centre via Studley Road)** scored highest with prioritisation scores of 29/33 for segments 9B and 9C. The AMAT score of 3.79 for segment 9A highlights significant potential for increasing active travel.

2. **Primary route 1 (Webheath to Abbey Stadium via Bromsgrove Road)** ranked highly, with segment 1C scoring 28/33. Most of this route is already on the National Cycle Network (NCN) and has strategic importance by connecting large residential areas to the town centre and onward toward the Abbey Stadium and Bordesley.

3. **Primary route 6 (Studley Road Island to Redditch Town Centre via busways)** is the longest route and scored 27/33 for segment 6A, making it a crucial link between multiple neighbourhoods. Despite some lower-scoring sections, it has significant potential for increasing active travel.

4. **Primary route 7 (Arrow Valley from Abbeydale to Washford)**, with an AMAT score of 3.19, this route demonstrates strong value-for-money and as it is mostly off the highway has potential for delivery in a shorter period.

5. **Primary route 3 (Crabbs Cross Island to Redditch Town Centre)** scored between 17 and 23/33 and will play a critical role in improving access to the town centre including the bus and railway stations from the south-west of Redditch.

Secondary and Link Routes:

In addition to the primary routes, secondary routes S7, S5, and link routes L10, L5, and L11 were also selected for prioritisation based on their strong scores and strategic importance:

1. **S7 (Batchley and Enfield Loop)** scored 28/33 with an AMAT score of 2.08, placing it as the top secondary route. Located in a large residential area it has potential to improve everyday mobility and improves links to primary cycle routes.

2. **S5 (Woodrow to Redditch Town Centre)** scored 27/33 and had an AMAT value of 2.56. It connects residential areas to the town centre and offers strong value-for-money.

3. **L10 (Ipsley Brook Loop)**, with a prioritisation score of 23/33 and an AMAT score of 3.09, provides vital connections to schools and community facilities.

4. **L5 (Batchley Estate)** scored 20/33 and connects important residential areas. While its AMAT score (1.62) is lower, its role in enhancing local mobility makes it a priority.

5. **L11 (Papermill Farm extension to Corridor 7)**, although scoring 14/33, is a key extension to primary route 7, with an AMAT score of 2.26, further improving local connectivity.

Redditch LCWIP Priority Routes (Walking and wheeling)

The Redditch town centre core walking and wheeling zone is prioritised as a cohesive package, rather than by individual routes, due to its critical role in enhancing pedestrian safety and accessibility. This integrated approach ensures comprehensive improvements across the zone, necessary for increasing active travel, reducing congestion, and improving air quality. The indicative costs, comparable to a primary cycle route, reflects the scale of interventions such as footway resurfacing, crossings, and

area-wide measures. With a high BCR score of 4.99, there is a significant potential for increasing walking trips and justifying its inclusion as a key element in the short-term delivery programme.

Stage 6 Integration and Application

Indicative Redditch LCWIP Delivery Programme

Following the costing and prioritisation process (Stage 5) an indicative 15-year Redditch LCWIP Delivery Programme has been developed for the period 2025-2040. To help inform the delivery programme the quality criteria for routes and segments was given a weighting of 70%, and the VfM (AMAT) element a weighting of 30%.

Table 15 is a summarised delivery programme showing the number and type of routes that could be delivered in each of the 5-year programme phases. The programme phases are categorised as short term (0-5 years), medium term (5-10 years) and long term (10-15 years) periods. **Appendix K** has a more detailed programme identifying the individual routes and segments which could be delivered in each programme phase.

Table 15 Redditch LCWIP – Indicative delivery programme summary

Programme Phase	No. Primary routes	No. Secondary Routes	No. Link routes	Indicative cost
Short Term (2025-30)	3 + Core Walking Zone	2	2	**£23.50m**
Medium Term (2030-35)	4	2	2	**£26.93m**
Long Term (2035-2040)	3	4	0	**£16.51m**
Links to schools 0-15 years	0	1	4	**£4.21m**
Beyond 15 years (2040+)	0	2 (S1, S11*)	3 (L2, L4, L7)	**£1.87m**

The indicative programme will need to be reviewed as the LCWIP process develops and will be subject to detailed design, feasibility and local engagement. The route assessments undertaken to inform the indicative costings will be a key source of information for the ongoing review of this delivery programme.

Secondary and Link routes have been included in this indicative delivery programme where there are important linkages to primary routes. Five ‘Links to school’ routes have been included to allow for

separate consideration of school journeys. Two secondary and three link routes that have a relatively low score are included for potential delivery beyond the 15-year programme period. It is intended that the area-wide interventions (Chapter 3) should be delivered alongside the proposed schemes.

Embedding and integration with policies, strategies, and plans

On completion of this initial process to develop the first LCWIP for Redditch, it is expected that the LCWIP will be a key document to inform complementary plans including:

- Worcestershire's refreshed Local Transport Plan – this will be an opportunity to integrate the active travel proposals in the pipeline of projects and for future funding opportunities.
- WCC streetscape Design Guide - this recognises that "streets have a wider role to play in creating a sense of place and community."
- Public Rights of Way Improvement Plan (ROWIP) – embedding the LCWIP in future public rights of ways plans will help connect our LCWIP cycling and walking networks in our urban and suburban spaces to the wider PROW network and rural settlements.
- Redditch Borough Council refreshed Local Plan – the LCWIP will be a key source of information for active travel when RBC is updating their local plans.

Cross-boundary integration and collaborating with neighbouring authorities LCWIP integration

Each LCWIP will have its own priority list of schemes. It is crucial to manage the prioritisation of individual schemes across Worcestershire as the number of published LCWIPs increases. This approach ensures the delivery of the most beneficial schemes without favouring any area over the rest of the County.

Prioritisation will focus on:

- The criteria set out by the Government for any funding opportunities administered by departments such as the DfT, Active Travel England, or the Department for Levelling Up, Housing and Communities.
- Planning applications for housing and employment development sites, and the potential for developer funding or delivery of schemes.
- The criteria associated with any other local funding opportunities, such as those available through neighbouring planning and transport authorities.

The planning process

Worcestershire County Council (WCC) will collaborate closely with Borough and District Councils to deliver the proposed LCWIP priority schemes, primarily through the existing planning process. Engagement with Redditch Borough Council has been a key part of developing this LCWIP. When Borough and District Councils are developing or updating their local plans, proposals to allocate sites for housing and employment will be reviewed against the priority schemes outlined in the relevant LCWIP(s). If a site is identified as potentially being served by a corridor on the LCWIP network, WCC will work with District Councils to ensure that the need for developer contributions is appropriately recorded in the Local Plan.

As a statutory consultee for planning applications, WCC will carefully review all planning applications received to determine whether they are likely to affect or be affected by an LCWIP priority scheme. Where appropriate, planning obligations, such as Section 106 contributions, will be sought as a condition of planning permission.

Behaviour changes and community engagement programs

The key aim of behaviour change interventions is to foster a culture shift across the county by adopting a life-cycle approach that begins with children and encompasses all residents, regardless of age or background. This approach seeks to reduce single-occupancy car use and establish Worcestershire as a county where cycling, walking, and wheeling are safe, accessible, and obvious choices for short journeys, as well as a natural part of longer journeys.

Examples of effective collaboration with neighbouring local authorities and the types of programs that will support the use of infrastructure delivered through LCWIPs include:

- Bike ability
- Worcestershire Health Walks
- School Streets

Cycling, walking, and wheeling – Worcestershire's Active Travel Stakeholder Group

Another method of engaging with communities, local advocacy groups, and other stakeholders involved in active travel in Worcestershire is through the Active Travel Stakeholder Group. This forum meets quarterly with a varied agenda, providing updates on ongoing initiatives and ensuring that all participants have a voice in improving efforts to support active travel across all communities.

E-bikes and bike share

Opportunities are being explored in the county to establish e-bike and bike share programs in urban conurbations, similar to those offered across the West Midlands Combined Authority. If successful, this program would aim to:

- Support the local economy by improving access to new and existing employment, education, and training.
- Actively promote increased levels of physical activity through walking and cycling, Including gender equality in active travel.
- Provide effective solutions to issues of poor air quality and carbon emissions.
- Reduce traffic congestion by offering people alternative travel options.
- Increase awareness of e-bikes among a broader range of groups, including those who do not regularly cycle, such as older adults, people with disabilities or health issues, women, individuals on lower incomes, and certain ethnic minority groups.
- Support a shift from private vehicle use to more sustainable modes of transportation.
- Provide an opportunity to explore outcomes and impacts that could inform the development of the national e-bike support program.

Opportunities should also be explored to offer access to cycles, including adapted cycles on a loan basis or through cycle giveaways for households who cannot afford to purchase their own cycle.

Funding Opportunities

Government has been clear that it expects LCWIPs to form the basis of any bids for funding under the cycling and walking investment programme. Government funding will be administered primarily through Active Travel England (ATE) who already work with Worcestershire and other local authorities on active travel, and they are members of Worcestershire's Active Travel Stakeholder Group.

Developing the LCWIP does not mean that all LCWIP schemes will receive funding from Government, or that the cycling and walking investment programme will be the only available source of funding for LCWIP schemes. Worcestershire County Council continue to work to identify potential Government and non-Government sources of funding to develop and deliver the LCWIPs, including partners such as

Redditch Borough Council, National Highways, Sustrans and Canal and Rivers Trust. Funding from new developments can include the Community Infrastructure Levy towards health, transport, or education infrastructure to help mitigate the impacts of new developments.

Future engagement

There will be a public engagement on this draft LCWIP report in late 2024 and there will be ongoing proactive engagement with partners, stakeholders and residents as LCWIP schemes are developed and implemented. Ongoing engagement will be a key part of ensuring the LCWIP continues to meet the needs of Redditch communities, encouraging and enabling them to travel actively.

Guidance on the development of LCWIPs suggests that they should be regularly reviewed and updated to reflect progress made. This is particularly the case, if there are any significant changes in local circumstances, such as the publication of new policies or strategies and as walking and cycling networks mature and expand.

Monitoring and Evaluation

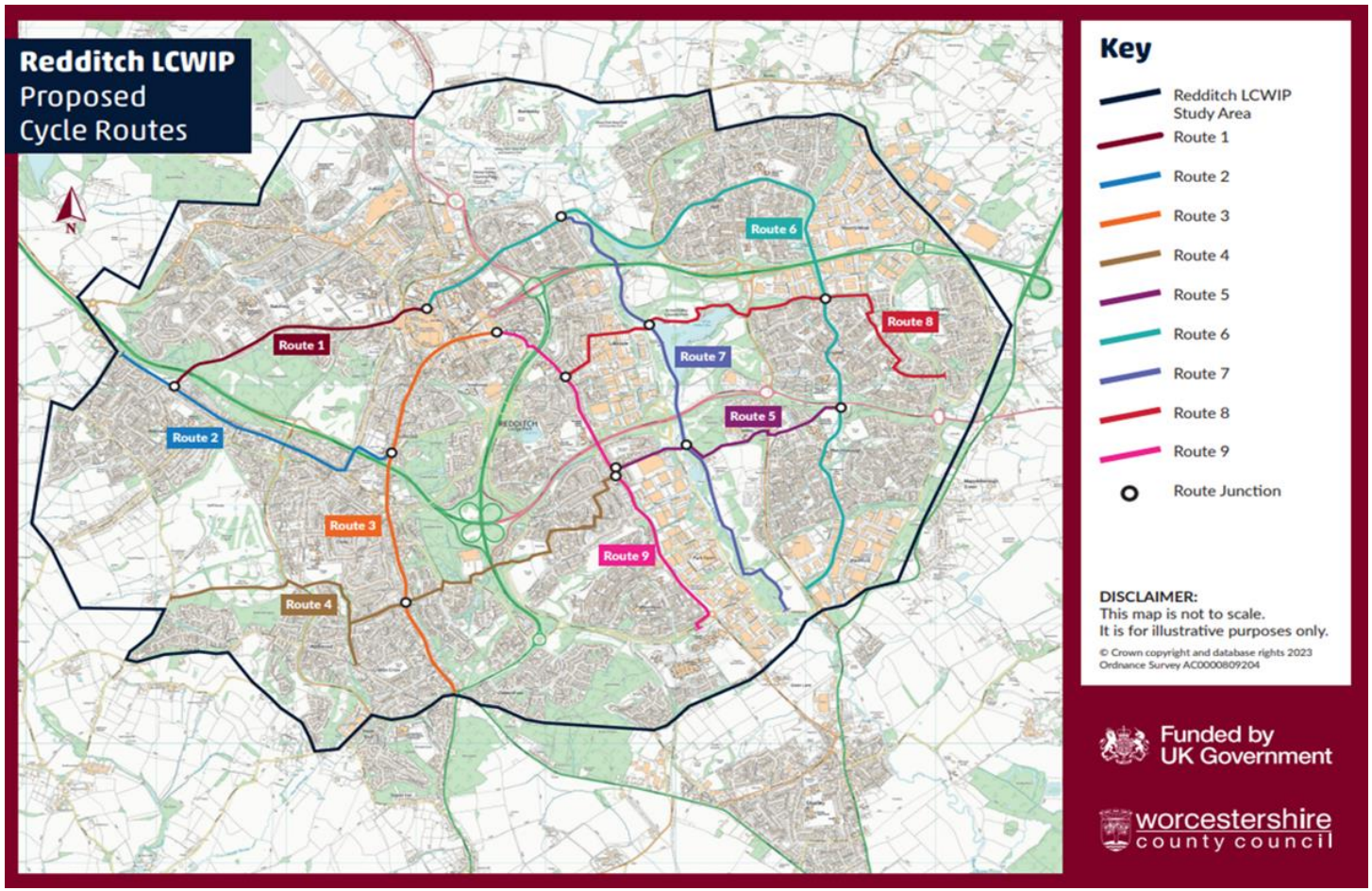
In addition to reviewing the LCWIP itself, there will also be a need to monitor progress on the key aim of increasing journeys by active travel. Worcestershire currently has a small network of traffic and active travel counters in Redditch but as the LCWIP develops additional counters and surveys will be considered to assist with LCWIP monitoring and evaluation.

Technical Glossary

Term	**Definition**
Active Mode Appraisal Toolkit (AMAT)	A Department for Transport tool used to assess the potential benefits and costs of cycling and walking schemes, including value-for-money assessments through Benefit-Cost Ratios (BCR).
ATE Route Check Tool	The route check tool appraises streets, paths and junctions against a series of metrics relating to the design principles of safety, accessibility, comfort, attractiveness, directness and cohesion
Benefit-Cost Ratio (BCR)	A ratio that compares the benefits of a project to its costs, used to assess value for money. BCR above 1 indicates that benefits outweigh costs.
Greenway	A shared-use path typically located in natural settings, often designed to accommodate walkers, cyclists, and equestrians in rural or semi-urban areas
Green Book Costing	Refers to the UK Treasury's guidance on project evaluation, including the application of a 32.5% optimism bias to cost estimates in transport projects.
Healthy Streets Assessment	A framework used to evaluate how well streets support health, safety, and wellbeing by measuring indicators like traffic levels, pedestrian facilities, and air quality.
Light segregation	A form of cycle lane segregation that uses physical measures such as wands, planters, or bollards to separate cyclists from motor traffic
Output Areas (Middle and Lower)	Census boundaries that create small areas used for statistical purposes, often used to assess deprivation levels, travel patterns, and population characteristics.

Term	Definition
Modal Filter	A modal filter is any measure, at a single point on the carriageway/footway, which allows the passage of some modes of transport but not others.
Parallel Crossing	A pedestrian crossing with an adjacent cycle crossing, enabling both pedestrians and cyclists to cross a road together but in separate spaces.
Propensity to Cycle Tool (PCT)	A tool that uses data to forecast the potential for increased cycling under different scenarios, including targets set by the Government and models based on Dutch cycling levels.
Public Rights of Way Improvement Plan	A local plan designed to improve access to footpaths, bridleways, and other rights of way for pedestrians, cyclists, and equestrians, aligning with broader active travel strategies like LCWIPs.
Quietway	Low-traffic routes designed to provide a safe and quiet environment for cyclists and pedestrians, usually involving minimal infrastructure changes but potentially including signage, traffic calming, and surface improvements.
Shared-Use Path	A path designed for cycling and walking/wheeling, often used in areas with limited space or lower footfall. Shared-use paths may be delineated for each user group or undivided.
Side Road Treatment	A method of road design, such as a raised crossing or narrowing, to slow down vehicles and make side roads safer for pedestrians and cyclists
Tactile Paving	A surface feature detectable by touch, commonly used to assist visually impaired pedestrians at crossing points, public transport stops, and along key walking routes.
Wayfinding	Signs and markings designed to guide people through active travel routes, often including directions to key destinations and distances
Wheels for Wellbeing Standards	Inclusive cycling guidance focused on improving accessibility and ensuring cycling infrastructure is usable for all types of cyclists, including those with disabilities or using adapted cycles.
Zebra Crossing	A pedestrian crossing marked by black and white stripes on the road, where pedestrians have the right of way. Zebra crossings are increasingly used on side road junctions for enhanced safety for walkers and cyclists.

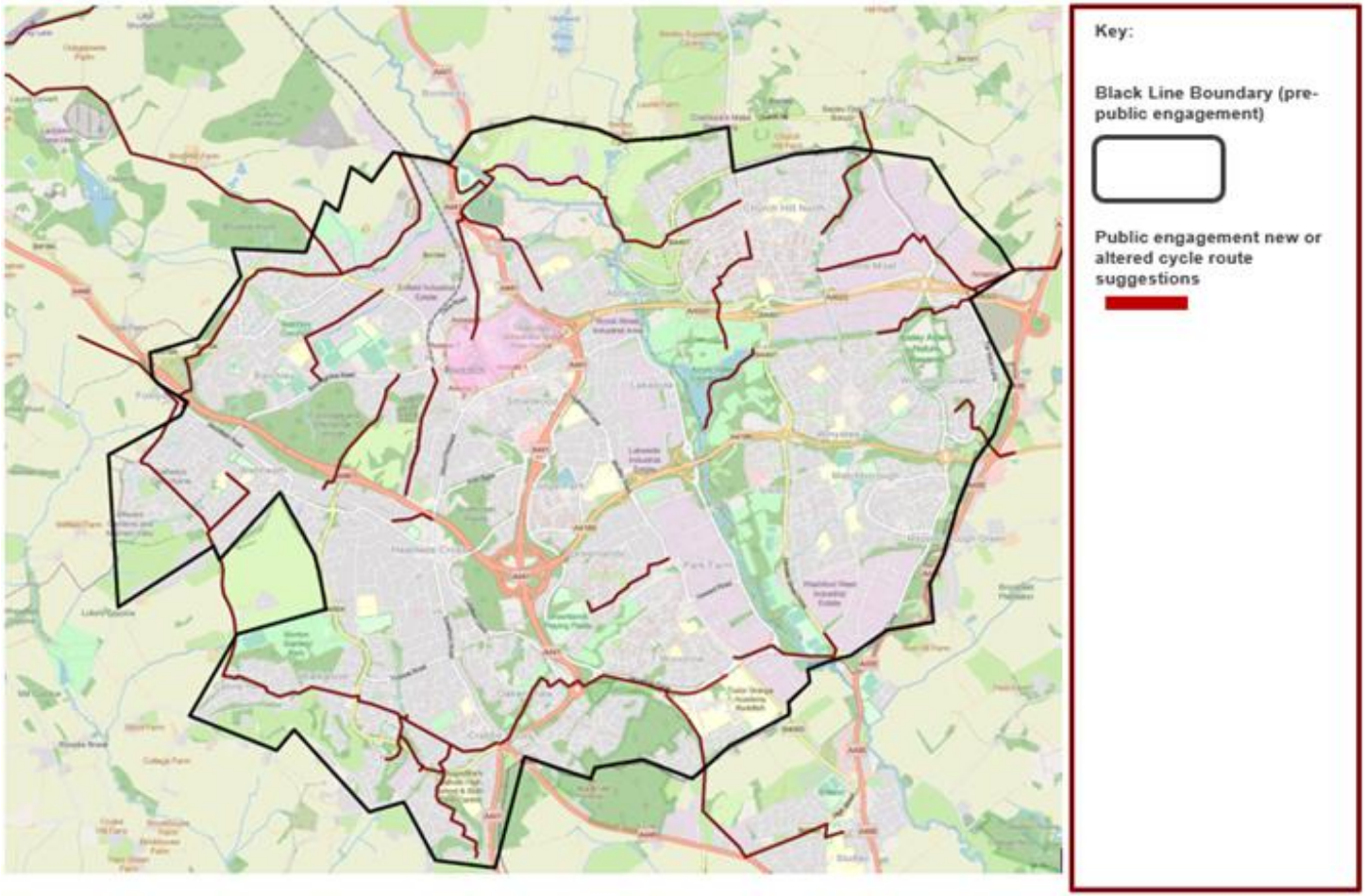
Appendix A: Redditch LCWIP emerging network engagement 2023



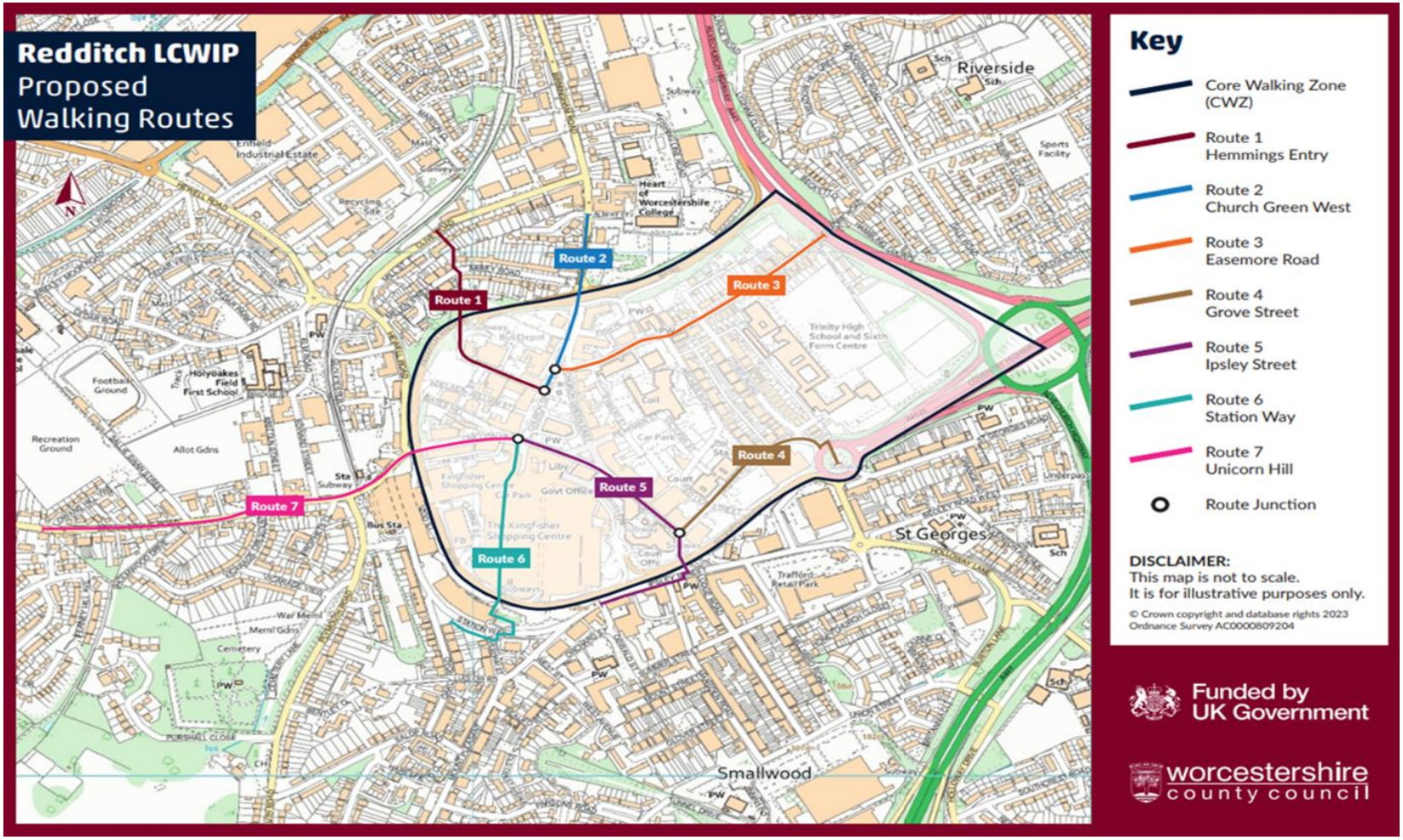
Appendix B: Redditch LCWIP emerging cycling network engagement 2023 – summary table of feedback (9 primary routes)

Primary Route	Support %	Oppose %	Support (excl unsure responses)
Whole Network	65%	14%	**81%**
1	68%	15%	**83%**
2	67%	17%	**81%**
3	64%	17%	**79%**
4	62%	17%	**79%**
5	70%	13%	**84%**
6	66%	16%	**80%**
7	70%	16%	**82%**
8	69%	15%	**82%**
9	68%	14%	**83%**

Appendix C: Redditch LCWIP emerging cycling network engagement 2023 – route and link suggestions



Appendix D: Redditch LCWIP emerging Town Centre walking and wheeling network 2023



Appendix E: Redditch LCWIP emerging Town Centre walking and wheeling network 2023– summary table of feedback

There was broad support for the emerging core walking zone, with some unsure responses where respondents wanted more details on improvements before giving a view. For walking improvements, the emphasis was on wanting improvements in residential centres as well as the town centre. This was requested to be accompanied by wayfinding improvements, links between routes, and public space and play provision, as well as safety improvements to underpasses.

Route	Support %	Oppose %	Support excluding unsure responses
Redditch Town Centre Core Walking & Wheeling Zone	66%	18%	**78%**

Appendix F: Ecological Considerations (Redditch LCWIP cycling routes)

Ref.	SSSI	LNR	LWS	Priority Habitat	Irreplaceable Habitat	Main River	Other Watercourse
Primary Active Travel Corridors							
P1					*ASNW		
P2		Redditch Woods: Foxlydiate Wood LNR		Deciduous woodland			
P 3		Redditch Woods: Foxlydiate Wood LNR					
P 4			Land adjacent to Greenfields Playing Field				
P 5				Deciduous woodland			
P 6							
P 7				Deciduous woodland		River Arrow – adjacent for almost whole length	
P 8							
P 9							
P 10	Dagnell End Meadow SSSI	Redditch Woods: Foxlydiate Wood LNR	Foxlydiate Wood	Deciduous woodland			Crosses a brook, a river x3

Key: SSSI = Sites of Special Scientific Interest. LNR = Local Nature Reserve/ ASNW = Ancient and Semi Natural Woodland. ARW = Ancient Replanted Woodland

Ref.	SSSI	LNR	LWS	Priority Habitat	Irreplaceable Habitat	Main River	Other Watercourse
Link Active Travel Corridors							
L6				Deciduous woodland			
L5		Redditch Woods: Foxlydiate Wood LNR			ARW		
L7							
L4							
L9							
L10						Within 5m of Ipsley Brook	
L8							
L11							
L2					** ASNW		
L1							
L3							

Key: SSSI = Sites of Special Scientific Interest. LNR = Local Nature Reserve/ ASNW = Ancient and Semi Natural Woodland. ARW = Ancient Replanted Woodland

Ref.	SSSI	LNR	LWS	Priority Habitat	Irreplaceable Habitat	Main River	Other Watercourse
Secondary Active Travel Corridors							
S8							
S7							
S4							
S2				Deciduous woodland	**ASNW		
S3							
S1					ASNW		
S6		Redditch Woods: Southcrest Wood LNR			ASNW		
S11							
S9							
S10	** Ipsley Alders Marsh SSSI						
S5							

Key: SSSI = Sites of Special Scientific Interest. LNR = Local Nature Reserve/ ASNW = Ancient and Semi Natural Woodland. ARW = Ancient Replanted Woodland

Appendix G: Indicative costs (Redditch LCWIP cycling network)

Cycling route ref.	Distance (km)	Intervention type	Indicative cost (£M)
P1. A	0.475	Shared Use Path	£0.75
P1. B	1.35	Light segregation	£1.89
P1.C	0.43	(Already progressed to design stage)	(see left)
P1. D	1.46	Light segregation/ shared use path	£2.18
P1 total	**3.71**	**-**	**£4.81**
P2. A	0.7	Quietway	£0.15
P2. B	2.0	Light segregation	£2.63
P2.C	0.25	Light segregation	£0.63
P2 total	**2.95**	**-**	**£3.40**
P3. A	1.67	Shared use path	£3.80
P3. B	0.46	Shared use path/ Quietway	£0.54
P3. C	1.34	Light segregation/ Quietway	£1.91
P3 total	**3.46**	**-**	**£6.25**
P4. A	1.70	Shared use path/greenway	£0.89
P4. B	0.49	Light segregation	£0.84
P4.C	1.77	Shared use path/ Quietway	£0.67
P4. D	0.69	Quietway	£0.61
P4 total	**4.61**	**-**	**£3.05**
P5. A	0.42	Shared use path/ Quietway	£0.24
P5. B	0.45	Shared use path	£0.45
P5.C	0.67	Shared use path/ Quietway	£0.37
P5. D	0.47	Shared use path/ Quietway	0.36
P5 total	**2.01**	**-**	**£1.43**
P6. A	1.18	Light segregation	£2.5
P6. B	1.00	Shared use path	£0.45
P6.C	0.75	Shared use path	£0.37
P6. D	0.60	Shared use path	£1.14
P6. E	0.43	Shared use path	£0.27
P6. F	0.72	Shared use path	£0.43
P6. G	0.34	Shared use path	£0.67
P6.H	0.84	Shared use path	£0.51
P6. I	2.30	Shared use path	£2.60
P6 total	**8.15**	**-**	**£8.90**
P7 total	**4.80**	**Shared use path/greenway**	**£2.37**
P8. A	0.82	Quietway	£0.69
P8. B	2.00	Shared use path/greenway	£1.37
P8.C	1.50	Shared use path	£0.81
P8	**4.32**	**-**	**£2.87**
P9. A.	1.24	Shared use path	£0.51
P9. B	3.00	Light segregation/ shared use path	£5.46
P9.C	0.77	Quietway	£0.53
P9	**5.01**	**-**	**£6.49**
P10.A	2.00	Shared use path/greenway	£0.81
P10.B	1.86	Shared use path/ Quietway	£1.7
P10.C	2.9	Shared use path/ Quietway	£0.98
P10	**6.76**	**-**	**£4.19**
Primary total	**45.78**	**-**	**£43.76**
S1	1.18	Shared use path/ Quietway	£0.44
S2	5.16	Shared use path/ Quietway	£3.22
S3-	2.10	Shared use path/ Quietway	£0.96
S4	1.80	Shared use path	£1.07
S5	4.14	Shared use path/ Quietway	£2.34
S6	2.12	Shared use path/ Quietway	£2.50
S7	2.33	Shared use path/ Quietway	£2.74

S8	1.39	Shared use path/ Quietway	£1.05
S9	3.60	Shared use path/ Quietway	£1.58
S10	4.06	Shared use path/ Quietway	£2.35
S11	0.20	Shared Use path	£0.09
Secondary total	**28.08**	**-**	**£18.34**
L1	1.6	Quietway	£1.19
L2	1.4	Shared use path	£0.58
L3	0.8	Quietway	£0.57
L4	0.6	Shared use path/ Quietway	£0.29
L5	1.3	Shared use path/ Quietway	£1.00
L6	0.4	Shared use path	£0.19
L7	1.2	Greenway/ Quietway	£0.47
L8	1.1	Shared use path/ Quietway	£0.68
L9	1.4	Shared use path/ Quietway	£0.90
L10	1.65	Shared use path/ Quietway	£0.71
L11	0.2	Shared use path	£0.11
L12	2.32	Greenway, Quietway, light segregation	£1.3
Link total	**13.95**	**-**	**£7.99**

Appendix H: Indicative costings (Redditch LCWIP walking and wheeling network)

Route Ref.	Length (km)	Interventions	Healthy Streets Score	Indicative cost (£M)
CWZR1 Hemmings Entry	0.97	• Public footway resurfaced and widened to 2.5-3m minimum where possible. • Parallel crossings and side road treatments. • 2x underpass regeneration	92	£0.9
CWZR2. Church Green West	0.51km	• Specific improvements included under P1D. • Timed limits to HGVs outside peak times.	92	£0.06
CWZR3 Easemore Road	0.7km	• Specific improvements included under P6A. • Timed limits to HGVs outside peak times.	92	£0.06
CWZR4. Grove Street	0.64	• Modal filter on Archer Road • Last Mile Delivery system for businesses. • Contraflow on Grove Road • Crossing and side road treatments • Road level raised to pavement. • 2.5m minimum pavement widening. • 2x underpass regeneration	86	£0.8
CWZR5. Ipsley Street	0.51	• Through traffic limited to residents and disabled users at peak times. • Deliveries limited to outside peak hours. • Parallel crossings and side road treatments • Pavement expanded to a minimum 2m width. • 1x underpass regeneration	83	£0.6
CWZR6 Station Way	0.45km	• New footway connections through bus station for easier access to town south from Plymouth Road. • Pavements re-laid and expanded where possible to 3m	92	£1.1
CWZR7. Unicorn Hill	0.8km	• Specific improvements included under P1B/C.	92	£0.06
CWZR8. Alcester Street	0.4km	• General improvements only.	99	£0.06
Area wide measures across the zone on minor streets	-	• General improvements only	-	£1.5
Total				**£5.2**

Appendix I: Redditch LCWIP quality criteria assessment (cycling network)

Type of route and segments	Cycle route ref	Score /33	Rank
Primary cycling route	9B	29	1
Primary cycling route	9C	29	=
Primary cycling route	1.C	28	2
Primary cycling route	6A	27	3
Primary cycling route	6D	26	4
Primary cycling route	1.B	25	5
Primary cycling route	6I	25	=
Primary cycling route	6C	24	6
Primary cycling route	6G	24	=
Primary cycling route	8A	24	=
Primary cycling route	9A	24	=
Primary cycling route	3C	23	7
Primary cycling route	6E	23	=
Primary cycling route	6F	23	=
Primary cycling route	1.D	21	8
Primary cycling route	10A	21	=
Primary cycling route	7	20	9
Primary cycling route	2B	20	=
Primary cycling route	6H	20	=
Primary cycling route	8C	20	=
Primary cycling route	3A	19	10
Primary cycling route	6B	19	=
Primary cycling route	5A	18	11
Primary cycling route	5D	18	=
Primary cycling route	8B	18	=
Primary cycling route	10B	18	=
Primary cycling route	3B	17	12
Primary cycling route	2A	16	13
Primary cycling route	2C	15	14
Primary cycling route	1.A	14	15
Primary cycling route	4C	14	=
Primary cycling route	4D	14	=
Primary cycling route	5B	14	=
Primary cycling route	5C	13	16
Primary cycling route	4B	12	17
Primary cycling route	10C	12	=
Primary cycling route	4A	8	18
Secondary cycling route	S7	28	1
Secondary cycling route	S5	27	2
Secondary cycling route	S9	24	3
Secondary cycling route	S10	24	=
Secondary cycling route	S6	22	4
Secondary cycling route	S8	22	=
Secondary cycling route	S2	18	5
Secondary cycling route	S4	17	6
Secondary cycling route	S3	16	7
Secondary cycling route	S1	11	8
Secondary cycling route	S11	11	=
Link cycling route	L8	23	1
Link cycling route	L10	23	=
Link cycling route	L5	20	2
Link cycling route	L9	18	3
Link cycling route	L3	15	4
Link cycling route	L1	14	5
Link cycling route	L6	14	=
Link cycling route	L11	14	=
Link cycling route	L12	12	6
Link cycling route	L4	11	7
Link cycling route	L2	9	8
Link cycling route	L7	7	9

Appendix J: Redditch LCWIP value for money assessment

VfM Category	Implied by…
Very High	BCR greater than or equal to 4
High	BCR between 2 and 4
Medium	BCR between 1.5 and 2
Low	BCR between 1 and 1.5
Poor	BCR between 0 and 1
Very Poor	BCR less than or equal to 0

Corridor location	Cycle Route Segment ref.	BCR
Corridor 1 Bromsgrove/ Birchfield Rd to Abbey Stadium via town centre	P1. A	2.48
Corridor 1	P1. B	2.45
Corridor 1	P1.C	TBC (under scheme development)
Corridor 1	P1. D	2.49
Corridor 2. Foxlydiate Development to Plymouth Close (Headless Cross)	P2. A	3.29
Corridor 2	P2. B	2.48
Corridor 2	P2.C	2.68
Corridor 3. Crabbs Cross Island to Unicorn Hill (town centre)	P3. A	2.54
Corridor 3	P3. B	2.73
Corridor 3	P3. C	2.54
Corridor 4. Morton Stanley Park to Studley	P4. A	2.49
Corridor 4	P4. B	2.50
Corridor 4	P4.C	2.85
Corridor 4	P4. D	2.67
Corridor 5. Studley Road (Greenlands) to Arrow Vale High School and Matchborough Centre	P5. A	2.63
Corridor 5	P5. B	2.58
Corridor 5	P5.C	2.63
Corridor 5	P5. D	2.83
Corridor 6. Studley Road Island (Tudor Grange Academy) to Church Green West (town centre) via Washford, Matchborough and Church Hill.	P6. A	1.95
Corridor 6		
Corridor 6	P6. B	2.82
Corridor 6	P6.C	2.14
Corridor 6	P6. D	1.84
Corridor 6	P6. E	3.02
Corridor 6	P6. F	3.04
Corridor 6	P6. G	2.3
Corridor 6	P6.H	2.62
Corridor 6	P6. I	2.41
Corridor 7. Arrow Valley from Abbeydale to Washford.	P7	3.19

Corridor 8. Lakeside to Mappleborough Green	P8. A	2.26
Corridor 8	P8. B	2.2
Corridor 8	P8.C	2.54
Corridor 9. Alexandra Hospital (Woodrow) to Church Green East (town centre)	P9. A.	3.79
Corridor 9	P9. B	3.22
Corridor 9	P9.C	2.41
Corridor 10. Monks Wood (Batchley) to Tanhouse Lane (Church Hill North)	P10.A	2.2
Corridor 10	P10.B	2.02
Corridor 10	P10.C	3.17
S1. Muskett's Way		2.2
S2. Foxlydiate to Crabbs Cross		1.77
S3. Hunt End Connections		2.05
S4. Crabbs Cross to Alexandra Hospital		2.55
S5. Woodrow to town centre		2.56
S6. Southcrest to Lodge Park		2.13
S7. Batchley and Enfield Loop		2.08
S8. Abbey and Riverside Connections		2.58
S9. Tencares to Church Hill South		2.81
S10. Washford Industrial to Moons Moat Industrial		2.33
S11. Studley links		5.01*
L1 Vaynor and Walkwood schools		3.11
L2 Webheath to Morton Stanley Park		1.9
L3 Webheath Links to school		1.89
L4 Birchensale and Redditch UFC.		1.93
L5 Batchley Estate		1.62
L6 Arrow Valley First School links		3.45
L7 Beoley and Holt End		2.33
L8 Rickyard Lane and Moons Moat school		2.51
L9 Church Hill Northwest Links		2.7
L10 Ipsley Brook Loop		3.09
L11 Papermill Farm		2.26
L12 Ridgeway School (Astwood)		1.9
Core Walking and Wheeling Zone		4.99

*S11 has a higher-than-average BCR for WCC as most of the route falls within the county of Warwickshire County Council and most costs will be borne by Warwickshire CC.

Appendix K: Redditch LCWIP Indicative Delivery Programme

Short Term 5-year programme.

Corridor (segments)	Est. Capital Cost	Prioritisation score range	AMAT score
Corridor 9. Alexandra Hospital (Woodrow) to Church Green East (town centre) (A- C)	£6.49m	24-29	2.41 -3.79
Corridor 7. Arrow Valley from Abbeydale to Washford.	£2.37m	20	3.19
Corridor 1 Bromsgrove/ Birchfield Road to Abbey Stadium via town centre (A -D)	£4.81m	14-28	2.45-2.49
Core Walking Zone (1-8 and area wide)	£5.2m	Not assessed	4.99
S7. Batchley and Enfield Loop	£0.47m	28	2.08
S5. Woodrow to town centre	£2.34m	27	2.56
L10 Ipsley Brook Loop	£0.71m	23	3.09
L5 Batchley Estate	£1.00m	20	1.62
L11 (small extension to Corridor 7)	£0.11m	14	2.26
Total Proposed Capital Costs	**£23.50m**		

Medium Term 5–10-year programme.

Corridor (segments)	Est. Capital Cost	Prioritisation score range	AMAT score
Corridor 6. Studley Road Island (Tudor Grange Academy) to Church Green West (A-H)	£8.9m	19-27	1.84-3.04
Corridor 3. Crabbs Cross Island to Unicorn Hill (town centre) (A-C)	£6.25m	17-23	2.54-2.73
Corridor 8. Lakeside to Mappleborough Green (A-C)	£2.87m	18-25	2.2-2.54
Corridor 2. Foxlydiate Development to Plymouth Close (Headless Cross) (A-C)	£3.40m	15-20	2.48-3.29
S9. Tenacres to Church Hill South	£1.58m	24	2.81
S10. Washford Industrial to Moons Moat Industrial estates	£2.35m	24	2.33
L8 Rickyard Lane and Moons Moat school	£0.68m	23	2.51
L9 Church Hill Northwest Links	£0.90m	18	2.7
Total Proposed Capital Costs	**£26.93m**		

Long Term 10–15-year programme

Corridor (segments)	Est. Capital Cost	Prioritisation score range	AMAT score
Corridor 10. Monks Wood (Batchley) to Tanhouse Lane (Church Hill North)	£4.19m	10-19	2.02 -3.17
Corridor 5. Studley Road (Greenlands) to Arrow Vale High school and Matchborough	£1.43m	13-18	2.58-2.83
Corridor 4. Morton Stanley Park to Studley Road (Greenlands)	£3.05m	8-14	2.49-2.85
S6. Southcrest to Lodge Park	£2.5m	22	2.13
S8. Abbey and Riverside Connections	£1.05m	22	2.58
S2. Foxlydiate to Crabbs Cross	£3.22m	18	1.77
S4. Crabbs Cross to Alexandra Hospital	£1.07m	17	2.55
Total Proposed Capital Costs	**£16.51m**		

Links to school's programme 0-15 years

Corridor (segments)	Est. Capital Cost	Prioritisation score range	AMAT score
S3. Hunt End Connections	£0.96m	16	2.05
L3 Webheath Links to school	£0.57m	15	1.89
L1 Vaynor and Walkwood schools	£1.19m	14	3.11
L6 Arrow Valley First School links	£0.19m	14	3.45
L12 Ridgeway School (Astwood)	£1.3m	12	1.9
Total Proposed Capital Costs	**£4.21m**		

Appendix L: Detailed Redditch School travel data showing potential for more cycling and less car use.

School Name	School Enrolment (2024)	Estimated number of students arriving by Car (based on PCT 2011 data and uprated for 2024)	Estimated Percentage (%) of students driven to School by car (based on PCT 2011 data and uprated for 2024)	Estimated number of students cycling to School (based on PCT 2011 data and uprated for 2024)	Estimated percentage of students cycling to School (based on PCT 2011 data and uprated for 2024)	Potential number of students cycling to School at PCT Dutch modelling level (based on PCT 2011 data and uprated for 2024)	Estimated percentage (%) of students cycling to School in the PCT Dutch model (based on PCT 2011 data and uprated for 2024)	Est. Reduction in Students Driven by Car (based on PCT 2011 and uprated for 2024)
Beoley First School	97	77	79	0	0	13	13.40%	-10
Church Hill Middle School	404	69	17	5	1.24%	259	64.11%	-48
Moon's Moat First School	232	16	7	0	0.00%	65	28.02%	-9
St Stephen's CE First School	170	53	31	5	2.94%	21	12.35%	-8
Tenacres First School	284	80	28	5	1.76%	78	27.46%	-2
Ipsley CE Middle School	641	128	20	21	3.28%	406	63.34%	-94
Roman Way First School	183	53	29	0	0.00%	46	25.14%	-19
Arrow Vale Community High School	964	67	8	17	1.76%	577	59.85%	-50

School Name	School Enrolment (2024)	Estimated number of students arriving by Car (based on PCT 2011 data and uprated for 2024)	Estimated Percentage (%) of students driven to School by car (based on PCT 2011 data and uprated for 2024)	Estimated number of students cycling to School (based on PCT 2011 data and uprated for 2024)	Estimated percentage of students cycling to School (based on PCT 2011 data and uprated for 2024)	Potential number of students cycling to School at PCT Dutch modelling level (based on PCT 2011 data and uprated for 2024)	Estimated percentage (%) of students cycling to School in the PCT Dutch model (based on PCT 2011 data and uprated for 2024)	Est. Reduction in Students Driven by Car (based on PCT 2011 and uprated for 2024)
Matchborough First School Academy	383	54	14	0	0.00%	100	26.11%	-13
The Kingfisher School	135	0	0	0	0.00%	39	28.89%	0
Tudor Grange Academy	370	70	19	5	1.35%	93	25.14%	-44
Woodrow First School	295	44	15	0	0.00%	38	12.88%	-6
St Thomas More Catholic First School	184	52	28	0	0.00%	42	22.83%	-13
Crabbs Cross Academy	218	76	35	0	0.00%	31	14.22%	-45
St. Augustine's Catholic High School	968	349	36	15	1.55%	487	50.31%	-201
Walkwood Church of England Middle School	650	293	45	12	1.85%	345	53.08%	-178

School Name	School Enrolment (2024)	Estimated number of students arriving by Car (based on PCT 2011 data and uprated for 2024)	Estimated Percentage (%) of students driven to School by car (based on PCT 2011 data and uprated for 2024)	Estimated number of students cycling to School (based on PCT 2011 data and uprated for 2024)	Estimated percentage of students cycling to School (based on PCT 2011 data and uprated for 2024)	Potential number of students cycling to School at PCT Dutch modelling level (based on PCT 2011 data and uprated for 2024)	Estimated percentage (%) of students cycling to School in the PCT Dutch model (based on PCT 2011 data and uprated for 2024)	Est. Reduction in Students Driven by Car (based on PCT 2011 and uprated for 2024)
The Vaynor First School	437	254	58	5	1.14%	67	15.33%	-187
St. Luke's CE First School	148	63	43	0	0.00%	23	15.54%	-40
Webheath Academy Primary School	438	206	46	5	1.14%	105	23.97%	-42
Our Lady of Mount Carmel Catholic First School	288	190	66	0	0.00%	45	15.63%	-30
Batchley First School	153	29	19	0	0.00%	75	49.02%	-9
Pitcheroak School	148	29	19	0	0.00%	85	57.43%	-25
Birchensale Middle School	594	172	29	6	1.01%	321	54.04%	-99
Holyoakes Field First School and Nursery	563	108	35	0	0.00%	54	9.59%	-42

School Name	School Enrolment (2024)	Estimated number of students arriving by Car (based on PCT 2011 data and uprated for 2024)	Estimated Percentage (%) of students driven to School by car (based on PCT 2011 data and uprated for 2024)	Estimated number of students cycling to School (based on PCT 2011 data and uprated for 2024)	Estimated percentage of students cycling to School (based on PCT 2011 data and uprated for 2024)	Potential number of students cycling to School at PCT Dutch modelling level (based on PCT 2011 data and uprated for 2024)	Estimated percentage (%) of students cycling to School in the PCT Dutch model (based on PCT 2011 data and uprated for 2024)	Est. Reduction in Students Driven by Car (based on PCT 2011 and uprated for 2024)
Woodfield Academy	487	243	34	5	1.03%	416	85.42%	-142
Oak Hill First School	243	187	35	6	2.47%	93	38.27%	-69
St Bede's Catholic Middle School	689	32	17	0	0.00%	344	49.93%	-2
St George's CE First School	187	152	16	6	3.21%	30	16.04%	-69
Trinity High School & Sixth Form	947	152	16	6	0.63%	513	54.17%	-86
Ridgeway Secondary School	363	113	31	10	2.75%	290	79.89%	-80
Astwood Bank Primary School	409	221	54	10	2.44%	52	12.71%	-39
Total	**12,272**	**3,632**	**29.60%**	**144**	**1.17%**	**5,153**	**41.99%**	**-1,701**

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