Black Country Transport

Black Country Walking, Wheeling and Cycling Plan

Black Country Transport

December 2024

Revision History

Revision	Revision date	Details	Authorised	Name	Position
Version 1	22/07/2022	First Draft	Yes	Darren Abberley	Associate Director
Version 2	22/07/2022	First Draft	Yes	Darren Abberley	Associate Director
Version 3	09/01/2025	Update	Yes	Black Country Transport	

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1. Executive Summary

The Black Country Walking, Wheeling and Cycling Plan (BCWWCP) is a voluntary joint Local Cycling, Walking Infrastructure Plan (LCWIP) type document, collaboratively produced by the Black Country local authorities (Dudley, Sandwell, Walsall, Wolverhampton). The BCWWCP has been prepared to identify an ambitious cycle network across the Black Country supported by a series of localised walking, wheeling and wider active mode improvements, and behavioural change measures, which encourage and enable walking, wheeling and cycling as preferred modes.

This strategy was formally known as the Black Country LCWIP, and therefore this document mentions LCWIP throughout, but please now take all mentions of LCWIP to mean BCWWCP. The change to the BCWWCP title reflects a direction to have an inclusive plan, in which wheeling in addition to cycling and walking, is also a prioritised mode of active travel. Originally produced in 2022, this is a live document which will be regularly revised, as it represents a long-term transport strategy.

Increasing the levels of active travel are intrinsic to the Black Country achieving their strategic priorities of:

- Creating a Net-Zero Transport Network by 2041
- Tackling Chronic Physical Inactivity
- Tackling Transport Inequality
- Reducing harmful emissions to safer levels
- Driving Sustainable and Inclusive Growth

An extensive data collection process has been undertaken using demand, socio-demographic, network and environmental data, alongside stakeholder feedback to ascertain the key constraints, challenges and opportunities across the area. A review of the current governance and delivery process has also been undertaken to ensure that the right procedures are in place to support the implementation of the LCWIP over the next five years (2023-2028).

Alongside the Working Group, an option identification process was undertaken which revealed between seven and nine cycle routes and between three and four walking zones per local authority area. The focus of the cycle routes was to consider, where possible, on road and ambitious schemes which bridged gaps in the current and proposed cycle network (as identified in the West Midlands and Sandwell LCWIPs (SCWIP)). For walking, the focus was slightly different, seeking to encourage walking for shorter trips and identify areas of relatively higher levels of deprivation and physical inactivity amongst other key socio-demographic factors.

The Black Country LCWIP has been developed to be as achievable as possible over the next five years and therefore a shortlisting process was required to identify two cycle routes and one walking zone per local authority area. The shortlisting process considered the following six themes.

Connectivity	**Demand**	**Demographics**
Quality & Safety	**Health**	**Stakeholder Support**

Schemes were also discounted on the basis that they had already received from funding from other sources such as the City Regional Sustainable Transport Settlement Fund. The shortlisting process led to the identification of the following routes and zones.

Local Authority Area	Cycle Routes	Walking Zone
Dudley	A4101 Pensnett to Dudley Town Centre	DY5 Enterprise Zone and Brierley Hill
	Smestow Valley Leisure Route	
Sandwell	Cradley Heath (SCWIP Route) to WM LCWIP Route	Rowley Regis Village and Hospital
	Stone Cross to West Bromwich	
Walsall	Pleck to Arboretum	Leamore / Bloxwich / Blakenall Heath
	Walsall Town Centre to Sandwell Valley Park (NCN5)	
Wolverhampton	Bentley Bridge to Darlaston	West Park to Whitmore Reans
	Fordhouses to Heathtown	

The routes and zones were audited and the findings supported the development of concept designs for each alongside a set of high level indicative scheme costs as set out below. Walking Zones are depicted in green. The initial scheme costs have been calculated using the Typical Costs for Cycling Interventions (published in 2017)[1] with a 20% inflation rate applied to convert the figures into 2022 costs.

Option	Length (km) / Area (m^2)	Total Cost 2022	Total Cost 2024
Dudley- A4101 Pensnett to Dudley Town Centre	3.365	£18,887,962	£20,954,463
Dudley- Smestow Valley Leisure Route	4.654	£9,864,461	£10,943,716
Dudley- DY5 Enterprise Zone and Brierly Hill	2,049,705	£10,069,401	£11,171,078
Sandwell- Cradley (SCWIP Route) to WM LCWIP	1.025	£5,462,736	£6,060,405
Sandwell- Stone Cross to West Bromwich	3.696	£18,376,027	£20,386,518
Sandwell- Rowley Regis Village and Hospital	478,281	£1,906,526	£2,115,116
Walsall- Pleck to Arboretum	3.277	£15,609,619	£17,317,442
Walsall- Walsall Town Centre to Sandwell Valley Park (NCN5)	11.396	£18,403,183	£20,416,645
Walsall- Leamore/ Bloxwich/ Blakenall	971,673	£1,165,518	£1,293,035
Wolverhampton- Bentley Bridge to Darlaston	5.664	£20,250,31	£2,246,586
Wolverhampton- Fordhouses to Heathtown	5.181	£24,761,366	£27,470,467
Wolverhampton- Fordhouses to Heathtown	1,240,969	£5,722,908	£6,349,042

Note: *The 2024 cost figures have been adjusted for inflation using the Bank of England Inflation Calculator.*

1 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/742451/typical-costings-for-ambitious-cycling-schemes.pdf

Through further engagement with the Working Group and the Active Travel Commissioner for the West Midlands, it was agreed that localised improvements should be considered further to ensure enhanced connectivity between people and the active travel infrastructure being delivered. A Case Study has been developed setting out the types of measures that could be considered, for example modal filters, schools streets, dropped kerbs, mobility hubs and enhanced wayfinding and signage. All these measures are to be supported by a strong behavioural change campaign.

The governance process and delivery plan form the final elements of this LCWIP setting out a clear approach and timeframe for delivery. The prioritisation process has been essential in developing the delivery plan, providing a steer on what schemes should be delivered sooner. The stakeholder feedback has proved essential in determining what the challenges and opportunities are, and how the governance needs to be shaped to make forward delivery both possible and effective.

2. Introduction

The Black Country Commission

AECOM has been commissioned by Black Country Transport (BCT) to develop an outline Cycling and Walking Strategy and Delivery Plan, referred to herein as the Local Cycling and Walking Infrastructure Plan (LCWIP), for the Black Country between 2023 and 2028.

BCT is a strategic transport partnership between Dudley, Sandwell, Walsall and Wolverhampton Councils tasked with improving the transport network across the area. This role is ever important as the Black Country has entered a period of rapid change which requires appropriate strategies that support a sustainable future. This future includes a high quality and connected network of measures, where cycling and walking infrastructure is deemed equally as important as other transport modes.

What is a LCWIP?

In 2017 the Department for Transport (DfT) issued its first Cycling and Walking Investment Strategy to support walking and cycling as a natural choice for shorter journeys or as part of longer journeys. The strategy has wider implications such that it has the potential to reduce congestion, improve physical and mental health, support local, regional and national carbon targets, and reduce social exclusion amongst a wealth of wider community benefits. These will be explored further in this document.

The six-stage LCWIP process

The Black Country outline LCWIP will follow the DfT approach based on a six-stage process as set out in Figure 2-1.

In keeping with DfT guidance, the Black Country LCWIP takes into consideration its duty, under the Equality Act 2010, to meet the needs of people with protected characteristics.

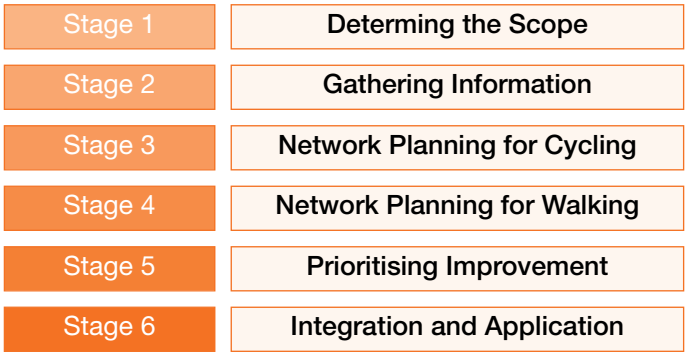

Figure 2-1: The LCWIP Process

Black Country LCWIP development

This LCWIP has been developed with three key areas in mind: policy and guidance, area challenges and opportunities, and funding opportunities. Further detail on each is provided in Figure 2-2.

Policy / Guidance
- Black Country Plan
- Movement for Growth
- Gear Change
- Local Trabsport Note (LTN) 1/20
- Manual for Streets

Black Country Challenges / Opportunities
- Stakeholder Engagement
- Geography / polycentric
- Net-zero transport / Harmful emmisions
- Transport inequality
- Sustainable inclusive growth
- Chronic physical inactivity

Funding Opportunities
- Emergency Active Travel Fund
- Active Travel Fund
- Transforming Cities Fund
- City Regional Sustainable Transport Settlements Fund
- Local Authority Capability Fund
- Towns Fund
- Better Streets Fund

Figure 2-2: Black Country LCWIP Key Considerations

Ensuring that the key requirements of emerging policy and guidance are embedded in to the LCWIP will result in the development of a robust and ambitious strategy for the Black Country, in keeping with the direction of growth locally, regionally and nationally. There is a clear agenda towards a sustainable future, including the role that transport has to play in this, and it is important that this strategy is able to fully capture the essence of this movement.

The LCWIP also needs to be considered against the backdrop of the key challenges and opportunities across the area. Stakeholder engagement, both internal and external, is valuable in ascertaining what these are to enable processes and best practice examples to be identified for the successful development and delivery of this LCWIP. These will include those innate to the Black Country, including the geographic and socio-demographic makeup of the area but also political and governance related challenges and opportunities. Further detail on these elements can be found in Section 4.

The LCWIP needs to be able to capitalise on both available and emerging funding opportunities to help deliver the ambitious cycling and walking vision for the area. This strategy provides the evidence base required to start developing business cases for future funding. The funding, however, is not only limited to the delivery of infrastructure but also to ensuring the right resources and skills are in place to support delivery.

Another key element to note is that this LCWIP has been developed in the recovery period from the COVID-19 pandemic, where cycling and walking gained significant momentum as people made short journeys for leisure and to stay healthy, active and reduce car dependency. The Black Country LCWIP seeks to build on the progress already made during this time and develop showcase schemes across the area to encourage active travel further. This ties closely with the Gear Change (2020) which states that right now there is a “once in a generation chance to accelerate active travel”.

Aims of the Black Country LCWIP

The LCWIP identifies a network-based set of improvements for cycling and walking infrastructure across the four Black Country Authorities considering cross boundary connections both within the area, and also to authorities outside of the area. With regard to cycling the focus is predominantly on developing high demand routes to support utility-based trips (i.e., commuting trips or educational trips), however, leisure routes have also been considered through this process.

The LCWIP also focuses on creating localised improvements to walking and cycling across each of the four Black Country authorities. To achieve this, a list of infrastructure measures and behaviour change measures have been collated which have the potential to be implemented locally to stimulate a step change in walking and cycling. These measures have been graded from a bronze level (inexpensive and easy to implement) to a gold level (more expensive and challenging to deploy) and are discussed in more detail in section 6.

The Black Country LCWIP builds on the LCWIPs developed for the West Midlands Combined Authority (WMCA) area (2020) and for Sandwell, building on cycling and walking schemes which are already committed or are in the pipeline, and complement other investments in transport and development in the area. It also seeks to identify any key gaps in infrastructure and develop a set out supportive and complementary measures to encourage greater cycling and walking uptake across the area. A number of wider measures are also being proposed across the Black Country to further increase active travel including Social Prescribing, Mini Holland schemes and Cultural Investment Proposals.

The aim of the process is to develop a set of deliverable plans for investment in walking and cycling infrastructure which are evidence-based and can be targeted for infrastructure improvements with the backing of a robust business-case.

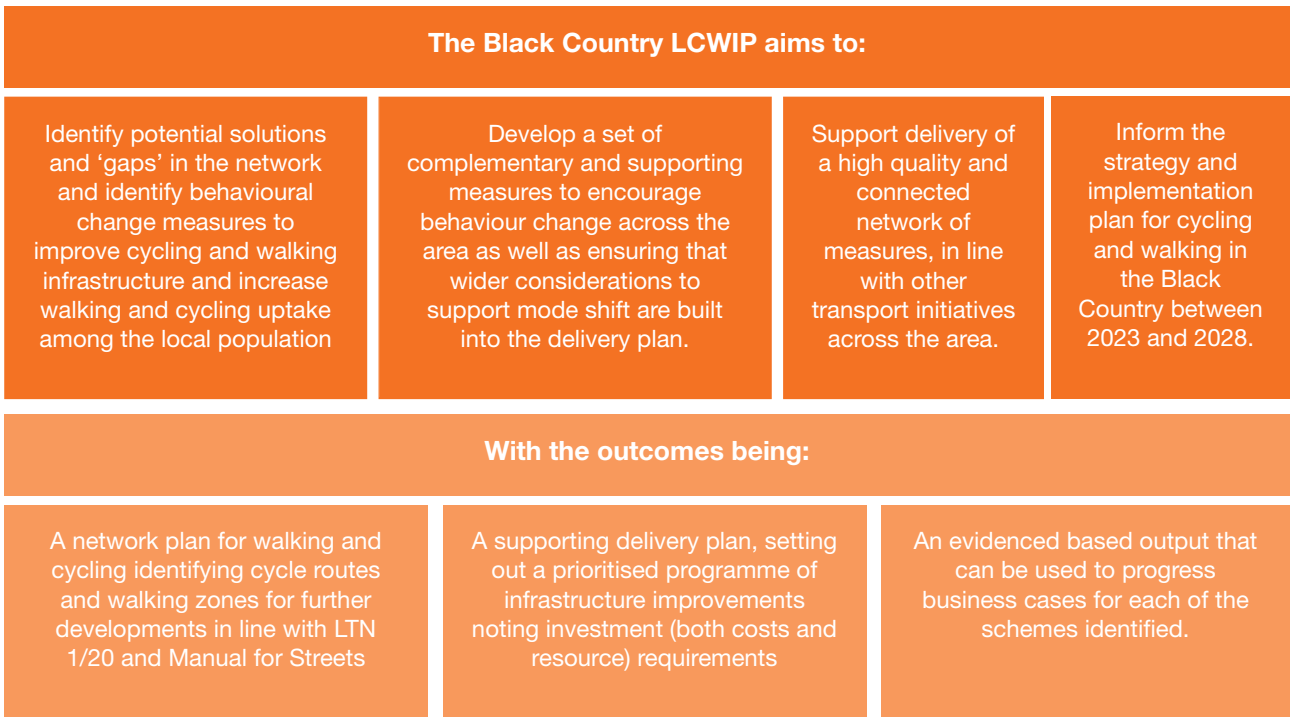

Figure 2-3: Black Country LCWIP Aims and Outcomes

Structure

The remainder of this LCWIP is structured as follows:

- Section 3: Scope, Governance and Engagement which sets out the approach adopting in developing the Black Country LCWIP.
- Section 4: Data Gathering and Analysis which details the key data assessed and findings.
- Section 5: Network Planning which provides an overview of option identification process and presents the longlist, shortlist and concept designs.
- Section 6: Localised Improvements which focuses on how better to connect people to the schemes and increase demand.
- Section 7: Appraisal and Prioritisation which details the approach to appraising and prioritising to the routes and zones to inform the delivery plan.
- Section 8: Integration and Application which sets out how this document will be used going forward.
- Section 9: Consultation and Review Period which provides an overview of key next steps for the adoption of this document.

3. Scope, Governance and Engagement

Introduction

This chapter sets out the geographical extent of the LCWIP, the governance arrangements and stakeholder engagement protocol during its production and the expected timeframe for its delivery.

Geographical Scope

The LCWIP covers the Black Country's four constituent authorities: Dudley, Sandwell, Walsall, and Wolverhampton, as shown in Figure 3-1 below.

Figure 3-1: Black Country LCWIP Extent

While the LCWIP has been developed to consider the Black Country as a whole, each of the Local Authorities within it have a unique set of characteristics which need to be assessed accordingly, for example different topographies which is specifically a concern in Dudley. There are also a number of assets across the area, including an extensive canal network and the fact that the Black Country is a UNESCO Global geopark. The polycentric nature of the area is also unique, resulting in varied movements to key locations across the Black Country and offering an opportunity to provide greater mode choice.

Cross boundary routes and consistency in delivery of routes and zones has been another consideration within the LCWIP. With the Black Country being part of the West Midlands conurbation, there are strong economic ties with Birmingham and as well with neighbouring districts of South Staffordshire, Bromsgrove, Lichfield and Cannock Chase.

Governance and delivery

The LCWIP guidance recommends that governance and delivery arrangements should be proportionate to the scale and complexity of the LCWIP. To minimise duplication of efforts and to make best use of local knowledge and expertise a joint delivery model was identified. However, route and zone identification has taken place per authority and cross boundary matters taken into consideration on a case-by-case basis.

This process was managed through the development of a Working Group which included representatives from Black Country Transport, Local Authority Transportation and Highways teams and Transport for West Midlands. As required, representatives from other Local Authority departments were called on. Fortnightly Working Group calls were held to ensure overall consensus on key areas of agreement, progress was made according to the programme and knowledge and ideas were shared.

The Governance team and structure for the Working Group is presented in Figure 3-2.

For successful delivery of the Black Country LCWIP, it is vital that all teams within the governance structure frequently communicate and collaborate. This will ensure all ideas are disseminated between the teams involved and the desired vision for the LCWIP is achieved.

The Black Country LCWIP will utilise a robust governance structure containing Transport Officers from each of the four local authorities and external stakeholders, who will collectively provide guidance on scheme development. This core group will also be supported and assisted by the expertise of West Midlands' cycling and walking commissioner who will provide specialist guidance on scheme designs. The Director of Transport for the Black Country will effectively coordinate each stage of the LCWIP and provide overarching guidance on scheme delivery.

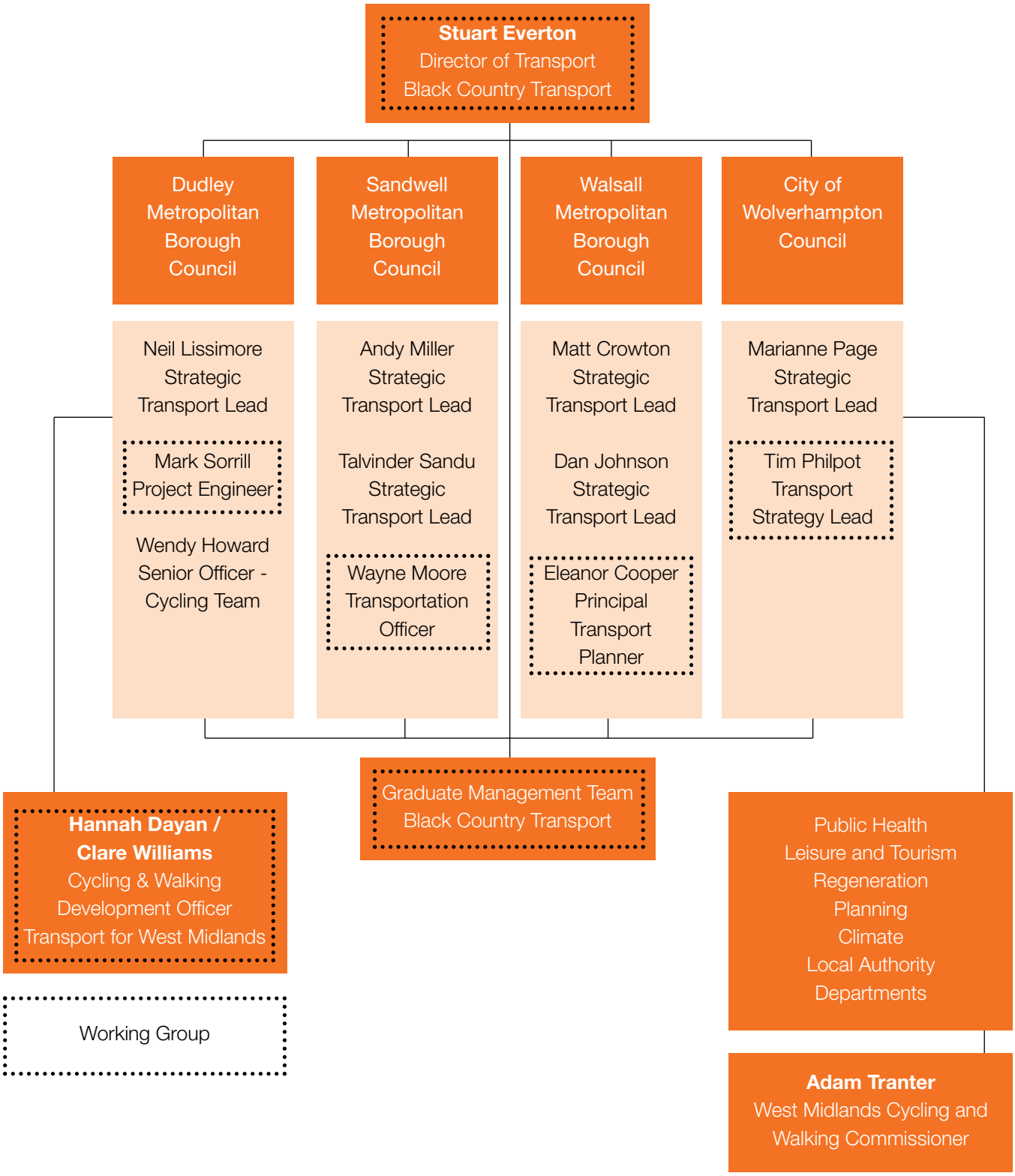

Figure 3-2: LCWIP Black Country Governance Team and Structure

Stakeholder engagement

According to the LCWIP guidance, effective stakeholder engagement is critical to ensure a high quality LCWIP and this approach has been adopted in the development of the Black Country LCWIP.

Stakeholder engagement has taken place with both internal and external stakeholders to gauge the challenges, opportunities and forward vision for the area. A summary of the engagement activities that have taken place is presented in Table 3-1 and further detail on the outputs of the stakeholder engagement is set out in Section 4 and Appendix A.

Meeting	Purpose
Fortnightly Progress Calls	Held with the Working Group to discuss progress, agree on core principles for the development of the LCWIP, including options and appraisal, and share thoughts on the development of the LCWIP.
Stakeholder Workshops	4 workshops held by Local Authority area including internal and external stakeholders to obtain insight on the challenges and opportunities of delivering a LCWIP in the Black Country.
Governance Interviews	6 interviews held with representatives from BCT, TfWM and the four Local Authorities to understand challenges around current governance arrangements and requirements for future governance to support the successful delivery of the LCWIP.
Options Workshop	Held with the Working Group to discuss the longlist of options developed and gain consensus on the evidence led approach adopted.
Prioritisation Workshop	Held with the Working Group to discuss the prioritisation criteria and final prioritised list.
Governance Workshop	Held with the Working Group and Strategy Leads of each of the Local Authorities to share the key findings from the Governance Interviews and identify key emerging themes specific to the Black Country.

Table 3-1: Summary of Stakeholder Engagement Activities

Delivery and Timeframe

This LCWIP has been developed to cover the 5-year period between 2025 and 2030 and covers infrastructure schemes as well as supporting and complementary measures. However, the delivery plan also considers 2022 as this is the year in which the strategy has been developed. Findings from the governance review have been used to inform the delivery plan (Appendix B) and an overarching Governance Process (Appendix C) ensuring that resources, funding and delivery mechanisms are clearly identified throughout the delivery stages.

The LCWIP should be reviewed midway through delivery to ensure progress is being made as anticipated. Consideration should also be given to any changes in local circumstances such as the publication of new policies or strategies, new key development sites or new sources of funding.

On approach to the end of the five-year period, consideration should be given to the development of a new LCWIP, ensuring that any key lessons learnt are noted and built into the new plan.

4. Data Gathering and Analysis

Introduction

The data gathering process has been focused around the four key areas set out in Figure 4-1. While traditional network data has been gathered, stakeholder engagement has also been key to this process, especially in terms of obtaining local information and knowledge. This broader data gathering approach has resulted in a robust evidence base in the development of the Black Country LCWIP. Each of the four areas are considered in turn below.

Figure 4-1: Black Country LCWIP Data Gathering Process

Data Review

To help understand the network, socio-economic and environmental needs, five types of data have been assessed and reviewed alongside current and proposed cycling and walking provision identified in the TfWM LCWIP and SCWIP to help ascertain where there are key gaps in the network. This data also helps to identify key constraints and opportunities across the network which will need to be considered as part of the option development process. The different datasets are set out in Table 4-1.

Data type	Data set	Purpose
Demand Data	D1: Current Provision D2: Propensity to Cycle D3: Trip Attractors D4: Workplace Population	Demand data provides insight in to where routes and zones are likely to be best or most used based on a variety of factors. This will support the case for intervention.
Socio-Demographic Data	S1: Index of Multiple Deprivation S2: Access to Car and Van S3: Physical Inactivity S4: Childhood Obesity	This data provides an understanding of the characteristics of the local population which can help to determine the type of schemes that could work or are required to support them.
Collision Data	C1: Pedestrian and Cycle Collisions	Safety is important in the development of any cycling or walking scheme. Any locations with high cyclist or pedestrian collisions should seek to be resolved through the development of safer routes and zones.
Environmental Data	A1: Air Quality Management Area	No specific environmental datasets have been assessed and this is due to the whole of the Black Country falling within an AQMA. This in itself highlights the need for investment in sustainable modes of transport and infrastructure to help tackle this issue.

Table 4-1: Types of data

D1: Current Provision

Provision

Understanding the current level of active travel provision across the Black Country helps to establish gaps on the network. The Starley Network (see Figure 4-2), which covers the wider West Midlands, provides an overview of the cycling and walking trails across the region. It also includes the proposed cycle routes and walking zones set out in the WM LCWIP as well as low traffic areas and local centre improvements as of 2020. Figure 4-3 provides an added layer and showcases the interaction between the proposed WM LCWIP and SCWIP routes and zones, the rail network, key public transport interchanges and the Strategic Road Network (managed by National Highways).

The maps suggest that at the local authority level, the current cycle network within the Black Country is limited, particularly in Dudley and Walsall. However, there is an extensive canal network and number of key National Cycle Network (NCN) routes which route through the area. Particularly in Birmingham, 'blue routes' like the A34/A38 cycle routes are being rolled out offering on road, segregated infrastructure on key arterial routes into the city centre and which show the level of ambition that could be achieved within the Black Country.

Though not mapped, WM hire bikes are available across all four Black Country local authorities[2]. Engagement with stakeholders, which is explored later in this document, suggests that the take up of the hire bikes has not been as high as anticipated suggesting further work is needed to increase usage. Furthermore, the general level of secure and safe cycle provision across the Black Country is not considered enough. Locating them in easily accessible places and at key interchanges is considered as a must to encourage increased usage and build up overall demand.

The Starley Network suggests that low traffic areas, namely in the form of School Streets, are limited to Walsall only, however these have been rolled out wider across the Black Country. The area which they cover is not as extensive or comparable to those that have been piloted in Birmingham.

Barriers, Constraints and Opportunities

What the maps also show are the potential barriers, constraints and opportunities across the Black Country resulting from wider transport infrastructure such as motorways, railways and railway bridges and the canal network. The M6 routes through Walsall, often providing a cross boundary barrier between Walsall and Wolverhampton for active mode movements. This is also the case with the M5 which routes through Sandwell as well as along the border of Dudley and Sandwell again providing a barrier to movements.

There are good rail connections to each of the centres, and to various towns within each of the Local Authority areas. This provides the opportunity to provide an integrated sustainable transport network through the provision of routes to and parking at all stations. However, this network results in a number of rail bridges which can have an impact on the width of roads and subsequently whether LTN 1/20 criteria can be achieved.

Finally, the canal network is extensive and provides links outside of the Black Country. The canals are more largely associated with leisure activity and have limitations in meeting LTN 1/20 guidance due to widths and lighting. However, the integration of the canals also offers opportunity to increase connectivity across the wider region.

2 Station map - West Midlands Cycle Hire (wmcyclehire.co.uk)

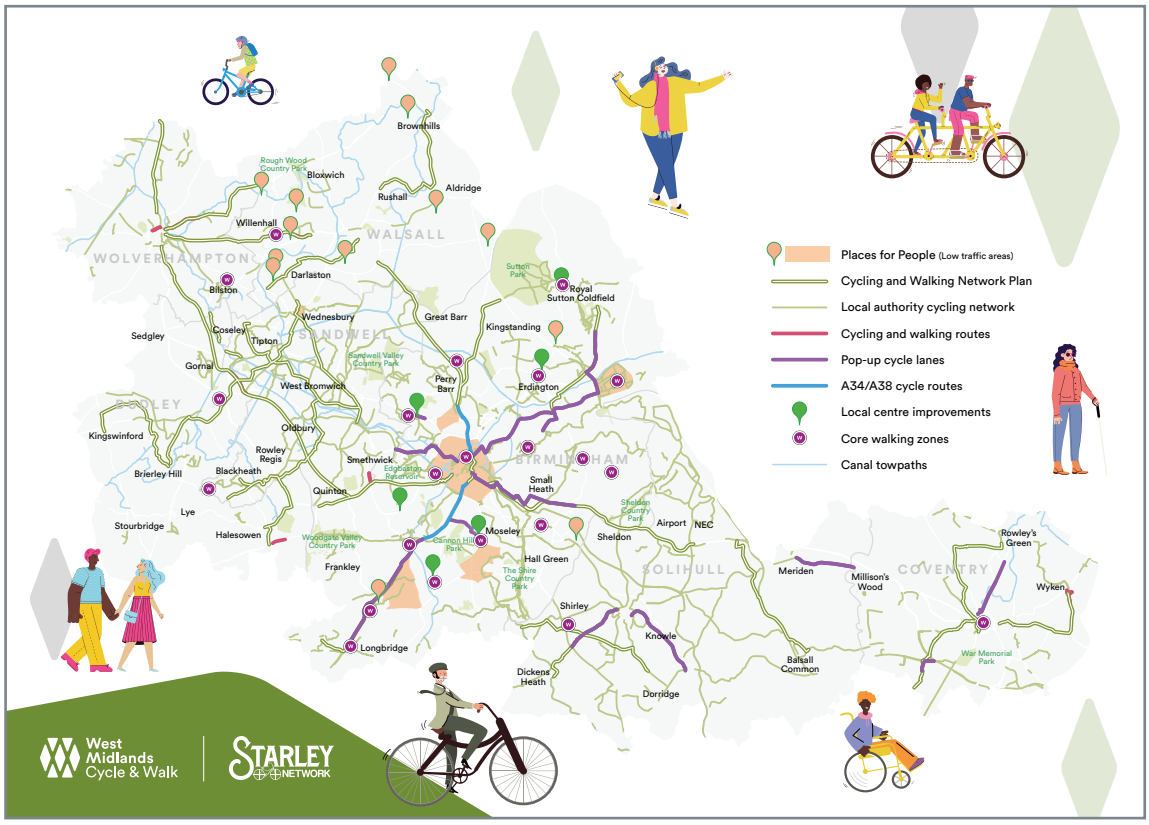

Figure 4-2: The Starley Network (Source: TfWM)

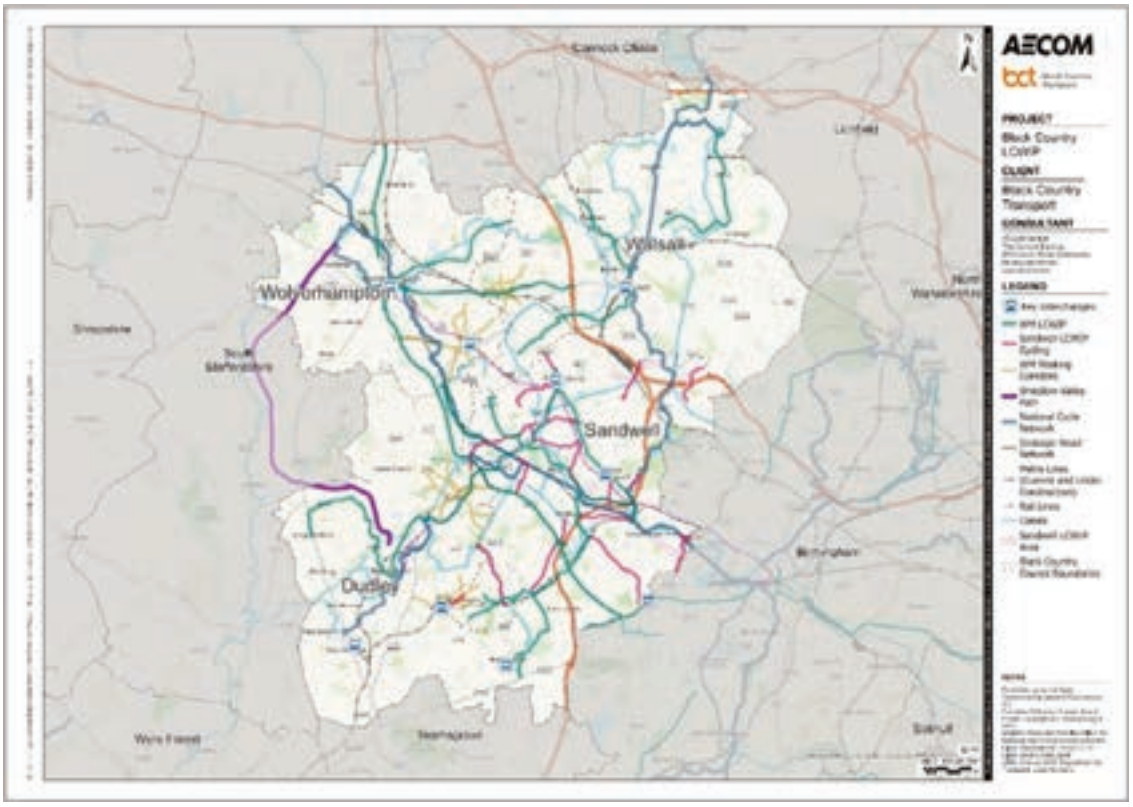

Figure 4-3: The Black Country Transport Network

Wider Interventions

Wider interventions are also being considered across the Black Country to increase active travel. The status of these is still to be confirmed, however it suggests that active travel provision is gaining momentum across the area. A breakdown of these proposals is provided in Table 4-2.

Proposed Intervention	Potential Locations
Social Prescribing / Cycling for Everyone (no funding confirmed)	Dudley - Brierley Hill, St James and St Thomas Sandwell – Langley, Soho & Victoria, St Pauls Walsall – Birchills, Leamore, Walsall Town Centre, Willenhall South Wolverhampton – Bilston East, Bushbury South, Low Hill and East Park
Mini Holland Schemes (no funding confirmed)	Dudley - Stourbridge Town Centre Sandwell – feasibility study to determine suitable location Walsall - Walsall Town Centre Wolverhampton - Feasibility of one or more of the following locations - Goldthorn Park, Ashmore, Park / Peacock Avenue, Low Hill, East Park and Heath Park
Cultural Investments (no funding confirmed)	Dudley – Brierley Hill Sandwell – West Bromwich Town Centre Walsall – Walsall Town Centre Wolverhampton – West Park

Table 4-2: Proposed Wider Interventions across the Black Country

Cycling and Walking Levels

The Active Lives Survey (Sport England)[3], provides a high-level understanding of the frequency of walking and cycling across the Black Country compared to the national level. The data shown in Table 4-3 was collected between 2019 and 2020 and presents the proportion of people who walk or cycle at various frequencies per week.

In all instances, the levels across the Black Country are lower than the national level, with Sandwell having the lowest proportions overall and Dudley the highest.

Area	Once a week %	Three times a week %	Five timesa week %	Sample size
England	69.3	46.0	24.5	177,735
Dudley	62.1	35.3	27.9	1,019
Sandwell	49.5	25.9	19.4	993
Walsall	55.2	31.9	20.8	873
Wolverhampton	58.0	33.2	24.6	811

Table 4-3: Cycling and Walking Frequencies

3 https://www.gov.uk/government/statistical-data-sets/walking-and-cycling-statistics-cw

Determining Gaps

These maps have therefore been essential in determining any gaps in the cycle network and when reviewed alongside the propensity to cycle tool outputs (see Figure 44 and Figure 45) help to highlight where new routes should be proposed. For walking, this data helps to provide context but highlights that other data needs to be considered further.

West Midland's Cycling Levels

According to the 2019 Sustrans Bike Life report, the number of residents cycling once per week and five or more days per week in the West Midlands was 10% and 3%, respectively[4]. However, in 2021, these values increased to 13% and 4%[5], highlighting that cycling uptake is gradually rising across the region.

National Travel Survey data also indicates that cycling levels spiked in the West Midlands during the COVID-19 pandemic with an average resident completing 19 cycling trips per year in 2020, compared to only 9 cycling trips between 2018 and 2019[6]. This demonstrates that the demand for cycling across the region is increasing. It is also interesting to note that the annual average cycling distance for West Midlands residents increased by 39 miles between 2018/19 and 2020[7]. This further demonstrates that cycling is becoming an increasingly popular travel mode.

The Black Country LCWIP will capitalise on the increases in cycling noted during the pandemic, unlocking further growth across the region, and promoting cycling as a more favourable travel mode. The infrastructure delivered as part of the LCWIP will help to create attractive and accessible environments conducive to cycling, which will encourage greater cycling uptake. Subsequently, this will improve physical activity levels and public health across the Black Country and reduce the health inequalities across the region.

4 bikelife19_west-midlands_web.pdf (sustrans.org.uk)
5 Walking and Cycling Index 2021: West Midlands (sustrans.org.uk)
6 Region and Rural-Urban Classification - GOV.UK (www.gov.uk)
7 Region and Rural-Urban Classification - GOV.UK (www.gov.uk)

D2: Propensity to Cycle Tool (PCT)

The PCT is a cycle planning tool which offers various scenarios of change to determine where cycling is currently common practice and where it could grow. The tool is particularly useful in identifying key demand corridors or specific origin-destination trips. Some of the limitations of the tool include the data used, i.e., Census 2011 data, and the focus on utility-based cycle demand as opposed to leisure-based demand. However, the outputs provide an indication of where the greatest propensity to cycle is likely to be.

Figure 4-4 and Figure 4-5 demonstrate two propensity to cycle scenarios, the former based on UK government targets and the latter on Go Dutch targets. The general corridors and routes stay the same, however the number of cyclists change quite drastically between the two scenarios. The routes are largely focused on corridors into key centres, such as Wolverhampton city centre, with much of the rural area in the Black Country largely uncovered. These outputs have provided the basis of where cycle trips could be focused.

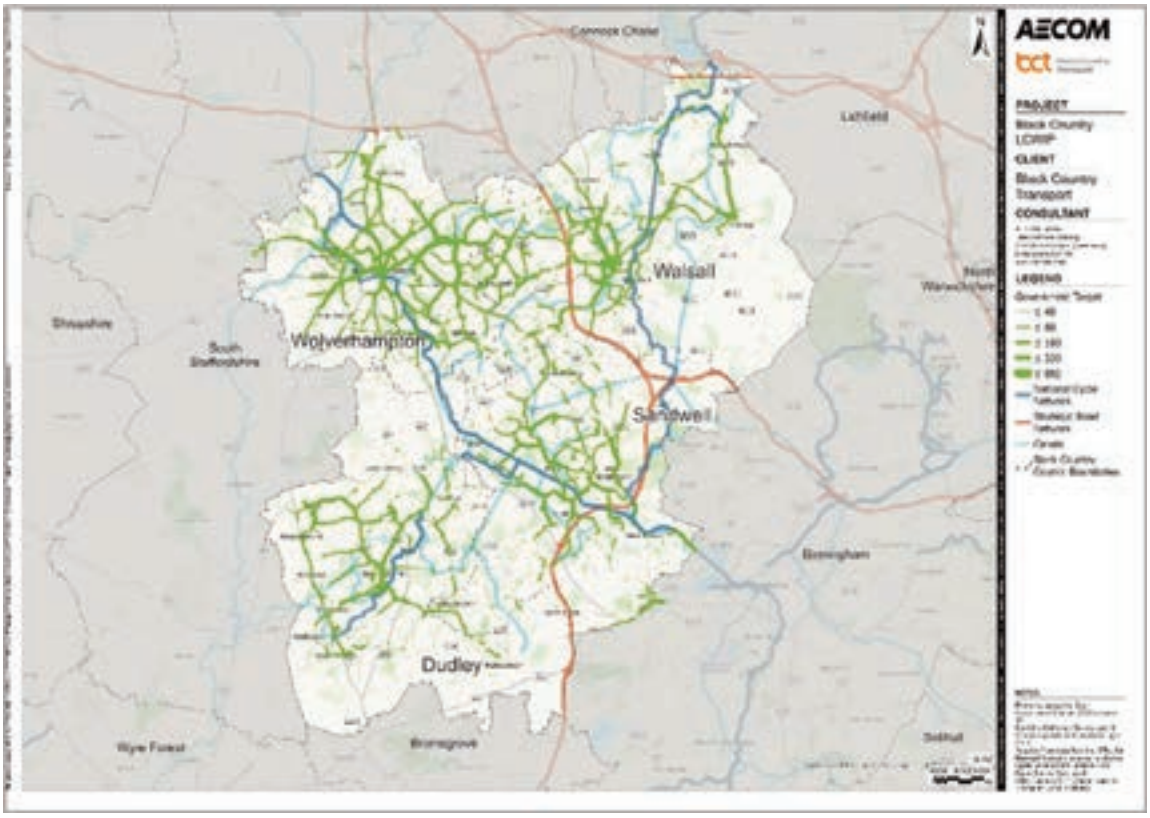

Figure 4-4: PCT based on UK Government Targets

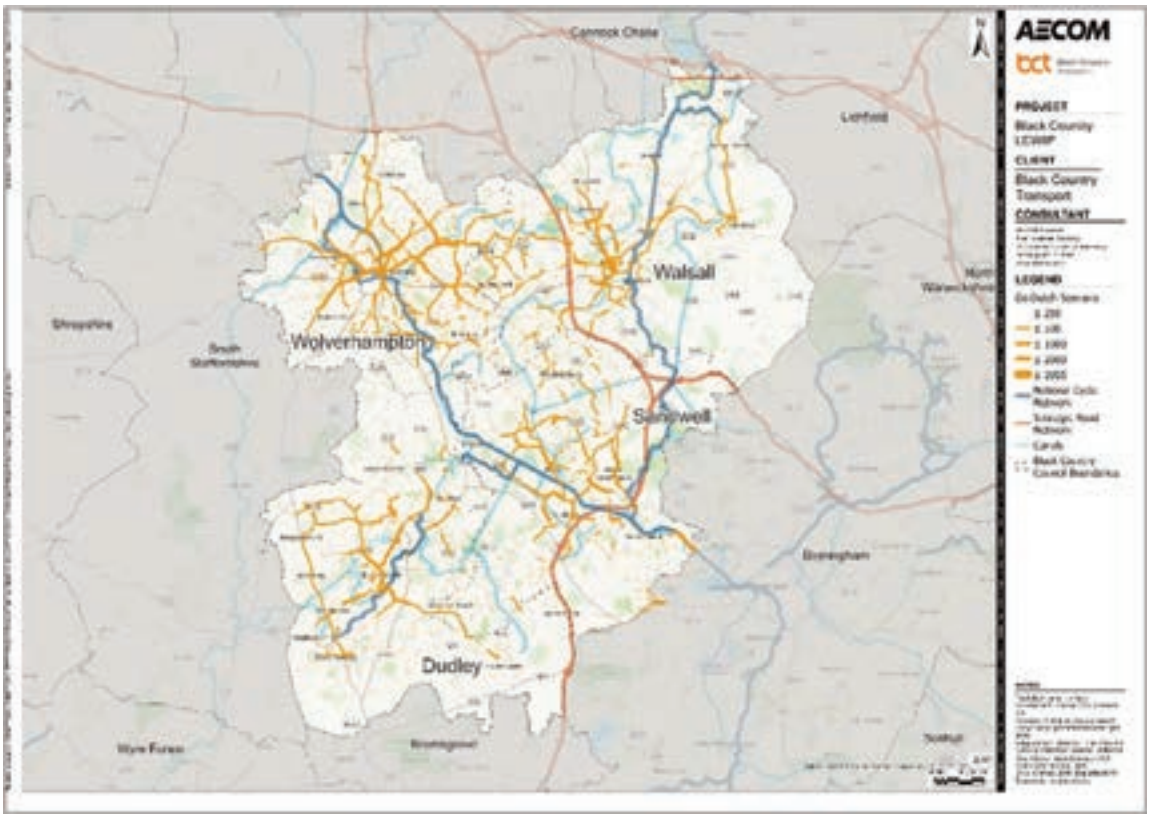

Figure 4-5: PCT based on Go Dutch targets

D3: Trip Attractors

Trip attractors can include an array of locations but for the purposes of this analysis the main focus has been on educational establishments, hospitals, shopping centres and leisure-based visitor attractors such as parks, museums and nature reserves.

New proposals, including developments and interchanges, have also been considered in this analysis as these will generate new trips. Across the Black Country, efforts are also being made to ensure robust travel plans are put in place which focus on sustainable transport and reduce car dependency.

This data provides insight into where trip attractors might be agglomerated so that cycling and walking schemes could be offered as viable mode choices.

The location of schools has been considered along with some of the socio demographic data, presented later in the document, such as childhood obesity to start developing and identifying areas for intervention.

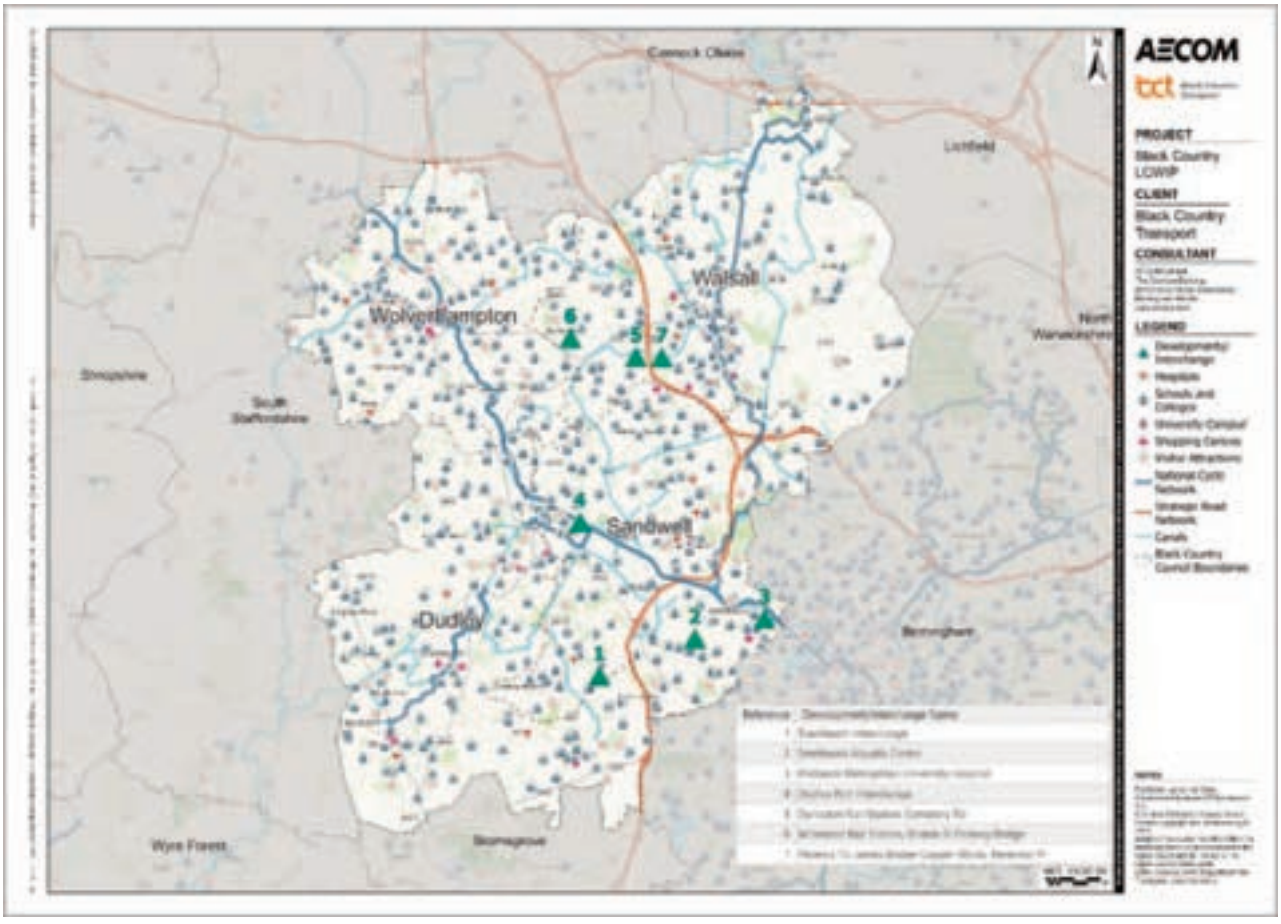

Figure 4-6: Current Trip Attractors and Proposed Developments

D4: Workplace Population

Census 2011 Workplace Population data provides context of where the working population live and where cycling and walking infrastructure might be required to encourage the use of these modes as part of a daily commute.

This layer has been used alongside the active travel and public transport network to determine whether there are any opportunities to better connect people to these networks.

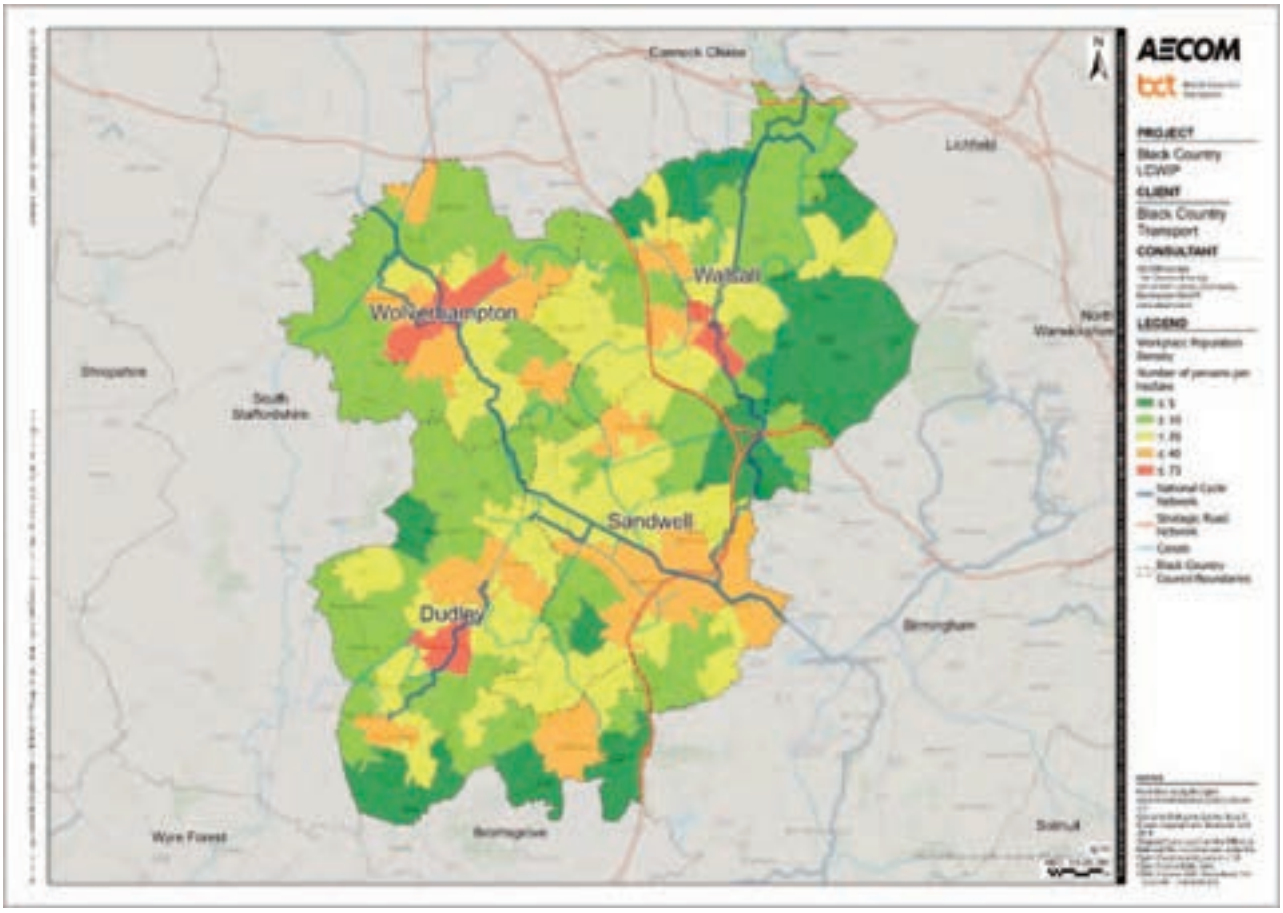

Figure 4-7: Workplace Population

S1: Index of Multiple Deprivation

The Index of Multiple Deprivation (IMD) provides a measure of the relative deprivation in England based on a number of different domains including, but not limited to, income, employment, health and disability, crime and living environment.

The latest data available is for 2019 and is presented in Figure 4-8. This provides a geographical understanding of the more deprived areas across the Black Country and has been used alongside some of the other datasets including active travel and public transport networks, childhood obesity and access to car and van.

This cross analysis has helped to determine key focus areas to improve transport inequality and physical inactivity which are key strategic priorities for the Black Country.

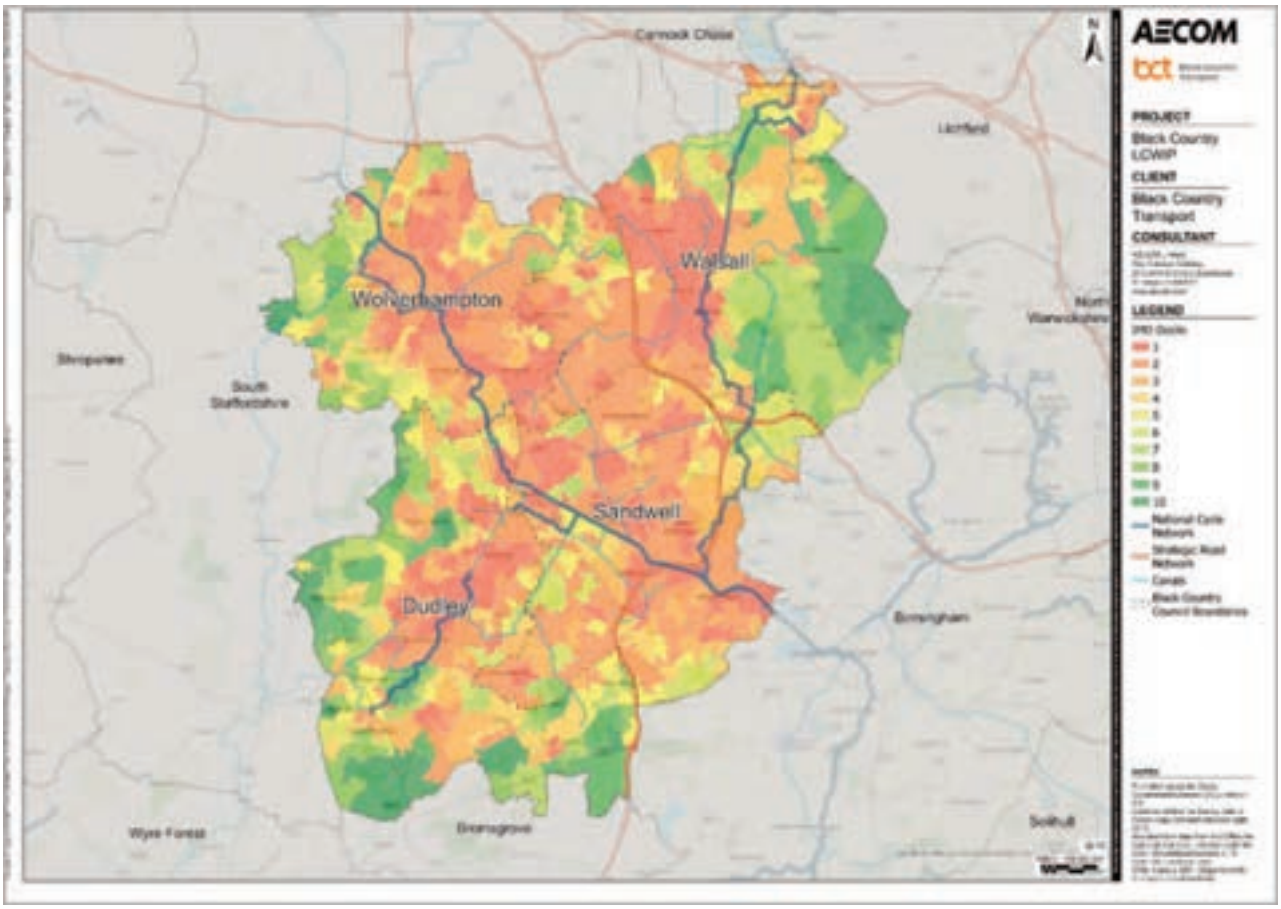

Figure 4-8: Index of Multiple Deprivation

S2: Access to Car or Van

Although this data has been taken from Census 2011, it does provide an indication of where alternative modes of transport are likely to be relied on due to the population having limited or no access to a car or van.

Nationally, 25.8% of the population have no access to a car or van which is a slightly higher proportion than the West Midlands which is 24.7%. Within the Black Country, Dudley has the lowest proportion of people without access at 23%, followed by Walsall with 28.8%, Wolverhampton with 33.6% and Sandwell with 33.9%.

When reviewed against the active travel and public transport network data, generally there are good public transport links in place in areas with lower access to cars or van. However, this is not necessarily the case for cycling and walking infrastructure and provision.

These gaps in the network have been considered in the development of route and zone options.

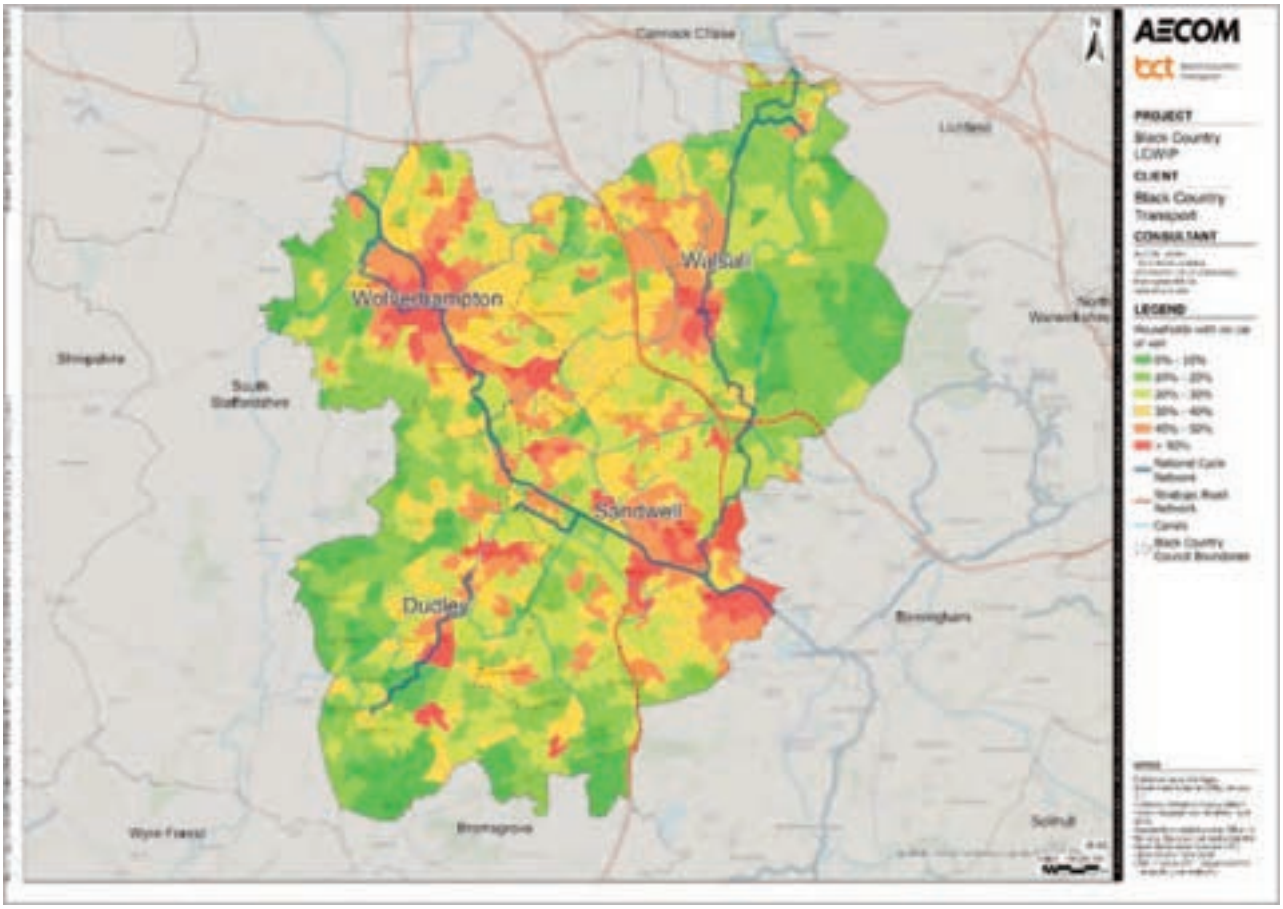

Figure 4-9: Household with no access to Car or Van

S3: Physical Inactivity

In support of the wider Public Health agenda across the Black Country and to support strategic priorities to tackle chronic physical inactivity, the levels of physical inactivity have been reviewed.

Sport England's Active Lives Survey provides further insight on the level of physical inactivity across England.

The data presented in the graph provides a comparison between each of the four Black Country authorities, West Midlands as a while and England. The metric being assessed is the proportion of people that undertake less than 30 minutes activity a week.

In all cases, there are lower proportions of people nationally (27%) that are physically inactive than across the Black Country authorities and the West Midlands (30%).

Sandwell and Walsall demonstrate the highest levels of inactivity at 37% and 38% respectively

An improved cycling and walking offer across the Black Country will help to combat this issue.

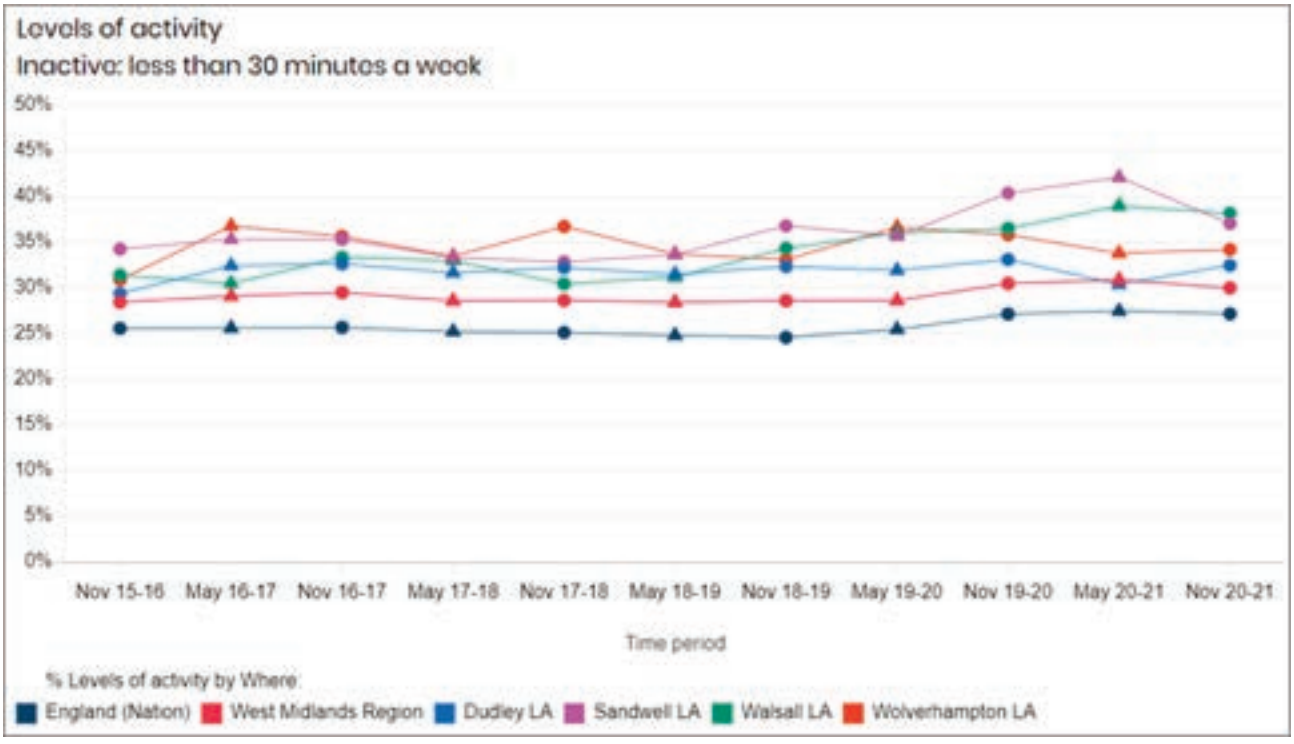

Figure 4-10: Levels of physical inactivity in the Black Country, West Midlands and England (Source: Sport England[8])

8 https://activelives.sportengland.org/Result?queryId=73393

S4: Childhood Obesity

The levels of childhood obesity have also been reviewed.

Data has been obtained from the Office of National Statistics for the period 2015/16 to 2027/18 across the Black Country and has been analysed alongside the location of the educational establishments, primarily primary schools, and IMD.

The layering of this data has enabled insight into areas that could benefit from enhanced active travel infrastructure and provision, strongly supported by more complementary measures such as education and training programmes and the implementation of school streets.

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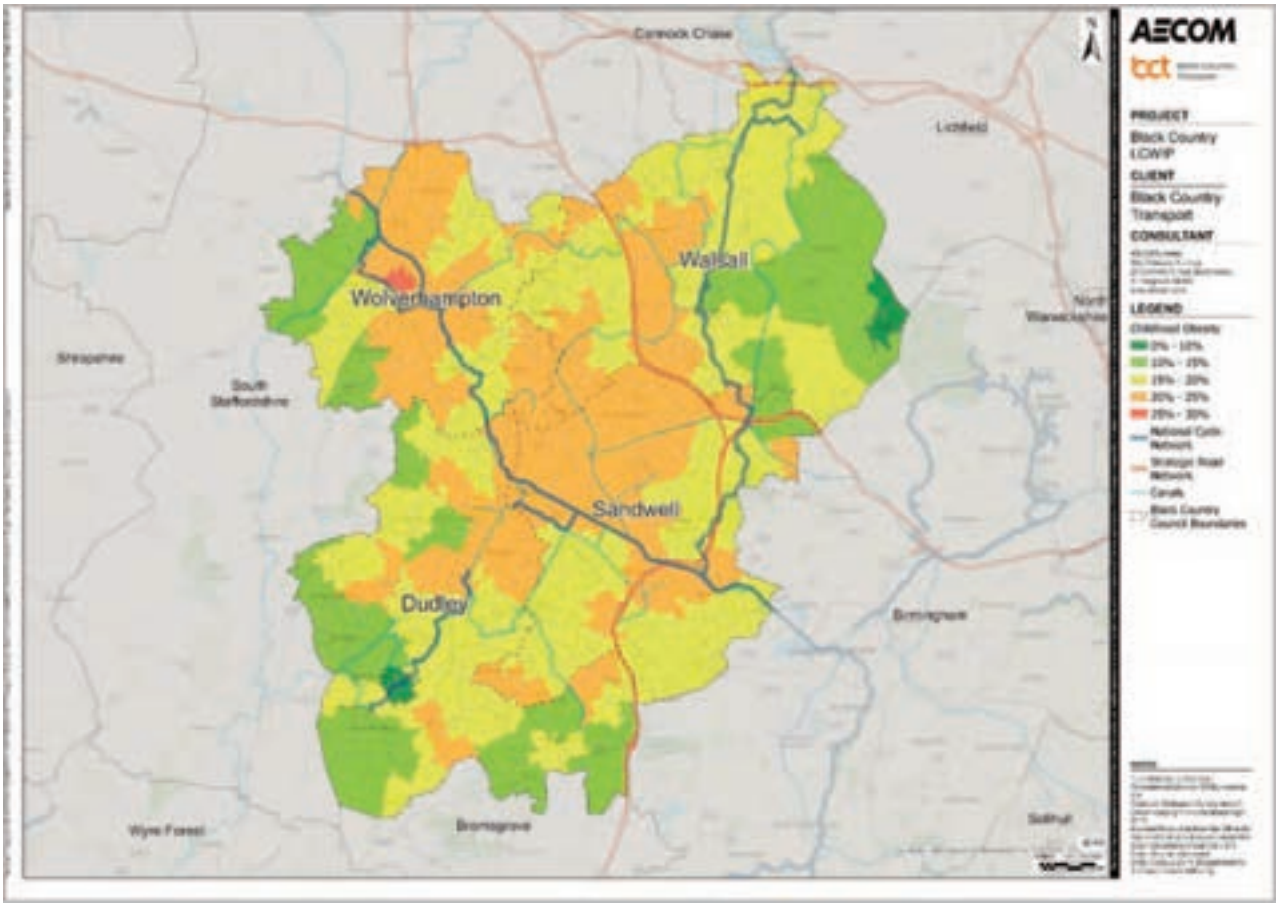


Figure 4-11: Childhood Obesity

C1: Collision Data

Collision data was collected for the Black Country for the period 2016 to 2020. The data was analysed in a number of ways however the core focus was placed on the prevalence of cycling and pedestrian collisions across the network, in particular killed or seriously injured (KSI) outcomes. These have been mapped in Figure 4-12 and Figure 4-13 below. The maps help to distinguish where there are a concentration or cluster of collisions across the area.

Data analysis shows that 68% of all KSI collisions occurred where there were no physical crossing facilities within 50 metres, with 14% of all KSIs happening at pelican, puffin, toucan or similar non-junction pedestrian light crossings, and 4% at zebra crossings. Of all the KSI collisions that occurred at pedestrian crossings, 58% were not at a junction or within 20 metres of a junction, whereas 30% were at T junctions or staggered junctions.

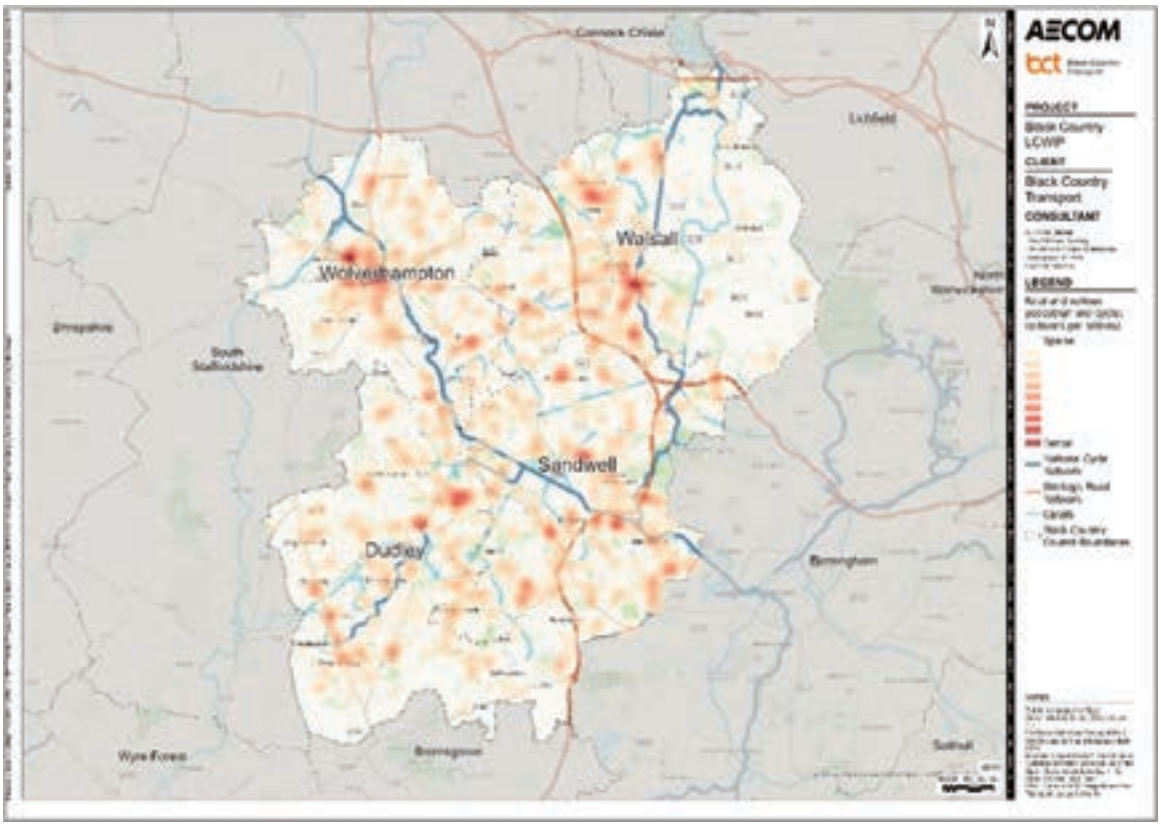


Figure 4-12: Cycle and Pedestrian KSI Heat Map

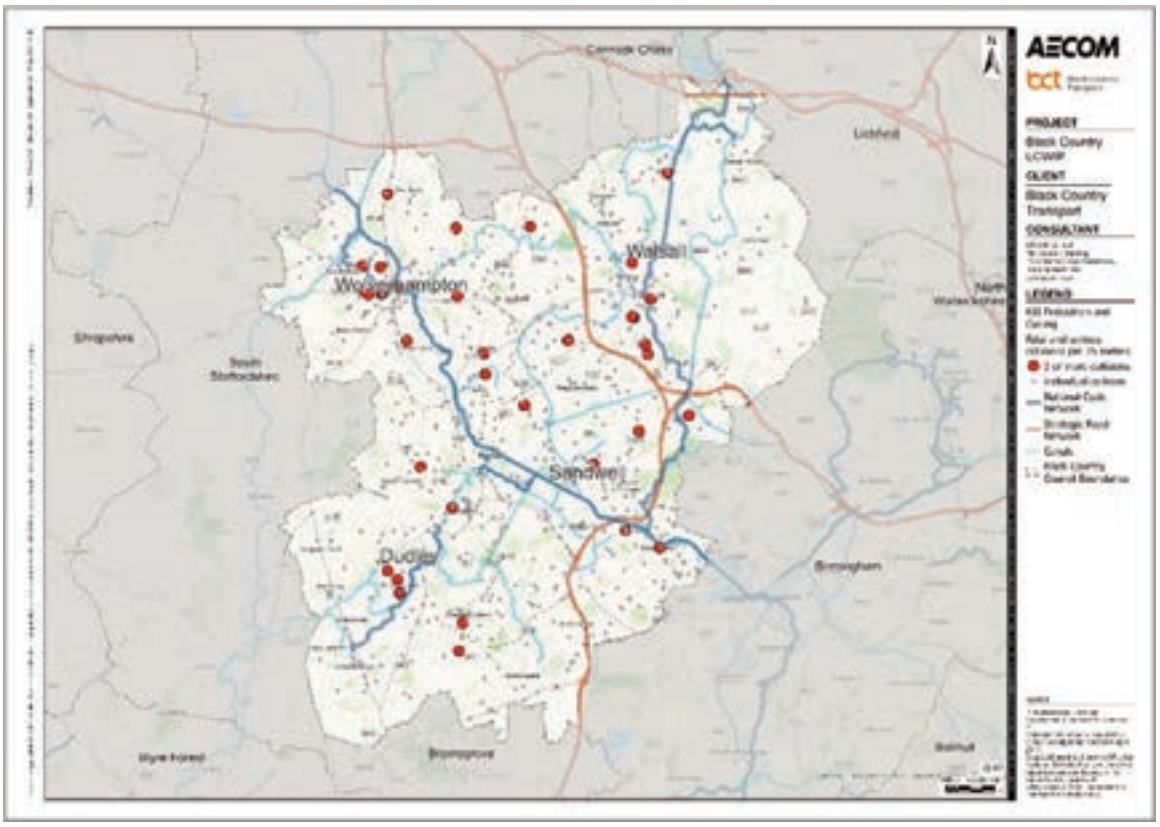


Figure 4-13: Cycle and Pedestrian KSI Clusters

Stakeholder Workshops

The stakeholder workshops provided the opportunity to obtain insight from internal and external stakeholders on the key challenges and opportunities for cycling and walking across the Black Country. The key objectives of the workshops were:

- To identify current walking and cycling provision available and existing demand
- To identify key challenges and opportunities for implementing a coordinated network
- To understand what investment and initiatives are already planned
- To understand the longer-term vision for the network ("blue-sky thinking")
- To understand emphasis on the strategic priorities of the Black Country
- To inform optioneering process and record outputs as part of the Stakeholder Engagement Log (Appendix A)

An overview of the workshops is provided in Figure 4-14.

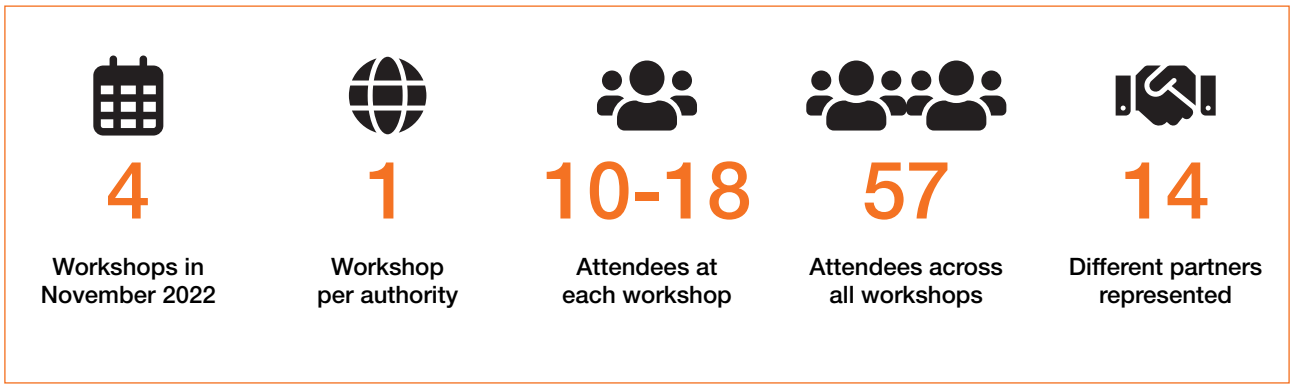


Figure 4-14: Stakeholder Workshop Overview

In terms of stakeholders, internally these included representatives from BCT, each of the four local authorities and TfWM. Cross departmental stakeholders also joined including those from the planning, regeneration and public health teams. External stakeholders included representatives from Sustrans, Living Streets, Canal and River Trust and Sports England. Local cycling charities and representatives from local disability groups were also requested to join however there was limited attendance from these groups.

Workshop Findings

The workshops were focused around four themes:

- Challenges
- Demand
- Strategic Priorities
- Future Interventions / vision

A summary of the findings is set out in this section with full detail provided in Appendix A.

Challenges

The key challenges identified at the stakeholder workshops are set out in Figure 4-15. These range from network specific issues to obtaining political and public support for cycling and walking infrastructure and initiatives.

Infrastructure
- Inadequate road space for cycling and walking
- Not fit for purpose
- Inaccessible and inconsistent signage for all

Political
- Lack of support for cycling and walking initiatives
- Active travel is a low priority area

Safety
- Unlit routes
- Poor infrastructure
- Poor driver behaviour
- High traffic flows

Championing/Public Support
- Lack of champions
- Resistance to road space allocation
- Lack of strong marketing / communication strategy

Governance/Resourcing
- Inflexible processes
- Reluctance to change
- Limited resources
- Limited specialist roles and support
- Limited training opportunities

Figure 4-15: Stakeholder Workshop Findings - Challenges

Demand

Stakeholders were asked which routes or locations they considered to have the greatest demand for cycling or walking. A number of routes were identified however, it was the types of locations that came up more prominently, specifically those set out in Figure 4-16. The demand locations are largely associated with utility-based journeys, however leisure-based demand was also identified.

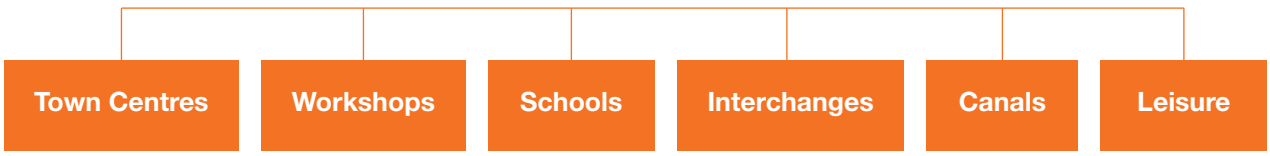


Figure 4-16: Stakeholder Workshop Findings - Demand Locations*

* The outputs should be caveated by the fact that they are based on a small sample size of attendees at the stakeholder workshops.

Strategic Priorities

In order to determine the strategic priorities across the Black Country, stakeholders were asked to rank them in terms of importance. The strategic priorities have been taken from the LCWIP brief and the results are presented in Figure 4-17.

The top-ranking priority relates to net-zero carbon which is a driving force behind policy and also the development of this LCWIP. This was followed by tackling chronic physical inactivity, which is another priority area for the Black Country. These are all priorities for a reason, however this analysis provides further insight into where interventions should be focused, i.e. in areas where emissions are already high and/or in locations whether health and physical inactivity is an issue.

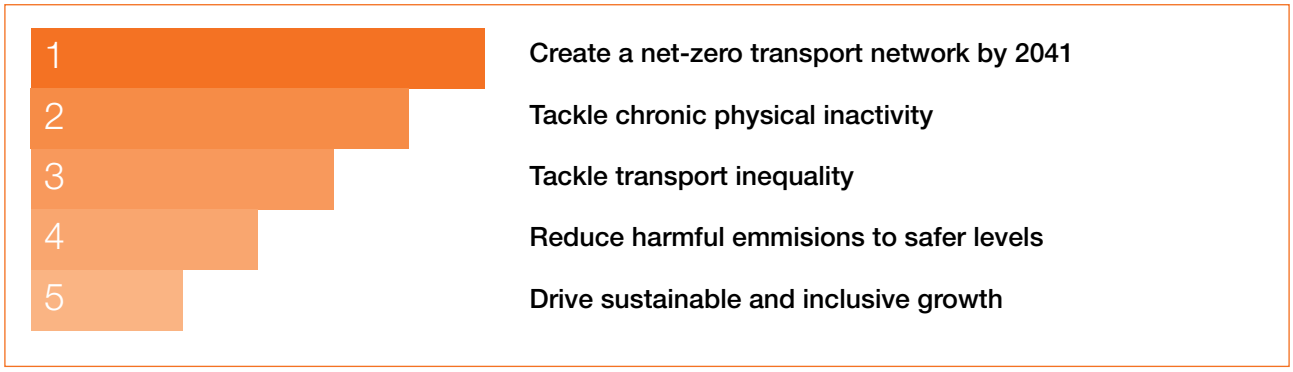


Figure 4-17: Stakeholder Workshop Findings - Strategic Priorities*

*Rank calculated by summing total score by strategic priority by local authority area. The outputs should be caveated by the fact that they are based on a small sample size of attendees at the stakeholder workshops.

Future Interventions / Vision

Stakeholders were also asked what type of future interventions they would want to see delivered across the Black Country, broadening the scope from solely infrastructure related options to more programme-based interventions. The top scoring interventions were the reallocation of road space and mass awareness raising / education and change of perception campaigns. These two elements come hand in hand, as behavioural change initiatives will be required to obtain the right level of political and public support in delivering road space reallocation schemes. Other interventions considered included:

- 10/20-minute neighbourhoods
- Addressing infrastructure gaps
- Low traffic neighbourhoods
- Public realm improvements
- Mobility hubs
- Digital enhancements

In terms of future vision, the six key areas set out in Figure 4-18 were identified. The key focus is on an inclusive, coherent and connected network for all modes across the Black Country which can build a strong foundation for mode shift.

Inclusive:
provide equal and equitable opportunity to access all modes and provide people with the opportunity and facilities to walk and cycle without barriers for all journey purposes.

Multimodal:
support and encourage integration between active travel and public transport provision. Specifically through improved connections and enhanced accessibility.

Connected:
improve connectivity within and between boroughs through enhanced walking, cycling and public transport provision.

Digital:
explore opportunities to digitise information such as maps, way finding, apps, etc to support greater dissemination of information.

15/20 Minute Neighbourhoods:
opportunity to encourage walking and cycling and an aspect that should be considered in future large-scale developments.

Collaboration:
provide an opportunity to share ideas but also enable consistency in delivery across the Black Country and the West Midlands.

Figure 4-18: Stakeholder Workshop Findings - Future Vision

Governance Review

This section of the report concentrates on the key findings that emerged from the stakeholder interviews. The purpose of the stakeholder interviews was to focus on the current governance arrangements and potential challenges and opportunities in delivering the Black Country LCWIP. Figure 4-19 provides an overview of the stakeholder interviews, including the number of people and organisations involved in the process, and the key topics discussed during each interview. Figure 4-20 highlights the participants involved in each stakeholder interview and the respective organisations they belong to.

The interviews focused on three core themes: success factors for delivering the LCWIP, challenges to delivering the LCWIP and examples of best practice that could be transferable to the Black Country. For more information, please refer to the engagement log in Appendix A.

Figure 4-19: Summary of Stakeholder Interviews

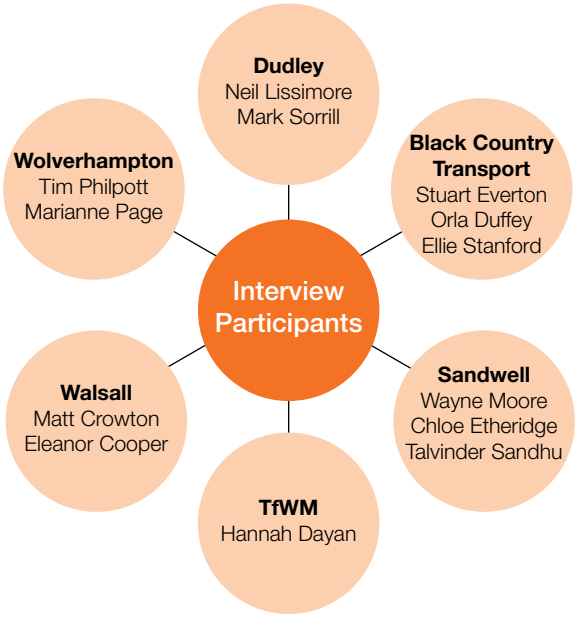


Figure 4-20: Stakeholder Interview Participants

Success Factors

The key success factors identified during the stakeholder interviews are displayed in Figure 4-21. These range from ensuring high-quality, standardised infrastructure is delivered across all local authorities to having politicians and champions promoting the schemes to communities.

Collaboration
Strengthening the relationship and communication between LAs and external stakeholders to encourage sharing of resources and knowledge.

Political Support
Paramount for the successful delivery of the scheme. It is crucial that politicians promote active travel and clearly articulate the benefits of walking and cycling at both local and regional levels.

Infrastructure
Standardisation of infrastructure with consistent signage and colours across all LAs.

Stakeholder Support
Essential component for sharing best practices and innovation. Also required for understanding opinions towards walking and cycling from a range of user groups.

Championing
Vital to have multiple ambassadors within the community encouraging cycling and walking across all demographics in the Black Country. Active Travel Commissioner and Councillorswill have a key role promoting active travel.

Figure 4-21: Stakeholder Interview Findings – Success Factors

Challenges

The core challenges identified during the stakeholder interviews are shown in Figure 4-22. These range from direct issues related to funding to more complex internal issues such as competing work programmes and skills shortages.

Funding
Strong and continuous cash flow will be required to effectively deliver the LCWIP on time.

Resources
Limited resource availability across LAs. Also, lack of traffic modelling expertise – often leads to commissioning work externally.

Competing Priorities
Different work programmes and internal deadlines alongside contractor availability will effect the budget and delivery timescale of the LCWIP.

Technical Skills
Current lack of understanding and expertise across LAs regarding how to develop LTN 1/20 training course, delivered by Sustrans should be offered to staff.

Supply Chain Robustness
Divide between those with aspirations for innovative schemes and designers makes it challenging to turn an ambitious vision into a compliant design.

Figure 4-22: Stakeholder Interview Findings - Challenges

Best Practice

The key examples of best practice outlined during the stakeholder interviews are presented in Figure 4-23. These consist of learning from existing successful schemes delivered across the UK, as well as utilising officer groups to share ideas and knowledge.

M123 Corridor Wednesbury to Brierley Hill Metro Extension

Successful collaboration and sharing of resources across LAs. during the last 18 months

Cycling and Walking Officer Group

Meets monthly to discuss infrastructure developments, behaviour change initiatives and best practices across the region.

Mini Hollands Walthamstow, London

Learning from previously successful schemes delivered across the UK. which have boosted walking and cycling rates.

Figure 4-23: Stakeholder Interview Findings – Best Practice

Policy Review

In the development of any strategy, it is imperative to understand the policy direction at the local, regional and national level as this will support the development of schemes. A review of national, regional and local policy has been undertaken.

National Policy

This section concentrates on national planning and transport policies and guidance pertinent to cycling and walking.

National Planning Policy Framework (NPPF), 2024

The NPPF (2024) set outs the government's planning policy objectives for England and how these should be applied. Guidance within the document relevant to the Black Country LCWIP development includes:

- Section 8 paragraph 96 which seeks to ensure that "planning policies and decisions should aim to achieve healthy, inclusive and safe places" through design and supportive infrastructure. This is to encourage healthy lifestyles, walking and cycling.
- Section 9 paragraph 109 builds on this notion outlining that "Transport issues should be considered from the earliest stages of plan-making and development proposals, using a vision-led approach to identify transport solutions that deliver well-designed, sustainable and popular places."
- Section 9 paragraph 111 makes direct reference to the LCWIPs and highlights that planning policies should "provide for attractive and well-designed walking and cycling networks with supporting facilities such as secure cycle parking".

There is an emphasis on supporting people and creating places which allow for greater walking and cycling activities.

Cycling and Walking Investment Strategy (CWIS), 2017

The CWIS is a national cycling and walking strategy introduced by the Department for Transport (DfT) in April 2017, highlighting the government's ambition of making 'cycling and walking the natural choices for shorter journeys, or as part of a longer journey'.

The Government acknowledges that walking and cycling should play an integral role as part of the public's everyday life. The CWIS aims to ensure that everyone has access to high quality, safe and attractive walking and cycle routes by 2030. The strategy also strives to accelerate the transition to more sustainable communities where the dependency on motorised vehicles is reduced, subsequently addressing congestion, and improving mental and physical wellbeing.

By 2020, the strategy aims to increase cycling and walking activity, reduce the rate of KSIs relating to cyclists and increase the percentage of children aged 5 to 10 that usually walk to school.

The CWIS also sets out the government's three long-term ambitions and objectives for cycling and walking, which it seeks to achieve by 2040. The ambitions include:

- Better Safety: 'A safe and reliable way to travel for short journeys'
- Better Mobility: 'More people cycling and walking - easy, normal and enjoyable'
- Better Streets: 'Places that have cycling and walking at their heart'

These are supported by a series of objectives which focus on safety, behaviour change, positive design and infrastructure and connected communications.

To support this national strategy, local areas will need to be transformed into active travel neighbourhoods by providing improvements to walking and cycling infrastructure. These localised improvements will help to create communities where active travel can thrive.

The delivery of this LCWIP will facilitate the region's transition to a net-zero transport network by 2041 by reducing harmful emissions, whilst simultaneously addressing chronic physical inactivity in the Black Country.

LCWIP Guidance, 2017

LCWIPs were identified in the CWIS as a new, strategic approach to determine the cycling and walking improvements required at a local level. LCWIPs play an essential role in helping to accomplish the government's ambitions of increasing the number of walking and cycling journeys.

The guidance provides a recommended approach to delivering LCWIPs, which combines areas of best practice and information on the most suitable tools for developing robust walking and cycling schemes.

The Guidance acknowledges that LCWIPS 'are part of an integrated response to creating better places, safer streets and more reliable journeys' but over a longer period of around 10 years.

As outlined in the guidance, the key outputs of LCWIPs are:

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

The outputs of the Black Country LCWIP will be completed in accordance with the LCWIP Guidance.

Gear Change: A bold vision for cycling and walking, 2020

This document clearly identifies that a step-change in cycling and walking is required in future years. The government recognises that walking and cycling provides a tremendous opportunity to transform our society for the better and address some of the UKs most complex issues: improving air quality, combatting climate change, improving health and wellbeing, addressing inequalities, and tackling congestion on our roads.

During the Covid-19 pandemic, the public's desire to be more active was recognised, with some weekends experiencing a 200% increase in cycling compared to pre-pandemic levels. The Gear Change vision strives to build upon this desire, by continuing to create an active travel culture in England and entrenching these active travel behaviours in our society.

Transforming England into an active travel nation will require numerous government actions and will be centred around four core themes, as shown in Figure 4-24.

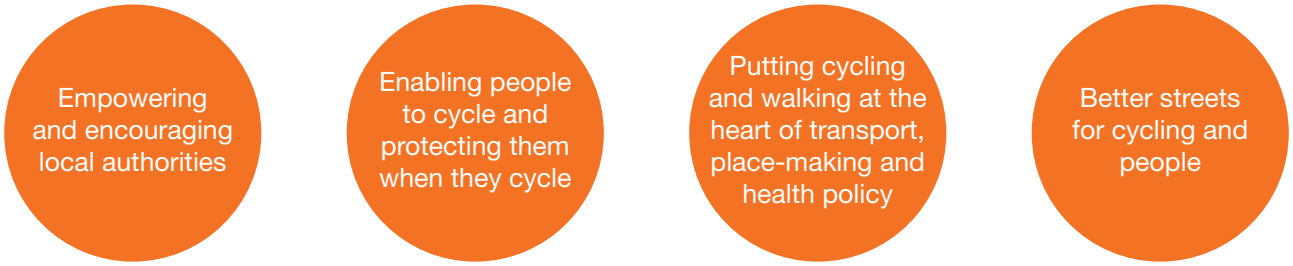


Figure 4-24: Active travel nation themes

To accomplish this vision and ensure that active travel is embedded within local communities, localised improvements to walking and cycling infrastructure will be required. This may take place in many forms including the implementation of school streets, modal filters, and wayfinding signs.

It is widely known that active travel investment provides a multitude of benefits to society, some of which are presented in Figure 4-25. It is envisaged that through the schemes and supportive measures identified within this LCWIP, that a positive contribution will be made to delivering these benefits.

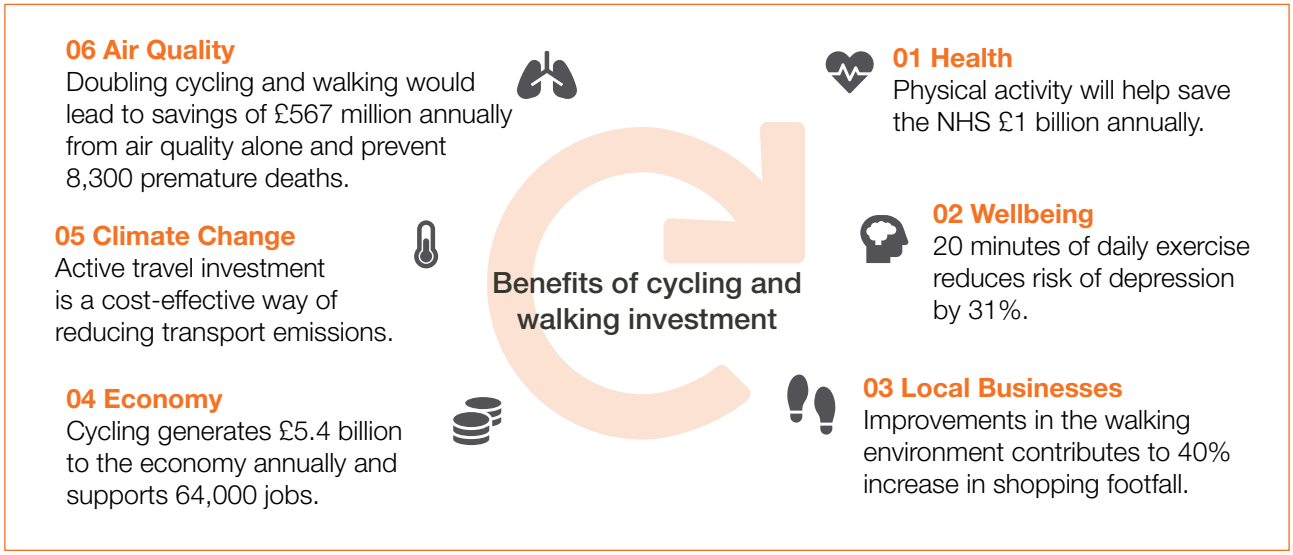


Figure 4-25: Benefits of active travel investment

Local Transport Note 1/20 (LTN 1/20), 2020

LTN 1/20 was introduced in July 2020, to provide guidance on the design of cycle infrastructure. The guidance recognises that 'the built environment should be accessible to all', therefore creating inclusive walking and cycling networks is paramount to achieving more trips by bike or on foot.

There are 5 core design principles that underpin LTN 1/20 guidance, and these must be addressed to increase walking and cycling uptake across the UK. These principles state that all cycling and walking infrastructure should be coherent, direct, safe, comfortable, and attractive. The principles must also have inclusivity and accessibility at the heart of them, so that all people are accommodated.

The guidance provides a range of tools which help to develop infrastructure designs and also sets measurable quality thresholds that must be achieved when designing cycle schemes. A set of thresholds have been identified to ensure cycle infrastructure is compliant and more likely to

be considered for future funding. As such, only schemes 'with a minimum score of 70% under the Cycling Level of Service, no critical fails and under the Junction Assessment Tools no red-scored turning movements' will be considered for funding.

LTN 1/20 guidance has been adhered to in the development of this LCWIP.

Manual for Streets, 2007

The Manual for Streets (MfS) is a document produced by the DfT that provides guidance on the design, construction, adoption and maintenance of new residential streets. The manual acknowledges that better designed streets play a vital role in improving the quality of the built environment and creating inclusive and sustainable communities. It also highlights that streets should not be designed purely to cater for motor vehicles but instead should be designed to accommodate the needs of pedestrians, cyclists, and public transport users and to support the shift to more sustainable transport modes. The manual aims to help create streets that:

- Help to build and strengthen the communities they serve.
- Meet the needs of all users, by embodying the principles of inclusive design.
- Form part of a well-connected network.
- Are attractive and have their own distinctive identity.
- Are cost-effective to construct and maintain.
- Are safe

The MfS recognises that walking and cycling has previously been neglected by planners. However, these active travel modes now provide a great opportunity, as sustainable alternatives to the car, to help to tackle public health issues and climate change in the UK. The manual also suggests that improving the connectivity of local street networks by deploying localised interventions will facilitate an increase in walking and cycling.

The Black Country LCWIP supports this notion and will create safe, attractive and well-connected streets which increase walking and cycling participation across the region. The walking areas delivered as part of the LCWIP will also be compliant with the guidance outlined in the MfS.

Pedestrian Comfort Guidance for London, 2019

The core objective of this guidance document is to help planners 'create excellent pedestrian environments through a clear, consistent process during the planning and implementation of transport improvement projects'.

The guidance highlights that providing suitable and comfortable footways is crucial for encouraging walking in an area. Greater walking levels improve the mental and physical wellbeing of communities and contribute to wider socio-economic benefits such as improved connectivity between residential areas and employment.

The guidance concentrates on factors such as activity levels in an environment, the space available for movement and the footway space taken up by street furniture. Consideration is also given to crossing points and determining whether they are comfortable for pedestrians (i.e. space available for people to queue) and easy to navigate.

Formulating an in-depth understanding of the current pedestrian environment is crucial to delivering successful walking schemes. The LCWIP will support the guidance by creating safe and attractive pedestrian environments.

Pedestrian Environment Review System (PERS) Handbook, 2006

The PERS Handbook highlights how to undertake a review to assess the quality of a pedestrian environment. The scoring criteria concentrates on a combination of objective and subjective elements, enabling the physical form of the environment, as well as how people 'feel' in the environment to be gauged and assessed.

The PERS Handbook acknowledges that every member of the population is a pedestrian at some point in their lives, so it is pivotal that pedestrian environments are safe, comfortable, and accessible to all. Providing high-quality pedestrian environments encourages walking, which contributes to improving public health and greater connectivity. This is also the aim of the Black Country LCWIP.

Regional Policy

This section of the report considers regional policy, focusing on West Midlands wide policy and strategy documents.

TfWM Movement for Growth Strategy, 2017

This strategy sets out the improvements needed to the West Midlands' transport system to ensure it can thrive over the next two decades and overcome any challenges experienced during this period. Improvements will be undertaken by a variety of organisations, with the West Midlands Combined Authority (WMCA) steering the delivery of these improvements so that the desired vision for the region's transport system is achieved.

The vision includes improving air quality, the health and quality of life of people residing in the region, as well as developing a more sustainable transport network. To realise this vision, the WMCA state they will 'ensure that walking and cycling are a safe and attractive option for many journeys especially short journeys, by delivering a strategic cycle network and enhancing local conditions for active travel'.

This strategic transport plan prioritises the incorporation of more active travel schemes within the West Midlands to help combat the public health issues such as high obesity levels and diabetes. The strategy also identifies that localised improvements to highway and footway infrastructure in the region is required to 'encourage walking and safer cycling'.

The Black Country LCWIP seeks to support the vision set out in the Movement for Growth Strategy by creating a well-connected and accessible walking and cycling networks for all.

WMCA Strategic Economic Plan (SEP), 2017

The WMCA SEP outlines the vision, objectives, strategy and actions required to improve the quality of life for those who live and work in the West Midlands. The plan's core focus is to create a stronger West Midlands by significantly investing £8 billion in the region over the next 30 years. This will help to develop skills, innovation, and transport across the region, whilst also attracting inward investment.

Some objectives set out in the SEP include improving the connectivity and accessibility of people to employment, improving the health and wellbeing of people in the region, and reducing the direct emission produced from transport. The Black Country LCWIP will support and address each of these objectives, particularly improving connectivity and accessibility to employment.

West Midlands Cycle Charter, 2017

The primary aim of the Cycle Charter is to promote and increase cycling across the West Midlands by making it safer for both existing and potential cyclists. Addressing the safety concerns of cyclists is vital for making cycling an attractive and viable mode of transport and is fundamental to delivering a step change in cycling within the region.

The West Midlands Cycle Charter highlights the following 4 key principles to support this step-change:

- Leadership and Profile: Effective and high-profile leadership on cycling is considered key to delivering an increase in cycling across the West Midlands.
- Cycling Network: Significant changes in the planning, design, and maintenance of the West Midlands transport network is required to increase cycling levels.
- Promoting and Encouraging Cycling: Co-ordinated, effective, and efficient delivery of cycle training, safety and marketing will play a significant role in increasing cycling across the West Midlands.
- Funding: Funding for cycling improvements will be crucial if aspirations for cycling growth in the West Midlands are to be met.

The Cycle Charter strives to increase levels of cycling across the West Midlands to 5% of all trips by 2023. A further decade on from this, the aim is for cycling to represent 10% of all trips within the region. Once cycling levels increase to 5% of all journeys, cycling will then be considered an 'everyday' travel mode for all journey purposes. To achieve these targets, there is the need for planners and authorities to invest in localised interventions such as filtered permeability streets, which will encourage mode shift.

The Black Country LCWIP will support the aims of the WM Cycle Charter by providing safe and accessible cycle routes and developing a more integrated cycle network across the wider region.

West Midlands LCWIP, 2018

The WM LCWIP aimed to identify cycling corridors with a high propensity for cycling, as well as a core walking zone within each of the seven constituent local authorities. As part of the initial work, the constraints, and opportunities across key corridors within the region were identified to help ensure high quality cycling and walking networks could be delivered.

Delivery of the WM LCWIP will help to accomplish the Cycle Charter target of increasing levels of cycling in the West Midlands to 5% of all trips by 2023.

The Black Country LCWIP will support and advocate the West Midlands LCWIP by striving to achieve a similar vision of increasing cycling and walking levels across the West Midlands and making active travel a viable and attractive mode of transport for all. It will also seek to build on the network developed through the WM LCWIP to ensure integration and coherency.

West Midlands net-zero carbon emissions strategy (#WM2041), 2021

The WMCA acknowledges that society must act now to avert the climate crisis and therefore declared a climate emergency for the region in June 2019. An overarching target of reducing all emissions to net-zero by no later than 2041 has been set. The region has implemented carbon budgets to act as stepping stones for achieving this target which include the need to reduce emissions by 36% by 2022, and 69% by 2027, compared to a 2018 baseline.

The strategy outlines a set of proposals that the region will need to develop to accomplish its net-zero ambition by 2041. These proposals prioritise the need for making space for sustainable transport by reallocating space away from single occupancy cars and towards walking and cycling. The strategy also highlights the need to create a 'buzz' around cycling and walking in the region, by implementing behaviour change campaigns and mass active travel events. These will improve people's perceptions of active travel and subsequently encourage a greater modal shift towards walking and cycling.

The Black Country LCWIP will support this notion through the delivery of both infrastructure and supportive and behavioural change measures which will seek to encourage mode shift.

West Midlands Cycle Design Guidance, 2019

Cycling plays an integral role for both the environment and economy in the West Midlands. With 41% of journeys under 2 miles in the West Midlands completed by car, cycling has a tremendous opportunity to replace these journeys and alleviate some of the congestion in the region.

The purpose of this document is 'to offer greater consistency in the approach to providing for cycling in all infrastructure schemes'. Creating a sustainable and integrated transport system in the West Midlands requires cycling and walking infrastructure that has a suitable and accessible design. This guidance document aligns with the LTN 1/20 Guidance, setting out the fundamental design principles needed to provide safe cycling, as well as the critical minimum dimensions needed to cater for a moving cyclist. It is evident from both guidance documents that when designing cycle infrastructure, there are 5 overarching principles: safety, directness, coherence, attractiveness, and comfort. These must underpin all designs if a step-change to cycling is to be achieved.

The infrastructure schemes developed as part of the Black Country LCWIP are compliant with both LTN 1/20 and WM Cycle Design Guidance.

Local Policy

This section of the report focuses on the Black Country specific policies and strategies, including pertinent documents relating to the local authorities within the area.

Local Plans

The Wolverhampton Local Plan sets out the policy priorities for the "delivery of an improved and integrated transport network within the Black Country". This has the vision of transforming the area, deliver housing growth and improve economic performance, as well as providing sustainable transport facilities. The WLP draws on the strong links between transport and climate change, reinforcing the imperative to deliver a transport network that supports the reduction of carbon emissions and associated impacts on the natural environment.

Policy TRAN5 in the WLP focuses on "creating coherent networks for cycling and walking", whilst policy TRAN6 aims to promote a shift towards residents using sustainable modes of transport, including walking and cycling.

Draft Walsall Council Plan (2025-2029):

The draft Walsall Council Plan states the importance of connectivity within Walsall, to the wider Black Country and West Midlands, and beyond. This prioritisation of connectivity will drive economic prosperity. Additionally, there is a focus on delivering infrastructure and routes that "allow people a choice in how they get around."

Draft Sandwell Local Plan (Submission Version):
The Sandwell Local Plan states the importance of an integrated transport network in Sandwell that links with regional and national networks. This network connectivity is closely tied with the ambitions of "helping to transform the borough, deliver housing growth and improve economic performance".

The Sandwell Local Plan also recognises the need for transport policies to address the climate crisis, citing the need for the "delivery of a modernised and sustainable transport network", as set out in policies STR5 and STR6. This sustainable transport network will help to reduce pollution, road congestion, and the need to travel, whilst also promoting walking and cycling and sustainable economic growth.

Draft Dudley Local Plan (Submission Version):
The draft Dudley Local Plan notes how the "transport network is integral in keeping the borough moving, in order to support residents, businesses and ultimately the prosperity of our borough". Therefore, transport policies are needed which will support the improvement and growth of the transport network, in a way that is sustainable.

Policy priorities include reducing congestion, improving air quality and being resilient to a changing climate. This involves the delivery of active travel infrastructure as part of a wider package of measures to enable residents to make more sustainable travel choices, as set out in policies DLP67, DLP71 and DLP72.

Sandwell LCWIP (SCWIP), 2020

The primary focus of the SCWIP is to increase the number of people cycling and walking in Sandwell, and to normalise journeys being undertaken in the borough by active travel.

The core aims of the SCWIP are to:

- Assist the implementation of the West Midlands Strategic Cycle Network
- Identify the local networks within Sandwell with a prioritised plan for delivery
- Coordinate the plan with existing plans for the Black Country and the West Midlands to ensure a consistent and aligned approach to delivery
- Integrate the plan into a clear planning and transport policy document and delivery plan, taking into consideration the overarching West Midlands strategies for planning and transport

The SCWIP mirrors the WM LCWIP approach, reviewing the current walking and cycling routes across Sandwell, and then identifying strategically relevant cycling and walking infrastructure schemes which could be delivered in the future.

However, the SCWIP highlights some key challenges to increasing walking and cycling in Sandwell which include:

- Severance due to Sandwell sitting in the centre of the motorway network and the local conurbation meaning the landscape is dominated by local highway networks.
- Development in Sandwell tends to create more car trips encouraging an over dependence on motorised modes of transport.
- 34% of Sandwell residents have no access to a car (Census 2011).
- Strong cross-border movements to nearby neighbouring attractors in Birmingham, Dudley, Walsall and Wolverhampton as reported in the regional transport strategy.

Sandwell Metropolitan Borough Council's (SMBC) overarching ambition is to deliver a prioritised plan for the network in Sandwell which aligns with existing Black Country plans and is easily integrated into the wider West Midlands transport strategies.

The Black Country LCWIP will support SMBC's ambition, ensuring that the LCWIP fits in with the wider context, aligning with the Black Country and West Midland's current planning and transport strategies. The Black Country LCWIP will also support the core focus of the SCWIP and will strive to make cycling and walking an attractive and viable transport mode for all people in the Black Country.

Creating An Active Black Country, 2021

The vision for Active Black Country is to create an environment 'where all ages, abilities and backgrounds are able to be active, move and play sport'. This aligns with the wider Sport England vision of ensuring all individuals can participate in physical activity. To achieve this overarching vision, the document sets out six strategic objectives which are displayed in Figure 4-27.

Figure 4-27: Creating an Active Black Country - Strategic Objectives

Sport England's Active Lives Survey highlights the Black Country as having one of the highest levels of inactivity in England, with 31.5% of people classified as inactive (completing less than 30 minutes exercise per week). This has profound negative implications for people's health and wellbeing. The Active Black Country strategy clearly articulates the benefits of physical activity including improving sleep and quality of life, as well as reducing people's chances of Type II Diabetes and Cardiovascular Disease by 40% and 35%, respectively.

The strategy also recognises that there are numerous barriers that influence physical activity levels across the Black Country, including income, ethnicity, and place of residence. However, Creating an Active Black Country seeks to address these inequalities by placing inclusion and equality at its core. The strategy also prioritises the need for 'uniting the Black Country to create active, healthier people and places'. To accomplish this, the document outlines ways in which everyone in the Black Country can work more collaboratively to increase physical activity levels. These are displayed in Figure 4-28.

Figure 4-28: Lessons for improving physical activity levels across the Black Country

The Black Country LCWIP supports the Active Black Country Strategy by creating accessible and attractive walking and cycle routes, which will encourage physical activity and improve mental and physical wellbeing across the Black Country. The LCWIP will also help to tackle inequalities in activity levels seen across the region and provide opportunities for everyone in the Black Country to lead a more active, healthy lifestyle.

Birmingham Walking and Cycling Strategy (2020) with Local Cycling and Walking Infrastructure Plan

This Strategy acknowledges that Birmingham has some significant challenges to address in the next decade, such as poor air quality, high levels of obesity, congestion, and overdependence on cars. Increasing cycling and walking levels across the city will help tackle these issues and ensure Birmingham becomes better connected.

The primary aim of this strategy is to enable walking and cycling to be the 'everyday choice' for all journeys made across the city.

There are three objectives outlined for the strategy to be a success:

- Enable walking and cycling - Providing training, improving access to bikes, tackling safety issues, and securing funding.
- Develop a great city for walking and cycling - Providing safe infrastructure, managing traffic, and maintaining streets.
- Inspire walking and cycling - Organising events, distributing information, and evaluating outcomes.

The strategy is also accompanied by a LCWIP which highlights Birmingham's ambitions for cycling and walking infrastructure up until 2031. The infrastructure plan recognises that Birmingham must be more efficient with its use of transport space and prioritise connecting people with the natural environment. Improvements to walking and cycling infrastructure in Birmingham will help to create an efficient, sustainable, and attractive transport network.

The Black Country LCWIP closely aligns to Birmingham's Walking and Cycling Strategy as it also aims to provide safe and attractive cycling and walking infrastructure which improves connectivity across the Black Country. Further engagement with the wider West Midlands will be required to ensure cross boundary connectivity.

Black Country 2022 Commonwealth Games Legacy Framework (Executive Summary), 2020

The primary ambition of the Legacy Framework is to make the 2022 Commonwealth Games a transformational moment for the Black Country, creating a more prosperous, active, and healthy future for the region's people.

The framework highlights that the 2022 Commonwealth Games has a great opportunity to act as a catalyst, accelerating transformational change across the Black Country and helping the region improve the health and well-being of its residents, achieve sustainable inclusive growth and greater community cohesion.

A key legacy theme outlined in the framework is Physical Activity & Sport. The ambition of this theme is to use the games to inspire people in the Black Country to be more physically active, which will contribute to numerous social, economic, and environmental benefits. This ambition will be accomplished by implementing a set of actions before, during and after the games.

These include investing in cycling and walking infrastructure and other sports facilities, opening school facilities to communities and organising mass participation sporting events. Investing in active travel infrastructure and promoting its benefits will help tackle inactivity levels across the Black Country and encourage a modal shift towards walking and cycling.

The Black Country LCWIP supports the ambition of the 2022 Commonwealth Games Legacy Framework by striving to increase physical activity across the region. The LCWIP also aligns with the Physical Activity & Sport legacy theme by encouraging greater walking and cycling participation across the Black Country through the delivery of high-quality walking and cycling infrastructure.

Black Country 'Shared Vision for Cycling' Workshop outputs

The core objective of the Black Country Shared Vision for Cycling Workshop was to 'develop an integrated, connected and sustainable network to get more people cycling; reducing carbon emissions, address health inequalities and support greater community cohesion'.

The Black Country authorities are in the bottom five local authorities in the country for the take-up of walking and cycling. It is therefore paramount that investment in active travel infrastructure is made to increase walking and cycling levels across the region. The workshop highlighted four core aspects required for delivering a successful cycling network. These include good infrastructure, effective engagement, inclusive accessibility, and proactive collaboration.

Recurring themes identified during the workshop include:

- Road & Personal Safety
- Perception of Safety
- Focus Groups
- Community Partners
- Cycling Ambassadors
- Low Traffic Neighbourhoods
- Local Cycle Networks

The Black Country LCWIP will support these objectives by providing high quality, safe, and accessible cycling routes which encourage cycling participation in the Black Country and improve connectivity across the region.

5. Network Planning

Introduction

In developing the cycling and walking network for the Black Country both strategic and localised improvements and infrastructure have been considered. While there remains a need to develop a strategic network, more local improvements which focus on high levels of active travel activity are considered just as important to encourage mode shift.

This section will focus on the more strategic infrastructure schemes, specifically how the cycle routes and walking zones have been identified. It is these schemes that will be appraised and prioritised to help inform the delivery plan. The following section will consider the complementary and supportive measures, providing a Case Study of how localised improvements could be implemented to encourage greater localised cycling and walking.

In developing the cycling and walking network, a set of core principles have been considered. These differ for cycling and walking and are set out below.

Cycling

- Showcase routes in high demand / propensity to cycle areas.
- On road segregated and visible infrastructure to encourage cycling as a choice of mode.
- Following best practice schemes across the wider conurbation, i.e., blue routes inBirmingham.

Walking

- Locations which encourage walking, and cycling, for shorter trips, i.e. to education facilitiesand local high streets.
- Where walking, and cycling, can be used as a preferred choice between transport connections and employment zones / residential areas.
- In areas where there are higher levels of physical inactivity and higher levels of social deprivation, relative to surrounding areas.

These principles build on the growing need to consider cycling and walking as viable transport alternatives, particularly in an era where the pressures of vehicular travel are impacting the efficient operation of the transport network and are having adverse impacts on the environment and subsequently health.

Network Planning Approach

Selection Criteria

Cycling

The data gathering and analysis process has been explored in Section 4 and forms the evidence base for the cycle route selection process. Two key datasets were used in the development of the cycle route longlist:

- Demand, specifically from the PCT tool
- Gaps in the network, understood from the current and proposed (WM LCWIP and SCWIP) cycle network

The wider socio-demographic data was considered but not to the same extent as the above. A set of routes were identified and then presented to the Working Group for consideration. Several iterations were made to account for localised intel provided by the Working Group at the Stakeholder Workshops and Options Workshop. These included options where:

- Demand might be low, but stakeholder interest was high.
- Demand was leisure focused as opposed to utility focused.
- Considerable future demand is expected.
- A gap in the network is addressed.

Walking

Socio-demographic factors and localised connectivity to trip attractors and new developments played a key role in the development of the walking zone longlist. For example, locations with a high proportion of education facilities, access to local high street and / or public transport interchange and where IMD or childhood obesity levels were high or higher than surrounding areas, were targeted. Furthermore, consideration was given to whether other supportive proposals were being considered in these locations to encourage the use of active modes such as the Active Travel Social Prescribing Pilot and Cultural Investment proposals.

As with the cycle routes, these options were presented to the Working Group for consideration and the following key changes were made following discussion:

Removal and identification of new zones where substantial investment was already being made. This was particularly the case for Sandwell where all initial zones identified were discounted as they had or were receiving funding from elsewhere. These included zones located in Smethwick, Dudley Port and West Bromwich Town Centre.

An additional zone was added in Dudley where similar characteristics socio-demographic characteristics were noted.

Longlist

Through the above iterative process, the cycle and walking longlist was developed, including between 7 and 9 cycle options and 3 to 4 walking zones per local authority area. These are mapped in Figure 5-1, supported by option specific detail in Table 5-1 for cycling and Table 5-2 for walking. Note, the discounted Sandwell zones have not been mapped and are not presented within Table 5-2. The numbers and letters set out for the routes and zones within the map correspond to those set out in the tables. Options which have recently received City Regional Sustainable Transport Fund monies are highlighted in yellow.

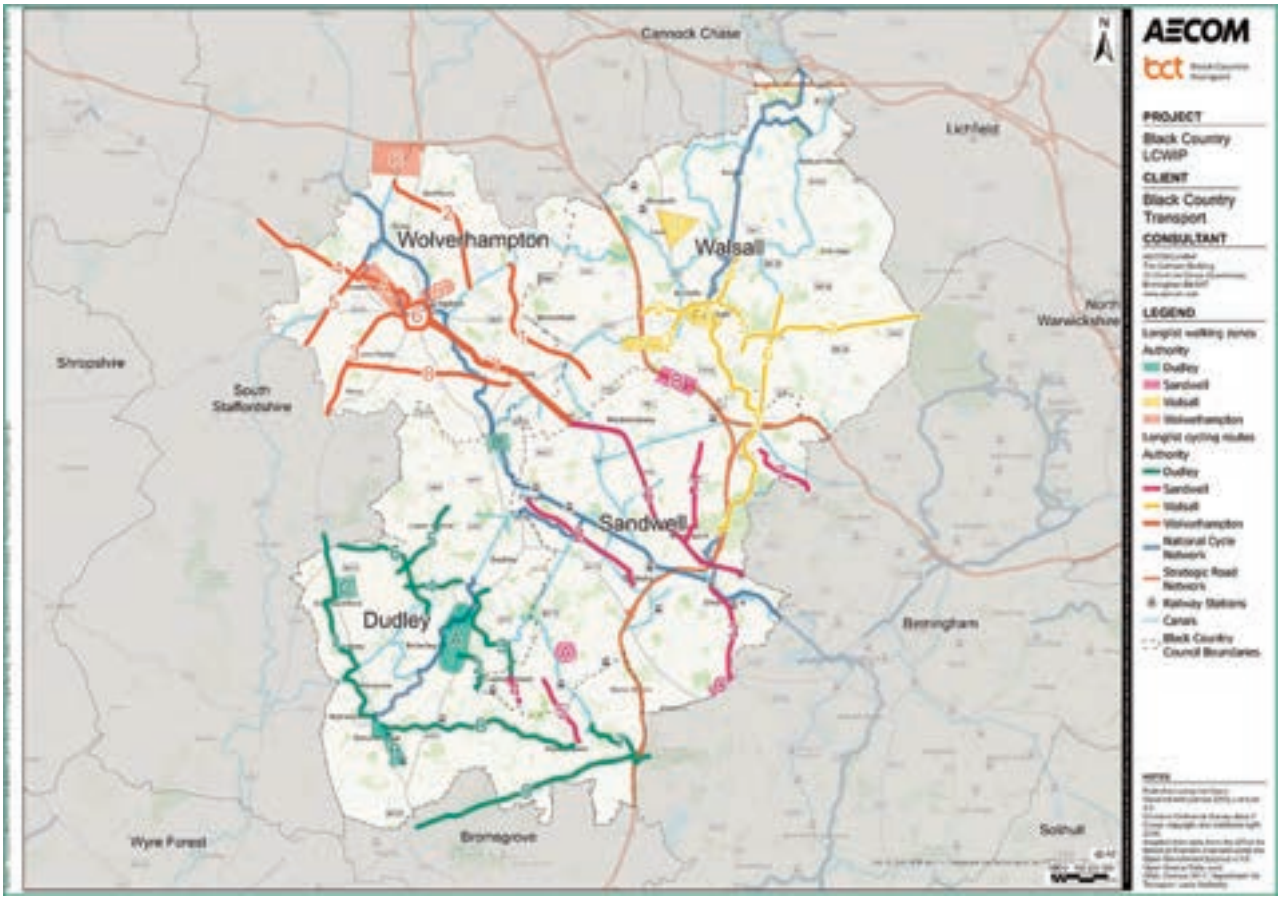


Figure 5-1: Longlist Map

Local Authority Area	Ref.	Route Name / Location	Rationale	Demand*	Length (km)	Cross Boundary**	Trip Type
Dudley	1	**Himley to Stourbridge** via Stourbridge Canal Towpath, A491, Lawnwood Road, Cot Lane, Summer Hill and A491 in to Himley.	High demand corridor using alternative route to A491 due to physical constraints along the route.	High	8.2	Yes	Utility
	2	**Brierley Hill to Cradley Heath** via Saltwells Nature Reserve and Black Brook.	High demand corridor using alternative route to A4100 due to steep gradient.	High	1.9	Yes	Utility
	3	**Dudley to Cradley Heath** via Peartree Lane, Dudley Canal and B4173	High demand corridor between Dudley to Netherton. Limited demand between Netherton and Dudley. Alternative route considered due to physical constraints and gradient concerns on the B4173/A459.	High	4.3	Yes	Utility

Dudley	4	**A4101 Pensnett to Dudley Town Centre.**	Medium / high demand corridor connecting two WM LCWIP routes, a link via the hospital and a connection to Barrow Hill Local Nature Reserve.	Medium / High	2.0	No	Utility / Leisure
	5	**Pensnett to Upper Gornal** via Coopers Bank Road, Grosvenor Road South, Corncrake Road, Deepdale Lane and B4175.	Low demand corridor providing link between residential areas (Gornal), Russells Halls Hospital and employment areas as well as to Barrow Hill LNR.	Low	3.0	No	Leisure
	6	**Smestow Valley Leisure Route.**	High demand cross boundary leisure route with inconsistent provision.	High	4.6	Yes	Leisure
	7	**A458 to Woodgate Valley** Country Park via Leasowes Park, Carters Lane, Woodgate Valley Country Park.	Low demand corridor which supports public health agenda (childhood obesity, physical inactivity and IMD) and provides a cross boundary link to Sandwell Option 5 via WM LCWIP route.	Low	3.0	Yes	Utility / Leisure
	8	**Stourbridge to Halesowen** via A458.	Low demand corridor with future demand potential due growth proposals (i.e. around Lye Rail Station)	Low	7.1	No	Utility / Leisure
	9	**Hagley to M5 J3** via A456.	Low demand corridor with future demand potential providing cross boundary links, including into the 'blue route' network in Birmingham.	Low	9.0	Yes	Utility / Leisure
Sandwell	1	**Stone Cross to West Bromwich** via A4031 and Hallam Street.	High demand corridor between two SCWIP schemes, Sandwell General Hospital and Sandwell Valley Park.	High	3.7	No**	Utility
	2	**Tipton to Oldbury** via A457.	High demand corridor providing on road link between Tipton and Oldbury.	High	4.8	No	Utility / Leisure

Sandwell	3	**Smethwick to Bearwood** via A4030.	Low demand corridor with high stakeholder interest. Offers potential for a cross boundary link into Birmingham and connects to Smethwick Rolfe Street and Smethwick Galton Bridge.	Low	3.4	No**	Leisure
	4	**Cradley Heath (SCWIP Route) to WM LCWIP Route** via Congreaves Road.	High demand corridor providing a connection between SCWIP routes and WM LCWIP proposed routes between Dudley and Sandwell. Offers more direct link to Halesowen (see option below) and links to Haden Hill Park.	High	1.1	Yes	Utility / Leisure
		Old Hill Town Centre to A458, via Halesowen College via A459 and Furnace Hill / Lane and Whittingham Road.	Medium demand route providing a connection between WM LCWIP routes, Halesowen College and Halesowen. Provides wider cross boundary linkages with Dudley Option 7 via WM LCWIP route.	Medium	3.9	Yes	Utility
	6	**Metro Stop Upgrades** via metro line through Sandwell.	Requirement for cycle parking, storage and repair facilities at all Metro stops within the LA boundary.	High	7.5	No	Utility / Leisure
	7	**Newton to Hamstead** via Hamstead Road and to Hamstead station.	Low demand route which supports public health agenda (childhood obesity and IMD) and provides a cross boundary link to Birmingham.	Low	2.3	Yes	Utility
Walsall	1	**Walsall Town Centre to Sandwell Valley Park (NCN5)** via Walsall Town Centre, New Street, Sandwell Street, Highgate Road, Delves Road, Delves Green Road, Cherry Tree Avenue, Redwood Road, Thorncroft Way, Brackendale Drive, Rushall Canal and off-road routes to Sandwell Valley Country Park.	Low demand route which forms part of the NCN and provides a cross boundary link to Sandwell.	Low	10.7	Yes	Utility / Leisure

Walsall	2	**M6 J10 to Walsall** via A454.	High demand corridor connecting to Wolverhampton via WM LCWIP route.	High	1.4	Yes	Utility / Leisure
	3	**Pleck to Arboretum** via A4148.	High demand corridor connecting to WM LCWIP route and a link to Walsall Manor Hospital and the Arboretum (tie in with Walsall Option 2).	High	3.1	Yes	Utility / Leisure
	4	**Rushall to Walsall** via A461.	High demand corridor connecting Walsall Town Centre to WM LCWIP route.	High	2.1	No	Utility
	5	**North East Ring Road** via A4148.	Low demand corridor enabling connectivity on northern section of Walsall Ring Road and to Arboretum (tie in with Walsall Option 2 and 3).	Low	1.9	No	Utility / Leisure
	6	**Arboretum to Boundary** via Wood End Road, Truro Road, Liskeard Road, Treyamon Road, Park Hall Road, Bell Road and the A34.	Low demand route connecting the east of Walsall between Arboreturm and Sandwell boundary. Aligns to Commonwealth Way route.	Low	2.4	Yes	Leisure
	7	**Walsall to Streetly** via B4151.	Low demand corridor providing and east - west cross boundary connection.	Low	6.1	Yes	Utility / Leisure
Wolverhampton	1	**Bentley Bridge to Darlaston** via Neachells Lane, Moseley Road, Darlaston Lane and Wolverhampton Street.	High demand corridor connecting several communities between Wolverhampton and Walsall and a link to New Cross Hospital, Bentley Bridge and M6 J9 Retail Park via WM LCWIP route.	High	5.5	Yes	Utility / Leisure
	2	**Fordhouses to Heathtown** via Marsh Lane, Three Tuns Lane, Elston Hall Lane, Sandy Lane, Old Fallings Lane, A460, Bushbury Road and Church Street.	High demand corridor connecting two WM LCWIP routes and a link to i54 and New Cross Hospital.	High	5.1	No	Utility

Wolverhampton	3	**City Centre to Lower Penn** via Chapel Ash, Merridale Road, Bradmore Road, Trysull Road, Oxbarn Avenue and Warstones Road.	High demand corridor providing connectivity to the west / southwest of Wolverhampton supporting public health agenda (childhood obesity, physical inactivity and IMD).	High	4.6	No	Utility
	4	**City Centre to Perton** via Waterloo Road, Molineux Way, Newhampton Road East, NCN 81, Crowther Road and A41.	High demand corridor providing a cross boundary link to Staffordshire and supporting west / northwest connectivity. Supports public health agenda (childhood obesity, physical inactivity and IMD).	High	6.5	Yes	Utility / Leisure
	5	**Smestow Valley Leisure Route**	High demand cross boundary leisure route with inconsistent provision.	High	3.4	Yes	Leisure
	6	**Ring Road** A4150 around Wolverhampton City Centre.	High demand corridor providing an opportunity to improve cycling permeability into city centre and provide coherent link to radial routes from the Ring Road.	High	3.2	No	Utility
	7	**Metro Stop Upgrades** via metro line through Wolverhampton	Requirement for cycle parking, storage and repair facilities at all Metro stops within the LA boundary.	High	6.4	No	Utility / Leisure
	8	**Metro Stop Upgrades** via metro line through Wolverhampton	Varied demand. Higher demand on approach to Bilston (Parkfields) and supports public health agenda (childhood obesity, physical inactivity and IMD).	Low / High	5.6	No	Utility / Leisure

* Based on PCT (Government Targets) for utility-based trips and local stakeholder intel for leisure-based trips

** These routes have the potential to become cross-boundary routes

Table 5-1: Cycle Route Longlist

Local Authority Area	Ref.	Route Name / Location	Rationale	Area (km2)	Cross Boundary	Trip Type
Dudley	A	**DY5 Enterprise Zone (EZ) and Brierley Hill.** Focus specifically on the connection between the Wednesbury to Brierley Hill metro line (currently under construction) with the EZ and Merry Hill Shopping Centre.	Supports public health agenda (childhood obesity, physical inactivity, high IMD). Opportunity to improve active travel and public transport links. Potential links to Active Travel Social Prescribing Pilot and Cultural Investment proposals.	2.0	No	Utility / Leisure
	B	**Stourbridge Interchange / Stourbridge Junction / Town Centre.** Stourbridge town rail station to Stourbridge Junction rail station.	Improves connection between Stourbridge rail station and bus station, particularly over the A491, and south to Stourbridge Junction rail station.	0.8	No	Utility / Leisure
	C	**Kingswinford.** Area east of A491 between B4175 and A4101.	Supports public health agenda (childhood obesity, physical inactivity, high IMD). Higher levels of childhood obesity noted in this area. Opportunity to improve links between residential areas, schools, high street and Pensnett Trading Estate.	0.5	No	Utility / Leisure / Education
	New D	**Coseley Rail Station**. Immediate vicinity of Coseley rail station, including Clayton Park and links to canal network.	Supports public health agenda (childhood obesity, physical inactivity, high IMD).	<0.5	No	Utility / Leisure
Sandwell	New A	**Rowley Regis Village and Hospital.** Immediate vicinity of Rowley Regis Hospital.	High Childhood Obesity (15-20%). Opportunity to improve active travel links to schools in the vicinity and within the area.	<0.5	No	Utility / Leisure
	New B	**Bescot.** Link between Bescot Stadium and Retail Park south of M6 J9.	Supports public health agenda (childhood obesity, physical inactivity, high IMD).	0.8	Yes	Utility / Leisure
	New C	**Bearwood Town Centre to Warley Woods.** Lightwoods Park and surrounding residential area.	Supports public health agenda (childhood obesity, physical inactivity, high IMD).	<0.5	Yes	Utility / Leisure

Walsall	A	**Darlaston to Phoenix 10.** Link between proposed Darlaston rail station and Phoenix 1- employment zone.	Supports public health agenda (childhood obesity, physical inactivity, high IMD). Opportunity to link Darlaston Rail Station to Phoenix 10 employment zone. Will support WM LCWIP scheme proposed at this location.	0.7	No	Utility / Leisure
	B	**Leamore / Bloxwich / Blakenhall Heath.** Area between these three locations including link to the A34 High Street.	Supports public health agenda (childhood obesity, physical inactivity, high IMD). Opportunity to encourage walking to/from local centres and schools as there are less people with access to car or van. Potential links to Active Travel Social Prescribing Pilot.	0.9	No	Leisure / Education
	C	**Walsall Town Centre.** Core town centre area.	Support movements within the town centre and provides an opportunity to align to Cultural Investment Proposals.	0.7	No	Utility / Leisure
Wolverhampton	A	**West Park to Whitmore Reans.** Area north of A41, linking West Park to Whitmore Reans and Molineux Stadium.	Supports public health agenda (childhood obesity, physical inactivity, high IMD) and provides connections to schools. Potential link to Cultural Investment Proposal at West Park.	1.4	No	Leisure / Education
	B	**Park Village.** Area between A460 and Wednesfield Road to the northeast of Wolverhampton ring road.	Supports public health agenda (childhood obesity, physical inactivity, high IMD) and provides links to a number of schools in close proximity. Holds high workplace population so opportunity for better walking links to the city centre / Wolverhampton Interchange.	0.6	No	Utility / Education
	C	**i54.** Business Park location south of the M54 and west of the A449 (Stafford Road). Area partially falls in South Staffordshire.	Opportunity to improve walking / cycling / public transport connectivity to i54 both from the Stafford Road but also west in to/from Staffordshire.	1.8	Yes	Utility

Table 5-2: Walking Zone Longlist

Shortlist

To make this LCWIP both manageable and deliverable over the 5-year period, it was agreed that 2 cycle routes and 1 walking zone per Local Authority area would be shortlisted to take forward to the Route Audit and Concept Design stages. To distil the longlist down, a shortlisting exercise was undertaken focused on the following six themes as agreed with the Working Group:

- Connectivity
- Demand
- Demographics
- Quality and Safety
- Health
- Stakeholder Support

A series of sub-themes were defined supported by a set of thresholds for scoring the cycle routes and walking zones. A summary of the criteria is set out in Table 5-3 which highlights some slight differences in the way the cycling and walking zones have been assessed. The main differences relate to sub-themes under Quality and Safety, namely barriers and freight.

Weightings were also applied, as agreed with the Working Group, as set out below. The higher weightings (20%) are focused on connectivity, demand and quality and safety as these are considered as key requirements for the network. These are followed by demographics and health at 15% weighting, highlighting that they remain important factors. Finally, stakeholder support was provided with the lowest weighting (10%) and the full level of support is not yet known. There may be scope to adjust this in the future.

The final shortlisting spreadsheet can be found in Appendix D and the final scoring / ranking in Appendix E.

			Assessment Criteria for Cycling	Assessment Criteria
Connectivity (20%)	A.1	**Connectivity to trip attractors.**	The route provides a direct link to trip attractors, e.g., education, proposed development, retail, healthcare, town centres / high streets, leisure, green spaces, parks, cycle clubs.	The zone provides a direct link to trip attractors, e.g., education, proposed development, retail, leisure, green spaces, parks.
	A.2	**Connectivity to public transport provision.**	The route provides a link to public transport provision, e.g., public transport interchanges, bus/metro stops, bus/metro stations, bus/metro lines.	The zone provides a link to public transport provision, e.g., public transport interchanges, bus/metro stops, bus/metro stations.
	A.3	**Connectivity to public transport with cycle parking provision**.	Do any of the identified of the PT provisions have cycle parking facilities?	Do any of the identified of the PT provisions have cycle parking facilities?
	A.4	**Connectivity to existing and planned routes and green routes.**	The route provides connectivity to existing and planned routes and green assets and canal tow paths.	The zone provides connectivity to current and proposed walking zones, cycling routes and pilot scheme, e.g., Cultural Investment Proposals / Social Prescribing Pilots.

Demand (20%)	B.1	**Predicted Demand**	The route has a high propensity for cycling. Based on evidence from PCT, TRICs, proximity to key trip attractors, proposed developments and the socio-demographic makeup of the area.	The zone has a high propensity for walking. Based on proximity to key trip attractors, including proposed developments.
Demographics (15%)	C.1	**Population who directly benefit from the intervention**	The route provides linkages to communities falling in the highest bands of IMD.	The zone provides linkages to communities falling in the highest bands of IMD.
Quality and Safety (20%)	D.1	**Delivery Barriers (cycling) / Physical Barriers (walking)**	The full route can be delivered to LTN 1/20 criteria, e.g., meet all the 5 areas: coherent, direct, safe, comfortable, attractive.	The zone has physical barriers which could result in deliverability implications..
	D.2	**Freight network**	The route goes through a high HGV corridor. This is measured by the proportion of HGVs (AADF) along the route.	**Not assessed for walking.**
	D.3	**Collision data**	The route goes through a high cycling and pedestrian KSI corridor.	The zone is located on a high cycling and pedestrian KSI corridor.
Health (15%)	E.1	**Public Health**	The route provides linkages to communities falling in the highest bands of the health deprivation and disability domain of IMD.	The zone provides linkages to communities falling in the highest bands of the health deprivation and disability domain of IMD.
Stakeholder Support (10%)	F.1	**Stakeholder support**	The route has been identified to have internal or external stakeholder support.	The zone has been identified to have internal or external stakeholder support.

Table 5-3: Shortlisting Assessment Criteria Summary

The cycle routes were subject to a secondary sift to discount any options that were not deemed viable to take forward. This sift discounted options which:

- Were unlikely to meet LTN 1/20 requirements
- Had an established parallel route in place
- Already had a funding source secured for the for delivery of improvements
- Focused on supportive measures as opposed to cycle infrastructure, i.e., metro stop upgrades.

For the walking zones a full secondary sift was not undertaken however, any zones where funding had already been implemented, such as Walsall Town Centre, were discounted to enable other locations to be considered.

In terms of point three, this was most notably the case for Walsall where one cycle route (M6 J10 to Walsall) and one walking zone (Darlaston to Phoenix 10) have already obtained funding from the City Regional Sustainable Transport Fund and therefore these routes were discounted.

The final shortlist is presented in Figure 5-2 and Table 5-4. Again, the numbers and letters set out for the routes and zones within the map correspond to those set out in the table.

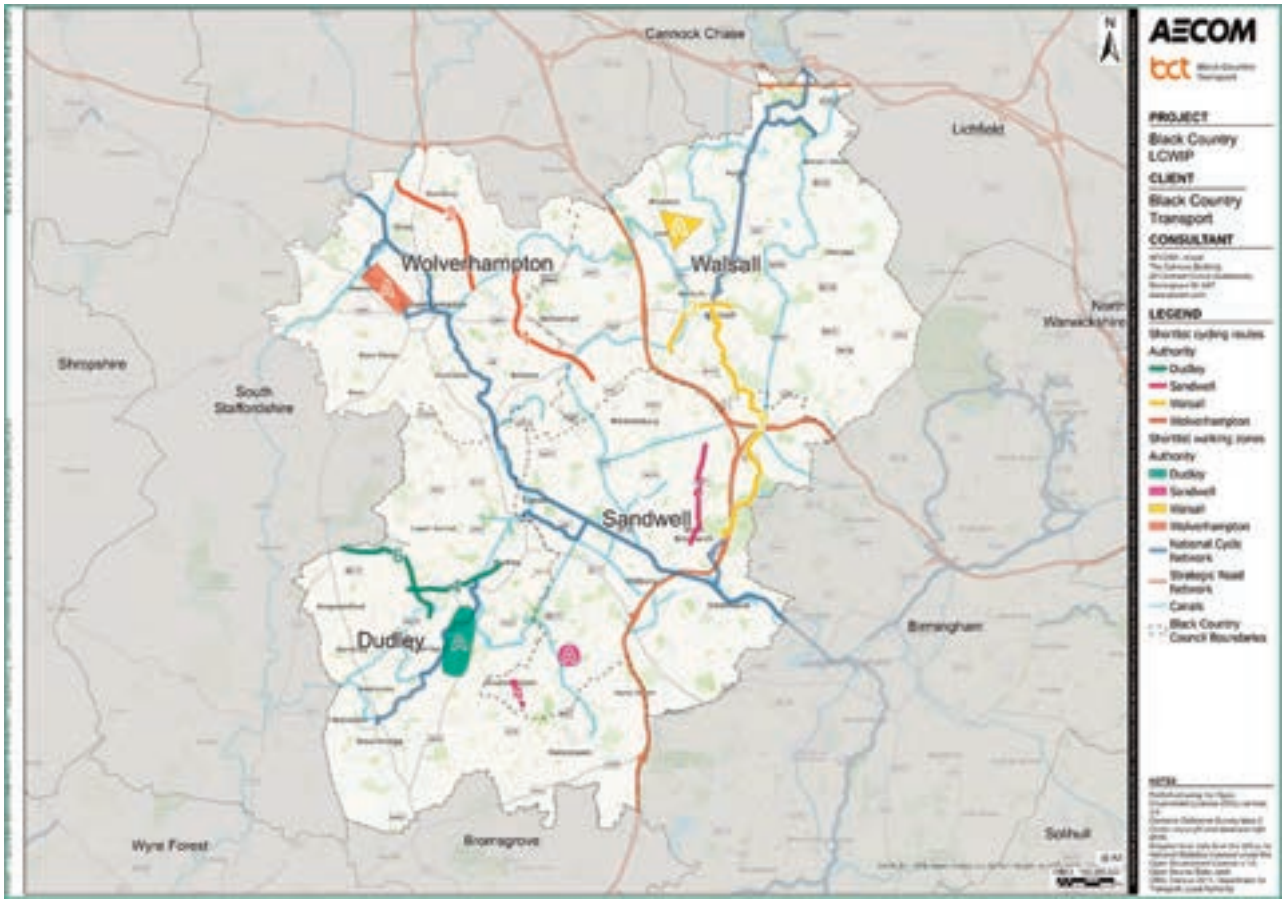


Figure 5-2: Final Shortlist Map

Local Authority Area	Cycle Routes	Walking Zone
Dudley	4. A4101 Pensnett to Dudley Town Centre	A. DY5 Enterprise Zone and Brierley Hill
	6. Smestow Valley Leisure Route	
Sandwell	4. Cradley Heath (SCWIP Route) to WM LCWIP Route	A. Rowley Regis Village and Hospital
	1. Stone Cross to West Bromwich	
Walsall	3. Pleck to Arboretum	A. Leamore / Bloxwich / Blakenall Heath
	1. Walsall Town Centre to Sandwell Valley Park (NCN5)	
Wolverhampton	2. Bentley Bridge to Darlaston	A. West Park to Whitmore Reans
	1. Fordhouses to Heathtown	

Table 5-4: Final Shortlist

Route Audits

To better understand existing network conditions alongside barriers and opportunities for improvements, route audits were undertaken on all shortlisted options. The Survey123 app was used to record observations during the routes supported by geo-located images.

The key criteria used to assess the cycle routes was based on the Cycling Level of Service (CLoS) which identifies the minimum quality criteria needed for a route to adhere to LTN 1/20 guidance. The criteria is based on five design features: cohesion, directness, safety, comfort, and attractiveness. Routes must achieve a minimum score of 70% with no critical fails to be fit for purpose and be able to compete for future funding opportunities. The outputs of the CLoS for each route is set out in the following sections with the full detail provided in Appendix F.

For the walking zones, the key criteria was based on a combination of factors identified in the Manual for Streets, Pedestrian Comfort Guidance for London, and Pedestrian Environment Review (PERS) Handbook. These factors included safety, signage, comfort, attractiveness, and connectivity. All walking zones were considered from these viewpoints to determine whether they were appropriate to be delivered as part of the LCWIP. The walking zone audit outputs can be found in Appendix G.

Cycling Corridor

This section considers each of the shortlisted cycle routes in turn, presenting an overview of the current provision, the types of improvements that could be delivered, any constraints and opportunities and high-level scheme costs. Cycle scheme plans can be found in Appendix H.

In advance of the route specific information, principles and assumptions that have been adopted for the scheme designs and costs have been summarised. These apply to all routes unless otherwise stated.

Cycle Scheme Core Design Principles

In developing the routes, and in consultation with the Working Group, it was agreed that a set of core design principles should be considered for each route to better align to LTN 1/20 guidance and to ensure a standard level of service across the Black Country. These principles are recommended for each of the routes and include:

- Priority for cyclists over side roads.
- Deviation off main alignment at junctions to be minimised.
- Signage and dropped kerbs to nearby routes to promote wider connectivity.
- Resurfacing of all areas on the cycle route.
- Fully kerbed segregation from vehicular traffic to be provided along whole scheme, except for where shared use is suggested.
- Cycle parking provision at appropriate places along the cycle route.
- Provision of adequate lighting along the route.

Cycle Scheme Cost Assumptions

The following core scheme costs assumptions have been made. Further detail can be found in Appendix J.

- Costings have been derived from Typical Costs for Cycling Interventions (TCCI)[12].
- Where appropriate costs are not available in TCCI, SPONS 2022 has been used to determine costs.
- Inflation is derived from ONS - Construction Output Price Indices (OPIs) for New Works[13].
- No land take costs have been included.
- Optimism bias is 46% due to uplift for local roads[14].
- The upper limit of the range has been used to estimate costs as a default
- Major drainage works (e.g. new pipes) and major utility works have not been included (e.g. relocating major assets) have not been included in the costs.
- Works do not account for full carriageway construction.

Dudley – A4101 Pensnett to Dudley Town Centre

Current provision

There is no provision between the B4179 and Russells Hall Hospital. Shared provision is available on the footway on the northern section of the route between Russells Hall Hospital (east of Elgar Close) and Scotts Green Island. This is replaced by on road non-segregated provision up to Duncan Edwards Close. The final section has no cycling provision.

A summary of the current CLoS undertaken for this route can be found in Table 5-5. This route achieved 46% overall and has 1 critical fail suggesting it currently fails to meet the minimum quality requirements.

12 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/742451/typical-costings-for-ambitious-cycling-schemes.pdf
13 https://www.ons.gov.uk/businessindustryandtrade/constructionindustry/datasets/interimconstructionoutputpriceindices
14 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/576976/dft-optimism-bias-study.pdf

Design Feature	Cchieved Score / Maximum Score	Observations
Cohesion	3 / 6	• Good existing connections (NCN 54 and Smestow Valley) • Requirement for cyclists to dismount often • Continuity of route disrupted • Some wayfinding / signage • Brierley Hill
Directness	4 / 10	• Route follows shortest option to connect two locations • Cyclists have no priority over sides along entirety of route • Generally poor cycling provision at all junctions • Steep gradient on approach to Dudley town centre
Safety	5 + 1 critical / 16	• AADT is high along the route with cyclists expected to share the carriageway in some sections (Critical Fail) • Kerbside conflict as a result of parked vehicles • Busy junctions, conflicting traffic movements and no priority over side roads
Comfort	4 / 8	• Surfacing could be improved
Attractiveness	7 / 10	• Route is well lit and overlooked • Shared use provision along some sections • No evidence of cycle parking along route (closest available WM hire bikes are located on Market Street, Kingswinford)
Summary Score:		**Maximum Score:** 50 **Achieved Score:** 23 **Percentage:** 46 **Critical:** 1

Table 5-5: A4101 Pensnett to Dudley Town Centre CLoS

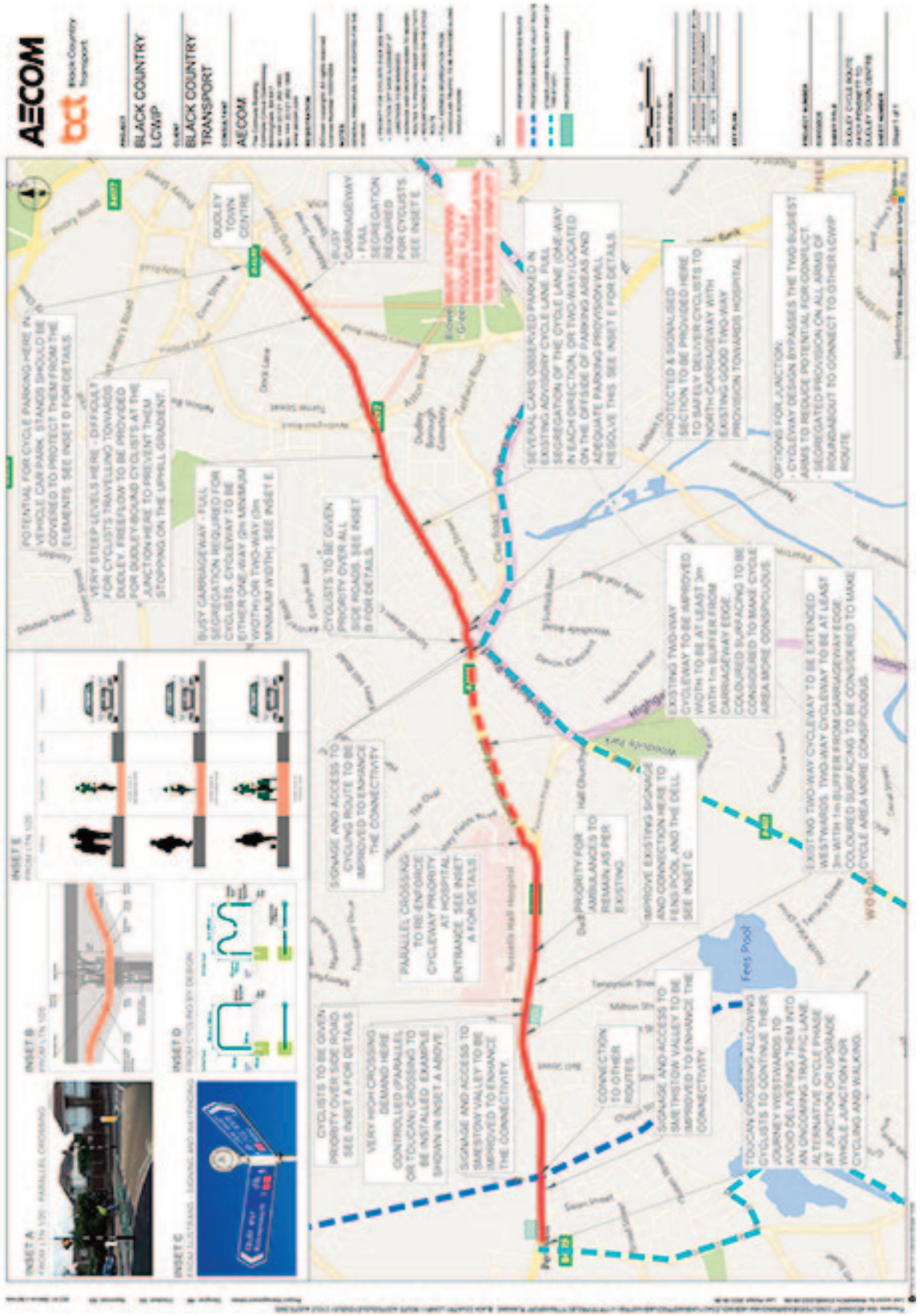


Figure 5-3: A4101 Pensnett to Dudley Town Centre Cycle Route

Proposed Improvements

This route is presented in Figure 5-3 and provides an on road segregated route along the A4104 between Pensnett (B4179) and Dudley Town Centre (King Street). The route interacts with the proposed WM LCWIP cycle routes along the B4179 and A461 as well as the proposed Black Country LCWIP Smestow Valley Leisure route.

In addition to the core design principles, the proposed improvements seek to improve all five areas of the CLoS, particularly cohesion, directness and safety through the provision of a segregated route, priority over side roads and improved connections through junctions.

The section of the route, demonstrated by a red dashed line, is subject to a future funding bid with aspirations to enable design of a fully segregated cycle route.

Constraints and Opportunities

The key constraints relate to whether LTN 1/20 compliance at Scotts Green Island and Kings Street / High Street junction is achievable. These are busy junctions with competing movements and further design considerations will be needed as this scheme progresses.

Given the topography across Dudley, there is a gradient on the approach to Dudley town centre making cycling potentially less attractive on this section. This will be difficult to design out however alternative route options may wish to be considered.

This route fills a gap in the wider West Midlands network and if all proposed schemes are delivered will provide a connected network between Kingswinford and Dudley as well as between Pensnett / Dudley and Brierley Hill. Alongside building up the wider cycle network in the area, the route provides connections to Russells Hall Hospital, Dudley Town Centre and a number of local nature reserves off the A4104. This route will therefore support both utility and leisure-based trips.

Indicative Scheme Costs

The scheme costs have been developed using the assumptions set out in earlier this section. The key components of this scheme and final indicative costs are set out in Table 5-6.

Scheme Type	Location	Length/Quantity
Cycle superhighway	Scott Green Island to Dudley Town Centre	1.4
Mixed strategic cycle route	Pensnett to Scott Green Island	2
Remodelled major junction	Scotts Green Island, Russells Hall Island, King Street/High Street junction, Wellington Road/Aston Road junction	4
Cycle crossing at major road	Outside Tesco Express, B4179 junction	2
Cycle Parking (Standard 'hub')	One Location	1
Cycle Parking (M/Sheffield stands)	Various locations	60
Comprehensive cycle route signage	Throughout	3.4
Total Cost	**£18,887,962**	

Table 5-6: A4101 Pensnett to Dudley Town Centre Indicative Scheme Costs

Dudley – Smestow Valley Leisure Route

Current Provision

This is a segregated, off road, unlit track which provides a cross boundary link between Dudley and Wolverhampton via Staffordshire.

A summary of the current CLoS undertaken for this route can be found in Table 5-7. This route achieved 62% overall suggesting it currently fails to meet the minimum quality requirements.

Design Feature	Cchieved Score / Maximum Score	Observations
Cohesion	2 / 6	• Connections to NCN 54 and local nature reserves • Cyclists must dismount to connect to other routes • Mostly continuous
Directness	8 / 10	• Largely direct with limited stops • Some narrow sections reducing space to overtake • Mostly flat with one sharp incline noted
Safety	15 / 16	• Mostly traffic free but must cross at Queens Road. No other conflicting movements on the route • Some physical barriers along the route, including those on Queens Road
Comfort	3 / 8	• Loose pebbles for majority of route making it difficult to ride a road bike • Some sections are muddy • Little signage, but the route is clear throughout.
Attractiveness	3 / 10	• Unlit and not overlooked for its entirety. • Narrow widths • Closest available WM hire bikes are located on Market Street, Kingswinford or Wordsley Green, Wordsley
Summary Score:		**Maximum Score:** 50 **Achieved Score:** 31 **Percentage:** 62 **Critical:** 0

Table 5-7: Smestow Valley Leisure Route CLoS

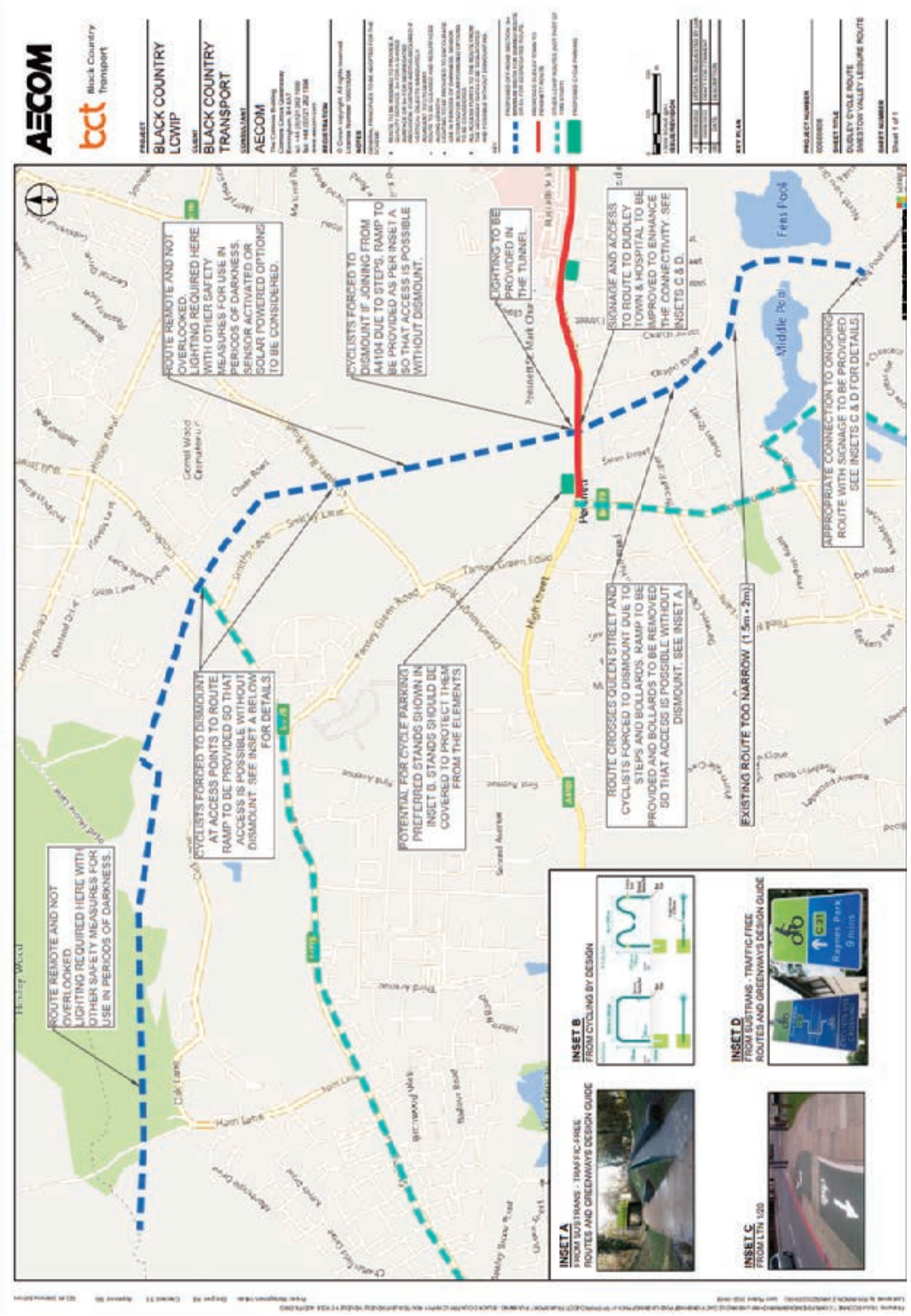


Figure 5-4: Smestow Valley Leisure Route

Proposed Improvements

The proposed improvements to the Smestow Valley Leisure route are set out in Figure 5-4 and relate to an increase width route along the entire section. This can either be through the provision of a widened shared route or segregated route as consideration will also need to be given to pedestrian usage.

Regarding the CLoS, other improvements focus on ensuring adequate lighting along the route and resurfacing the route to make it accessible to all cyclists, as well as pedestrians. To support cohesion and directness and reduce the need to dismount, the proposals also include ramps at key sections.

Constraints and Opportunities

There are some environmental and engineering constraints associated with this route given it is off road. The implementation of lighting on the route will need to be considered further at later design stages, particularly to ensure there are no detrimental impacts on biodiversity along the route. Further geo-technical investigation will also be required to understand if a wider route can be accommodated.

An unlit tunnel is located along the route where it intersects with High Street. Further work is required to make this part of the route attractive and safe for users. Again, this will require environmental consideration.

The route interacts with the proposed WM LCWIP route along the B4175 and the Pensnett to Dudley Town Centre route being proposed within this Black Country LCWIP. It also provides connections to local nature reserves in the area and provides an important cross boundary to link to neighbouring authorities.

Although this is considered to be a predominantly leisure-based route, there are opportunities for this to be used for more utility-based trips if integrated well into the wider network. There are also benefits associated with the cross-boundary links to Staffordshire and Wolverhampton and making this a more widely used route to connect people between these places.

Indicative Scheme Costs

The scheme costs have been developed using the assumptions set out earlier in this section. The key components of this scheme and final indicative costs are set out in Table 5-8.

Scheme Type	Location	Length/Quantity
Mixed strategic cycle route	Part route	4.7
Low level lighting	Part route	4.7
Widen existing bridge	One location	1
Ramp access	Three locations	3
Comprehensive cycle route signage	Throughout	4.7
Mixed strategic cycle route	Whole length	4.7
Total Cost	**£9,864,461**	

Table 5-8: Smestow Valley Leisure Route Indicative Scheme Costs

Sandwell – Cradley Heath (SCWIP Route) to WM LCWIP Route

Current Provision

There is no provision along the entirety of this route, this includes Queen Street, Pennant Road and Corngreaves Road.

A summary of the current CLoS undertaken for this route can be found in Table 5-9. This route achieved 58% overall suggesting it currently fails to meet the minimum quality requirements.

Design Feature	Cchieved Score / Maximum Score	Observations
Cohesion	4 / 6	• Short and continuous route • Connections to Blackheath cycle route • Possible to traverse the route without dismounting
Directness	7 / 10	• Wide carriageway widths to allow overtaking. Some on street parking disrupts this • Route follows shortest option with little deviation • Giveways present at multiple locations with no advanced stop lines
Safety	8 / 10	• Segregated route is not available • Kerbside conflict as a result of parked vehicles and location of petrol station • No priority over side roads
Comfort	3 / 8	• Surfacing could be improved, i.e., removal of potholes • No on or off carriageway cycle facilities – all shared use • Limited wayfinding and signage
Attractiveness	7 / 10	• Route is well lit and overlooked • Current conflict between pedestrians and cyclists • Very limited cycle parking along the route (closest available WM hire bikes located on Brook Road/Church Road, Stourbridge).
Summary Score:		**Maximum Score: 50** **Achieved Score: 29** **Percentage: 58** **Critical: 0**

Table 5-9: Cradley Heath (SCWIP Route) to WM LCWIP Route CLoS

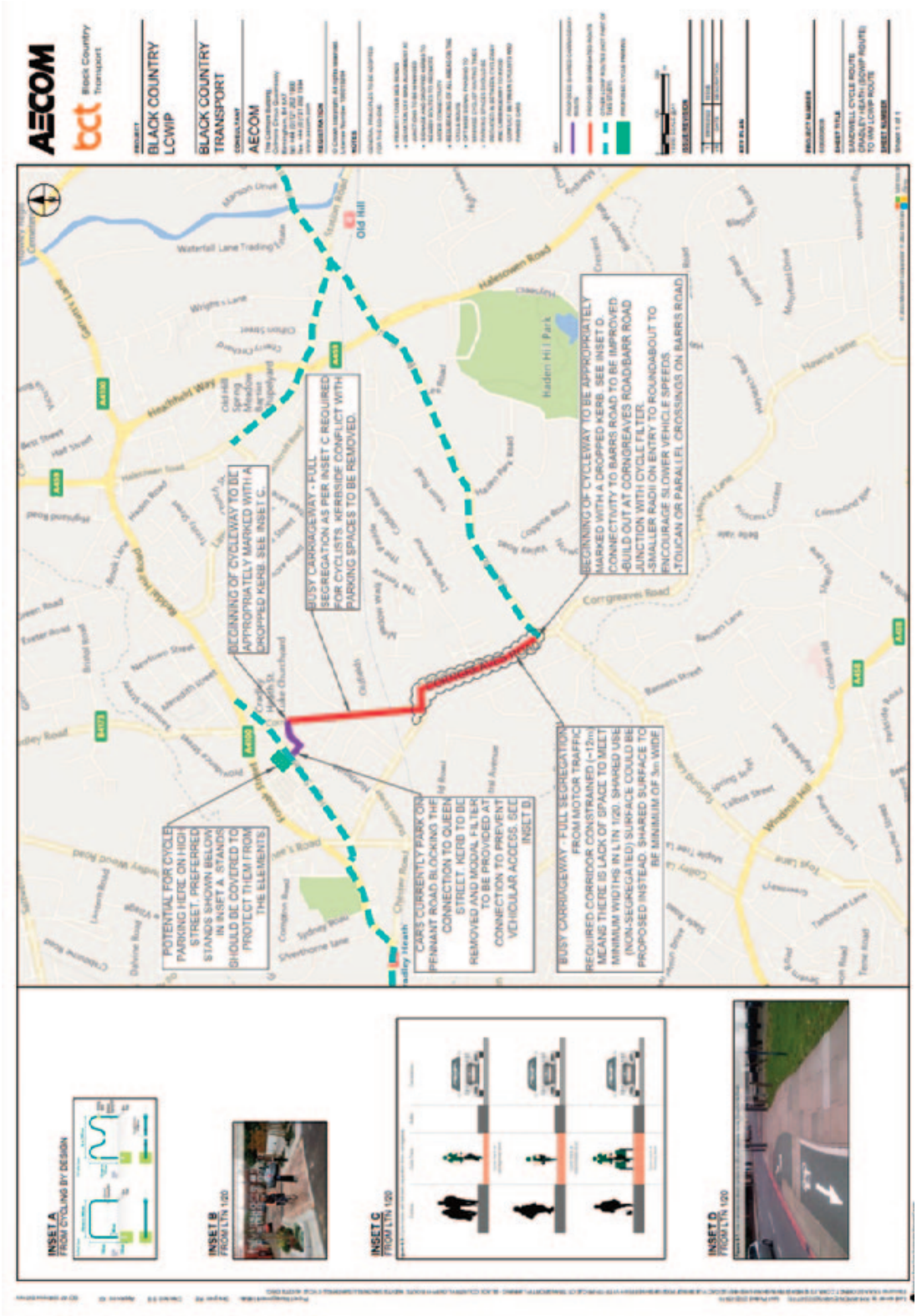


Figure 5-5: Cradley Heath (SCWIP Route) to WM LCWIP Route

Proposed Improvements

Given there is no current provision in place, the proposed improvements, as set out in Figure 5-6, consist of a short section of shared carriageway along Queens Street and Pennant Road and a segregated section along Corngreaves Road between Pennant Road and Barrs Road.

Regarding the CLoS, the core focus of this proposal is the provision of physical cycling infrastructure which is currently absent along the route's entirety. This will include the relocation of some vehicular parking and the implementation of cycle parking along the route alongside modal filters.

Constraints and Opportunities

A railway bridge routes over Corngreaves Road south of Oldfields. It is considered that there is adequate carriageway width to support segregation, however this will need to be explored further at later design stages.

Corngreaves Road is generally a busy carriageway and therefore full segregation is recommended. On the southern section of the route, on the approach to Barrs Road, the corridor is more constrained and therefore a shared surface may need to be considered.

There are sections of on-street car parking along the route. While the proposals do not call for this to be removed, the relocation of parking is being proposed. Public and political engagement will therefore be required.

The route interacts with the proposed SCWIP route along the High Street and proposed WM LCWIP route along Barrs Road. These connections will provide wider access to Cradley Heath High Street, Cradley Heath Rail Station and Old Hill Rail Station as well as green spaces such as Haden Hill Park.

This route also fills a gap in the network and will provide a link between Quarry Bank and Halesowen / West Bromwich if wider LCWIP schemes are delivered. This route therefore helps to provide a comprehensive and connected network in Sandwell. It is also one of the shorter routes proposed which could be delivered relatively quickly compared to other routes.

Indicative Scheme Costs

The scheme costs have been developed using the assumptions set out earlier in this section. The key components of this scheme and final indicative costs are set out in Table 5-10.

Scheme Type	Location	Length/Quantity
Cycle superhighway	Part route	0.9
Mixed strategic cycle route	Part route	0.1
Remodelled major junction	At Barrs Road	1
Cycle crossing at major road	Pennant Road	1
Comprehensive cycle route signage	Throughout	1
Cycle Parking (M/Sheffield stands)	Various Locations	10
Total Cost	**£5,462,736**	

Table 5-10: Cradley Heath (SCWIP Route) to WM LCWIP Route Indicative Scheme Costs

Sandwell – Stone Cross to West Bromwich

Current Provision

There is no provision on the A4031 Walsall Road between Hall Green Road and where the A4031 veers off to the east. South of this, an on-road non-segregated cycle lane is available on the western side of route which continues on to the southern side of Heath Lane but terminates before All Saints Way. There is no provision along the entirety of All Saints Way, Congregation Way or Reform Street. For the alternative route options, there is no physical provision on Hollyhedge Road, but there is a 20mph speed limit with cycle markings on the carriageway. There is no provision on Hallam Street but a 20mph speed limit and cycle markings on the carriageway on Seagar Street. Church Vale, Daggar Lane and Lloyd Street are very narrow with a 20mph speed limit and no provision.

A summary of the current CLoS undertaken for this route can be found in Table 5-11. This route achieved 56% overall suggesting it currently fails to meet the minimum quality requirements.

Design Feature	Cchieved Score / Maximum Score	Observations
Cohesion	3 / 6	• Good connections to established / alternative routes • Predominantly continuous route but some junctions require cyclists to dismount • Lack of signage and wayfinding
Directness	6 / 10	• Route along A4031 is direct, alternative routes deviate • Dual carriageway (All Saints Way) has a number of signal stops, though many of these have Advanced Stop Lines • Cyclists can use on road or shared use areas to maintain speed • Mostly flat with one incline noted
Safety	7 / 16	• Kerbside conflict and limited evasion room as a result of parked vehicles • Vehicles adhere to speed limit (30mph), though there are busy sections with high HGV movements (Bull Street)
Comfort	3 / 8	• Surfacing could be improved • Conflict with pedestrians on shared use facilities
Attractiveness	9 / 10	• Route is well lit and overlooked • Shared use provision along some sections • WM hire bikes noted along the route (including at West Bromwich Ringway, Sandwell Hospital, and Sandwell College)
Summary Score:		**Maximum Score: 50** **Achieved Score: 28** **Percentage: 56** **Critical: 0**

Table 5-11: Stone Cross to West Bromwich CLoS

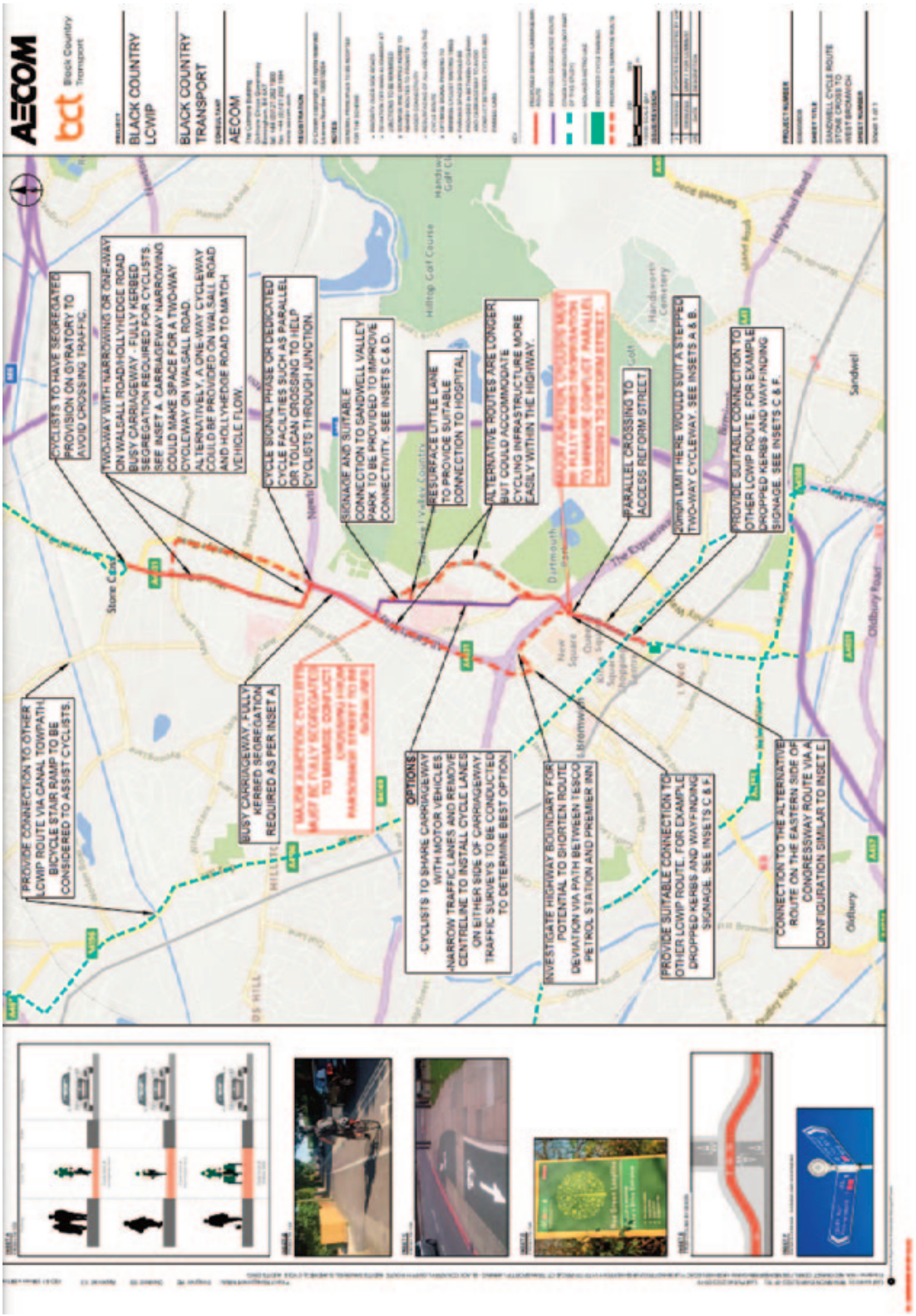


Figure 5-6: Stone Cross to West Bromwich Cycle Route

Proposed Improvements

As set out in Figure 5-6, the proposed improvements consist of a segregated route along Walsall Road, Heath Lane and All Saints Way up to Hallam Street, where a shared carriageway is proposed, followed by full segregation on Seagar Street and Reform Street. A number of alternative route options have been identified which could result in a less direct route but may be able to accommodate cycling infrastructure more easily. On all alternative route options (Hollyhedge Road, All Saints Way, Church Vale, Daggar Lane and Lloyd Street), segregation is proposed.

To resolve the issues identified through the CLoS, the proposals focus on the implementation of cycle provision along the route, predominantly through segregation. To reduce cycling wait times, signal upgrades are proposed at key intersections alongside enhanced signage.

Constraints and Opportunities

Ensuring LTN 1/20 compliance at All Saints Way / Parsonage Street and Reform Street / Congregation Way will need to be explored in detail at later design stages. Likewise, the alternative options suggested, particularly Walsall Road and Hollyhedge Road and the southern section of All Saints Way require additional investigation. Further data and evidence will need to be collected to ascertain the most suitable route option.

There is considerable on street parking along the route and alternative routes. In most cases relocation within the carriageway is being proposed, however political and public engagement will be required as part of the design process.

To the north, the route interacts with the proposed SCWIP route on Walsall Road and to the south it interacts with the proposed WM LCWIP route on High Street and proposed SCWIP route on Spon Lane. It also provides connections to Tame Bridge Parkway, Sandwell General Hospital, Sandwell Valley Country Park, West Bromwich town centre and Sandwell College. This results in the provision of both utility and leisure-based trips.

Furthermore, this route provides a continuous link between Stone Cross and West Bromwich and enables connections to the wider WM LCWIP and SCWIP routes supporting cross boundary movements.

Indicative Scheme Costs

The scheme costs have been developed using the assumptions set out earlier in this section. The key components of this scheme and final indicative costs are set out in Table 5-12.

Scheme Type	Location	Length/Quantity
Cycle superhighway	Part route	1.73
Mixed strategic cycle route	Part route	0.97
Remodelled major junction	Congregation Way, All Saints Way x2, Hall Green Road	4
Resurfaced cycle route	Connection to hospital	0.05
Cycle crossing at major road	Four locations	4
Ramp Access	One location	1
Cycle Parking (M/Sheffield stands)	Various Locations	60
Comprehensive cycle route signage	Throughout	3.7
Cycle Parking (standard 'hub')	One location	1
Total Cost	**£18,376,027**	

Table 5-12: Stone Cross to West Bromwich Indicative Scheme Costs

Walsall – Pleck to Arboretum

Current Provision

There is no provision on the A4148 Old Pleck /Pleck Road between Wednesbury Road and Wolverhampton Road. Advanced stop lines are marked at the A4148 Pleck Road / Moat Road / Bridgeman Street junction. There is also a dedicated bus lane between the A4148 Pleck Road / Moat Road / Bridgeman junction and Wolverhampton Road junction. The A4148 veers to the right at the Wolverhampton Road junction, which is complex and has no cycling provision. Off road shared use cycle provision is provided on the northern section of A4148 between Wolverhampton Road junction and Lichfield Street. Cyclists are required to deviate around all junctions along this stretch. There is no provision after Lichfield Street and the route is subject to an incline.

A summary of the current CLoS undertaken for this route can be found in Table 5-13. This route achieved 38% overall and has 1 critical fail suggesting it currently fails to meet the minimum quality requirements.

Design Feature	Cchieved Score / Maximum Score	Observations
Cohesion	2 / 6	• Connections are available (NCN 5), but these could be improved • Requirement for cyclists to dismount often
Directness	3 / 10	• Some ability to overtake on the two-way segregated route • Cyclists have no priority over sides along entirety of route • Cyclist must deviate around most junctions • Longer delays for cyclists due to staged crossings • Mostly flat with some steep inclines noted
Safety	4 + 1 critical fail / 16	• AADT is high along the route with cyclists expected to share the carriageway in some sections (Critical Fail) • Kerbside conflict as a result of parked vehicles • Road markings could be improved • Pedestrian guardrail forms physical hazard
Comfort	3 / 8	• Surfacing could be improved • Cycleway width could be increase
Attractiveness	7 / 10	• Route is well lit and overlooked • Shared use provision along some sections • Cycle parking requirements along route (WM hire bikesavailable at A4148/Vicarage Terrace and outside the main gates of Walsall Arboretum)
Summary Score:		**Maximum Score: 50** **Achieved Score: 19** **Percentage: 38** **Critical: 1**

Table 5-13: Pleck to Arboretum CLoS

Figure 5-7: Pleck to Arboretum Cycle Route

Proposed Improvements

The proposed improvements to this route consist of a segregated cycle route between Wednesbury Road and the Arboretum with a contraflow cycleway on Vicarage Road connecting to Walsall Manor Hospital (see Figure 5-7). The route interacts with the WM LCWIP route on the A4038 which provides a connection to the proposed Black Country LCWIP Walsall Town Centre to Sandwell Valley route and proposed improvements on the A454.

To improve the CLoS, the scheme predominantly focuses on ensuring segregation, priority over side roads and reduced deviation at junctions. Upgrading the current shared footway will be essential to enable both cyclists and pedestrians the right level of segregation. Given cycle routes are proposed to interact with the route continuity in the standard of provisions will be required. Cycle parking is also suggested at key locations to support access to key trip attractors.

Constraints and Opportunities

There are two key junctions, Wolverhampton Road and Lichfield Road, which will require further design consideration at later stages to ensure LTN 1/20 compliance. There are competing modes using this route, including frequent bus movements along the dedicated bus lane, which will also require additional review.

Although this is a red route throughout, there are sections of on-street car parking. While the proposals do not call for this to be removed, the relocation of parking is being proposed. Public and political engagement will therefore be required.

The incline after Lichfield Steet will be difficult to design out but other alternative routes may wish to be considered such as through the Arboretum.

In terms of key trip attractors, the route connects to Walsall Manor Hospital, Crown Wharf Shopping Centre, Walsall Town Centre, Walsall College, various other educational establishments and the Arboretum supporting utility and leisure trips. In addition to this, the canal network runs parallel to the Pleck Road and offers an alternative off road should this wish to be explored. This route helps to build a more coherent cycle network in to an around Walsall town centre offering greater mode choice.

Indicative Scheme Costs

The scheme costs have been developed using the assumptions set out earlier in this section. The key components of this scheme and final indicative costs are set out in Table 5-14.

Scheme Type	Location	Length/Quantity
Cycle superhighway	Part route	3.3
Mixed strategic cycle route	Part route	0.5
Remodelled major junction	Lichfield Road, Wolverhampton Road	2
Cycle crossing at major road	Pleck Road (Hospital), Wallows Lane, Green Lane	3
Cycle Parking (M/Sheffield stands)	Various Locations	30
Comprehensive cycle route signage	Throughout	3.3
Cycle Parking (standard 'hub')	One location	1
Total Cost	**£15,609,619**	

Table 5-14: Pleck to Arboretum Indicative Scheme Costs

Walsall – Walsall Town Centre to Sandwell Valley Park (NCN5)

Current Provision

This route is part of the NCN and is a combination of on and off-road provision, with large sections of the route falling within the Sandwell boundary. There are few sections of provision between Walsall town centre and Brackendale Drive which form the on-road section. These include some limited cycle routes in the town centre, on road marked provision on Delves Green Road between Broadway and Walstead Road and some turning provision on Bell Lane. Cycle tracks are available on all off-road sections.

A summary of the current CLoS undertaken for this route can be found in Table 5-15. This route achieved 46% overall and has 1 critical fail suggesting it currently fails to meet the minimum quality requirements.

Design Feature	Cchieved Score / Maximum Score	Observations
Cohesion	4 / 6	• Connections to NCN 5 and the canal network • Made up of a number of discrete sections but generally easy to navigate
Directness	5 / 10	• Route is not as short as on road alternative • Stopping and give way frequency is highest in Walsall town centre • Delays are similar to vehicles • Canal section widths do not allow easy overtaking • Steep sections along the route
Safety	7 + 1 critical fail / 16	• Not all junctions are segregated and there are conflicting movements • Cyclists expected to share carriageway on some sections with higher speeds • No segregation on Highgate Road resulting in critical range not being achieved (Critical Fail)
Comfort	4 / 8	• Canal and off-road paths do not meet desirable minimum widths • Cobbled paths on some sections and some gaps in signage
Attractiveness	3 / 10	• Canal and off-road sections are not lit or overlooked • Narrow widths on shared surface results in conflicting movements for pedestrians and cyclists • Limited cycle parking provision (closest available WM hire bikes are located on Darwall Street and High Street, Walsall)
Summary Score:		**Maximum Score:** 50 **Achieved Score:** 23 **Percentage:** 46 **Critical:** 1

Table 5-15: Walsall Town Centre to Sandwell Valley Park (NCN5) CLoS

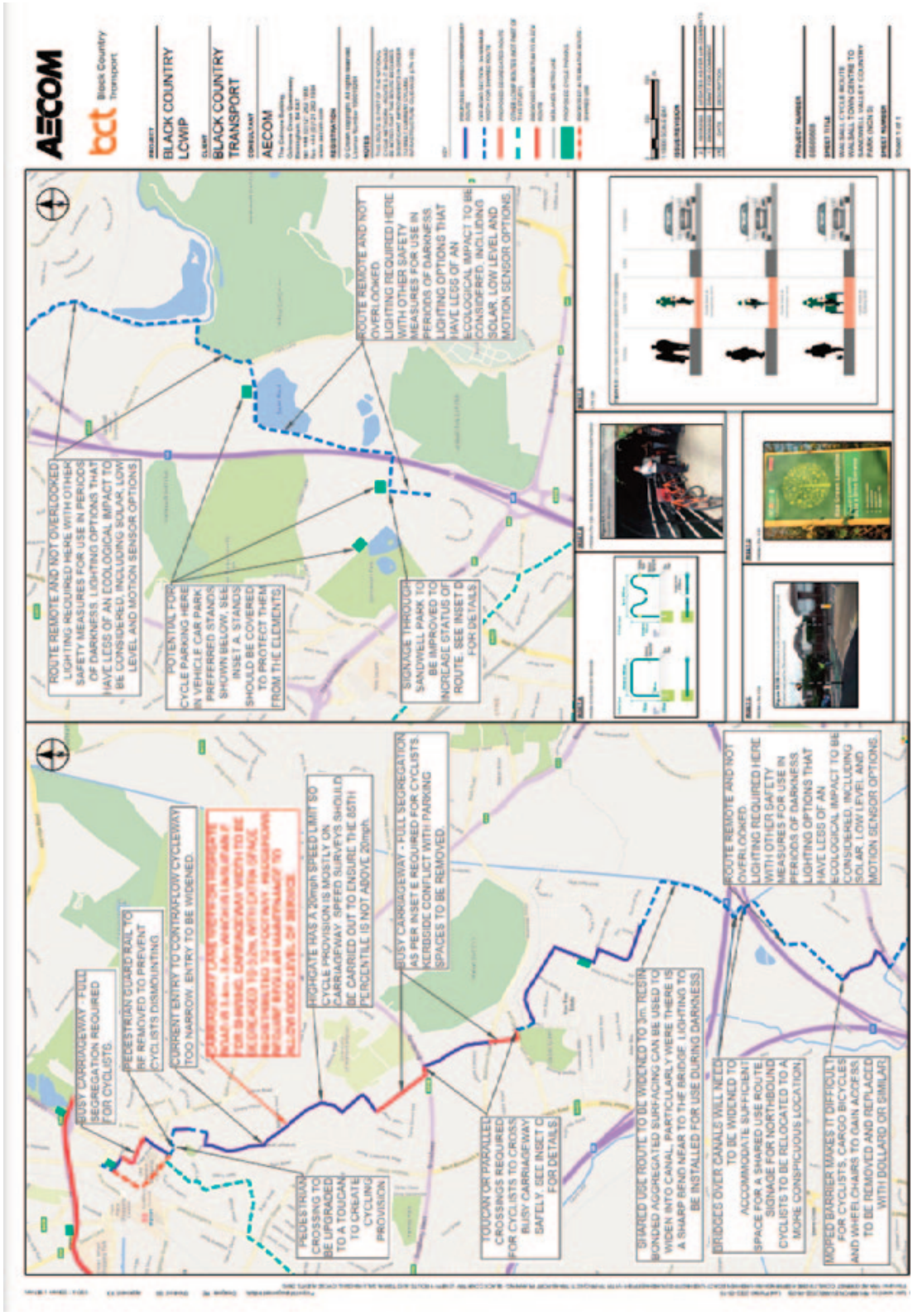


Figure 5-8: Walsall Town Centre to Sandwell Valley Park (NCN5) Cycle Route

Proposed Improvements

The improvements consist of a mixture of full segregation, shared carriageway and off-road provision through the implementation of a 3m minimum width shared route between Walsall town centre and Sandwell Valley Park (see Figure 5-8). An alternative shared use route is provided within Walsall town centre providing a more direct route. The route interacts with the proposed WM LCWIP route into Walsall town centre, and to the north the proposed Black Country LCWIP Pleck to Arboretum route.

The scheme seeks to address the current CLoS through ensuring adequate widths for cyclists along the route's entirety, providing a well-lit and continuous route, removing barriers and providing cycle parking.

Constraints and Opportunities

There are a number of constraints along this route, both on the on-road and off-road sections. Carriageway widths pose issues for meeting full segregation so in many cases a shared carriageway approach has been adopted. Meeting LTN 1/20 compliance on Highgate Road will also be challenging and will need to be considered further in later design stages.

The canal network is exempt from meeting LTN 1/20 guidance however, to ensure consistency of standard current widths will need to be extended and lighting considered on all sections noting any detrimental environmental impacts. Widening of canal bridges is also proposed so further engagement with the Canals and River Trust will be needed to understand feasibility and viability. It is important to note that as a large proportion of the canal towpath is located within Sandwell that engagement will be required with both authorities as well as the Canal and River Trust.

The route provides a cross boundary connection into Sandwell and serves the southeast of Walsall which currently has very limited cycling provision. It also serves the University of Wolverhampton Walsall Campus and Q3 Academy Great Barr as well as numerous green spaces. This route offers both a utility and leisure-based route which crosses boundaries and a number of communities. As it already forms part of the NCN it will be well known and improving the overall standard of the route should attract additional users.

Indicative Scheme Costs

The scheme costs have been developed using the assumptions set out earlier in this section. The key components of this scheme and final indicative costs are set out in Table 5-16.

Scheme Type	Location	Length/Quantity
Cycle superhighway	Part route	0.9
Mixed strategic cycle route	Part route	10.3
Cycle crossing at major road	Broadway, Walstead Road, Bell Lane, Peal Street	4
Cycle Parking (M/Sheffield stands)	Various Locations	30
Cycle Parking (standard 'hub')	Five locations	5
Widen existing bridge	Two locations	2
Low level lighting	Canal & SVP	6
Comprehensive cycle route signage	Throughout	11.4
Total Cost	**£18,403,183**	

Table 5-16: Walsall Town Centre to Sandwell Valley Park (NCN5) Indicative Scheme Costs

Wolverhampton – Bentley Bridge to Darlaston

Current Provision

There is no provision along the entirety of this route.

A summary of the current CLoS undertaken for this route can be found in Table 5-17. This route achieved 42% overall suggesting it currently fails to meet the minimum quality requirements.

Design Feature	Cchieved Score / Maximum Score	Observations
Cohesion	3 / 6	• Good existing connections (Canal, Steelpark Way and Wednesfield Way) • Cyclists must dismount to connect to other routes • Inconsistent signage and road markings
Directness	6 / 10	• Slight deviation from shortest route • Only one advanced stop line along route • Some ability to overtake • Steep gradient on approach to Railway line
Safety	6 / 16	• High proportion of HGVs where cyclists need to share the route • Narrow widths along some sections reducing level of clearance for cyclists • Kerbside conflict as a result of parked vehicles • Frequent hazards around Industrial Estate
Comfort	2 / 8	• Some muddy sections along the route • More signage required
Attractiveness	4 / 10	• Route is well lit and overlooked • No impact on pedestrian provision • Additional cycle parking required (closest available WM hire bikes located on Wolverhampton Road, Heath Town)
Summary Score:		**Maximum Score:** 50 **Achieved Score:** 21 **Percentage:** 42 **Critical:** 0

Table 5-17: Bentley Bridge to Darlaston CLoS

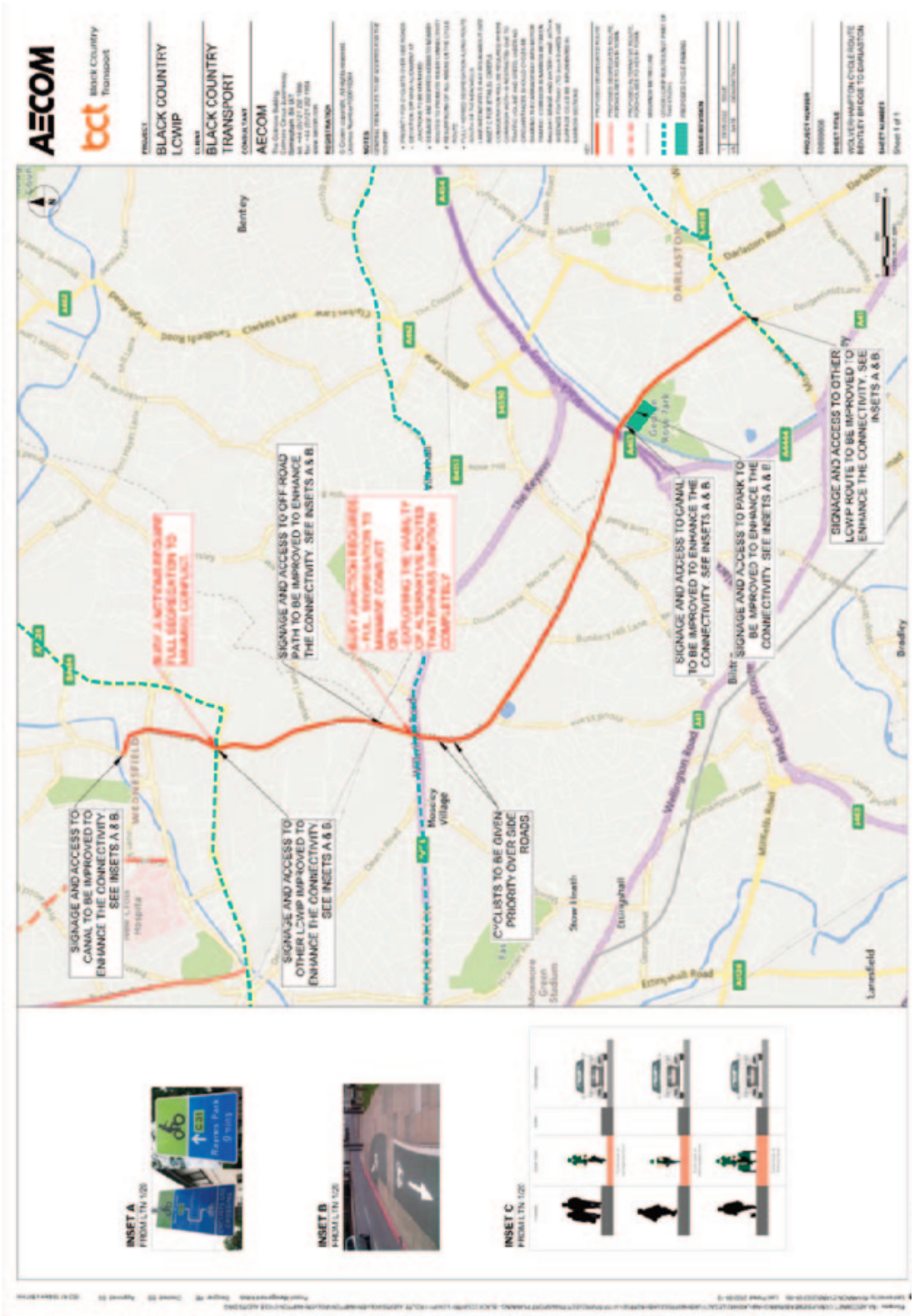


Figure 5-9: Bentley Bridge to Darlaston Cycle Route

Proposed Improvements

The proposed route is presented in Figure 5-9 and consists of a segregated route on Neachells Lane between Lichfield Road and A454 Willenhall Road, Moseley Road between Willenhall Road and B4484 Willenhall Road, and Darlaston Lane / Wolverhampton Street between B4484 Willenhall Road and A4038 Moxley Road. The route interacts with the proposed WM LCWIP routes along A4124 Wednesfield Way, A454 Willenhall Road and A4038 Moxley Road as well as current provision around Bentley Bridge.

The proposal focuses on the provision of segregated infrastructure alongside improved signage and connectivity to other proposed cycle routes and the canals to build a connected network.

Constraints and Opportunities

There are two busy junctions, Neachells Lane / Wednesfield Lane and Neachells Lane / A454 Willenhall Road, which will require further design consideration to ensure LTN 1/20 compliance.

The corridor width is constrained at Neachells Lane / Wednesfield Lane, where traffic volumes are also high, and the section between Watery Lane and the railway bridge. In these locations LTN 1/20 compliance may be harder to achieve, and a shared use surface may need to be considered.

Opportunities to bypass the Neachells Lane / A454 Willenhall Road could also be considered, using quieter routes parallel to the junction. Consideration may need to be given to the level of deviation.

It provides connections between communities and New Cross Hospital, Bentley Bridge Retail Park / Leisure Services, Planetary Road Industrial Estate, Walsall Canal and Gallagher Shopping Park off M6 Junction 9 through WM LCWIP proposals. Alongside this, the route provides a north – south route where other such route choices are limited and could connect in to three other routes to help establish a strong cycle network in this area. Cross boundary connections between Wolverhampton and Walsall are also achieved.

Indicative Scheme Costs

The scheme costs have been developed using the assumptions set out earlier in this section. The key components of this scheme and final indicative costs are set out in Table 5-18.

Scheme Type	Location	Length/Quantity
Cycle superhighway	Whole length	5.7
Remodelled major junction	Willenhall Road, Wednesfield Way	2
Route signage	Throughout	5.7
Cycle Parking (M/Sheffield stands)	Various Locations	10
Total Cost	**£20,250,317**	

Table 5-18: Bentley Bridge to Darlaston Indicative Scheme Costs

Wolverhampton – Fordhouses to Heathtown

Current Provision

There is no provision on Marsh Lane however shared use provision is provided on the southern side of Three Tuns Lane between Shelley Road and Fordhouses Road. There is no provision on Elston Hall Lane however, there is a short section of provision on Bushbury Lane between Bushbury Island and Sandy Lane followed by no provision on Sandy Lane / Old Fallings Lane to Cannock Road. There is some provision on Cannock Road on both sides of the carriageway, but this is not continuous. There is no provision on Bushbury Road.

On all alternative routes (Kempthorne Avenue / Third Avenue/ Raynor Road and Fifth Avenue / Croft Lane / D'eyncourt Road / Victoria Road / Graiseley Lane) there is no physical provision although the northern section of Elston Hall Lane is a dead-end for vehicles but not for cyclists.

A summary of the current CLoS undertaken for this route can be found in Table 5-19. This route achieved 62% overall suggesting it currently fails to meet the minimum quality requirements.

Design Feature	Cchieved Score / Maximum Score	Observations
Cohesion	4 / 6	• Some connections to other routes are available • Requirement for cyclists to dismount • Some signage but can be misleading
Directness	6 / 10	• Slight deviation from shortest route • Northern section has more stops / no priority over side roads • Limited Advanced Stop Lines at junctions • Some sections with steep gradient (Old Fallings Lane)
Safety	9 / 16	• Higher AADT along some sections with vehicles travelling at speed (30mph) • Narrow carriageway width from Heath Town Park to Newbolds junction • Kerbside conflict as a result of parked vehicles, resulting in reduced evasion space
Comfort	6 / 8	• Good surface along routes entirety • Some narrow widths along the route
Attractiveness	6 / 10	• Route is well lit and overlooked • Limited conflict with pedestrians • Some evidence of cycle parking but more required (closest available WM hire bikes located on Wolverhampton Road)
Summary Score:		**Maximum Score: 50** **Achieved Score: 31** **Percentage: 62** **Critical: 0**

Table 5-19: Fordhouses to Heathtown CLoS

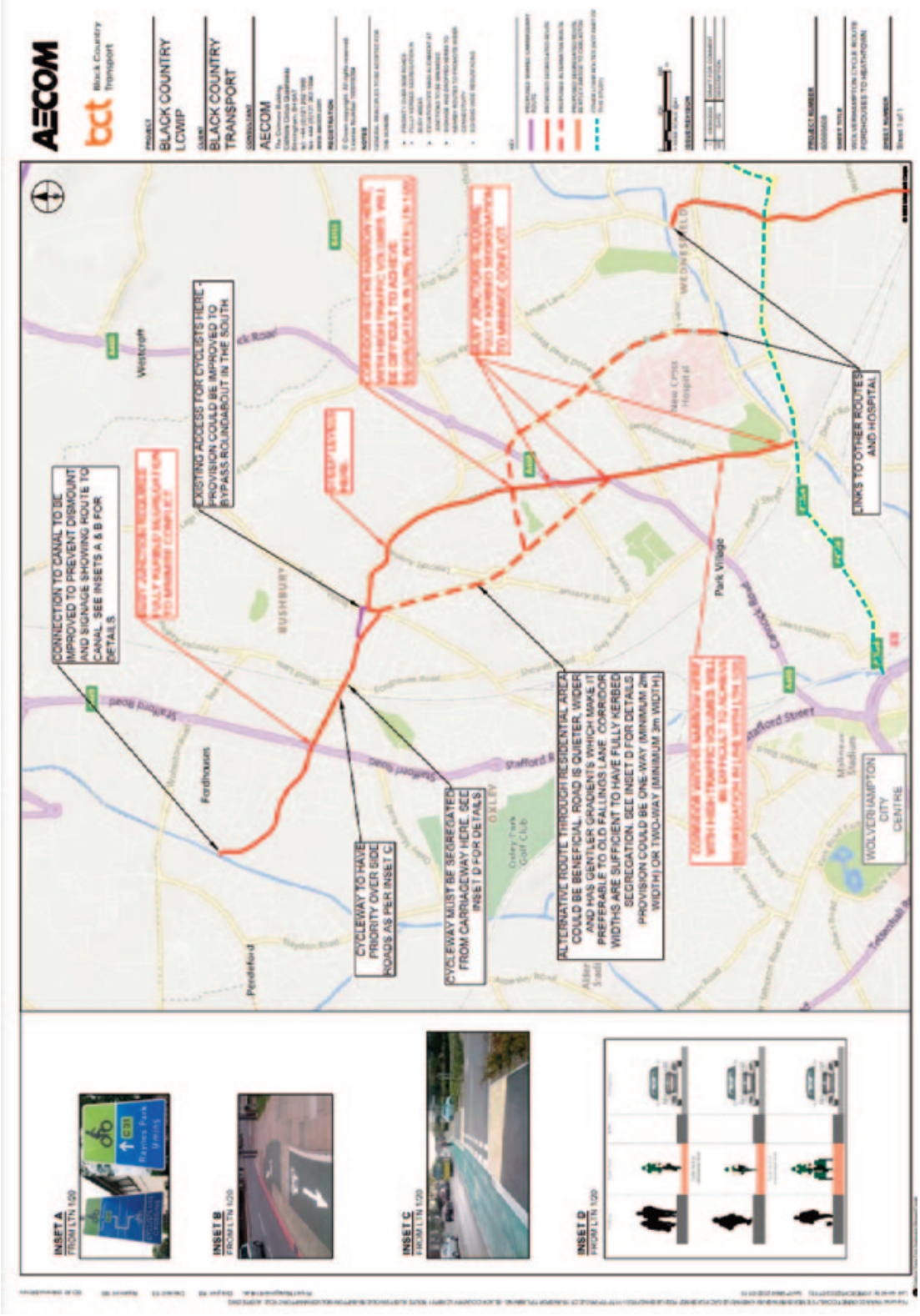


Figure 5-10: Fordhouses to Heathtown Cycle Route

Proposed Improvements

The proposals for this route are presented in Figure 5-10 and consist of a segregated cycle route along the entirety of the route between Fordhouses and Heathtown. This includes Marsh Lane, Three Tuns Lane, Elston Hall Lane, Sandy Lane, Old Fallings Lane, A460 Cannock Road, Bushbury Road and Church Street.

Two alternative route options have been identified, one through the Low Hill residential area using Kempthorne Avenue, Third Avenue and Raynor Road, and the second looping around New Cross Hospital to the east using Fifth Avenue / Croft Lane / D'eyncourt Road / Victoria Road / Graiseley Lane.

The proposal focuses on the provision of segregated infrastructure alongside connectivity to other proposed cycle routes and the surrounding canals to build a connected network.

Constraints and Opportunities

There are a number of constraints on this corridor, namely busy junctions at Marsh Lane / Stafford Road / Three Tuns Lane and the connections with the A460 that will require further design work to ensure LTN 1/20 compliance. There are also sections with narrow carriageway widths and high traffic volumes where LTN 1/20 compliance may be difficult to achieve. As a result, alternative routes have been provided which may enable infrastructure to be more easily implemented but may result in less direct routes. Further consideration will be needed in later design stages.

Steep levels are also noted near Leacroft Avenue. These may not be able to be designed out and therefore alternative route options may need to be considered.

The route interacts with proposed WM LCWIP route along the A4124 and provides connections to the canal network, retail opportunities on the A449 Stafford Road, a number of educational establishments and New Cross Hospital. This route will therefore support both utility and leisure-based trips. It will provide good connections to the existing network as well as wider proposed LCWIP routes.

Indicative Scheme Costs

The scheme costs have been developed using the assumptions set out earlier in this section. The key components of this scheme and final indicative costs are set out in Table 5-20.

Scheme Type	Location	Length/Quantity
Cycle superhighway	Part route	5.2
Remodelled major junction	Stafford Road, Cannock Road x2, Wolverhampton Road	4
Route signage	Throughout	5.1
Mixed strategic cycle route	Part route	0.2
Total Cost	**£24,761,366**	

Table 5-20: Fordhouses to Heathtown Indicative Scheme Costs

Walking Zones

Details on each of the walking zones is presented below covering the key issues and opportunities identified during the site audits, the proposed improvements and indicative scheme costs. In developing the walking zones, consideration should also be given to the measures identified in Section 6 which focus on localised improvements. Walking Zone scheme plans can be found in Appendix I.

The core design principles are set out in advance of the zone-specific information. Note, the walking zone cost assumptions align to those set out for cycling with full details provided in Appendix J.

Current Provision

Similar to the cycle routes, a set of core design principles have been identified for the walking zones that should be implemented to prioritise pedestrian, and cycling, movements. These are listed below:

- Tighter junction radii
- Raised tables at crossing points
- Continuous footways
- Controlled crossings at key locations / intersections
- Uncontrolled crossings to have appropriate tactiles and dropped kerbs
- Allocate benches and planters where possible to increase amenity value
- Footway resurfacing where required within the zone

Dudley – DY5 Enterprise Zone and Brierley Hill

Summary of Audit

The issues and opportunities identified during the audit are presented in Table 5-21.

Issue	Opportunities
• Hostile walking environment within Business Parks / Industrial Estate • Severance caused by A4036 – busy dual carriageway prioritising vehicular movements • Multiple staged crossings for pedestrians across A4036 • Narrow and overgrown footways on some sections of A4036 • Limited walking permeability within, to and from Merry Hill Shopping Centre • Bus stops within Merry Hill Shopping Centre are without shelter or seating	• Better integration with Dudley Canal • Connections to Wednesbury to Brierley Hill (WBH) Metro line and stops • Better use of unused bus stop laybys along A4036 • Formalise desire lines to adjacent green areas, e.g. Saltwells Wood

Table 5-21: DY5 Enterprise Zone and Brierley Hill Audit Summary

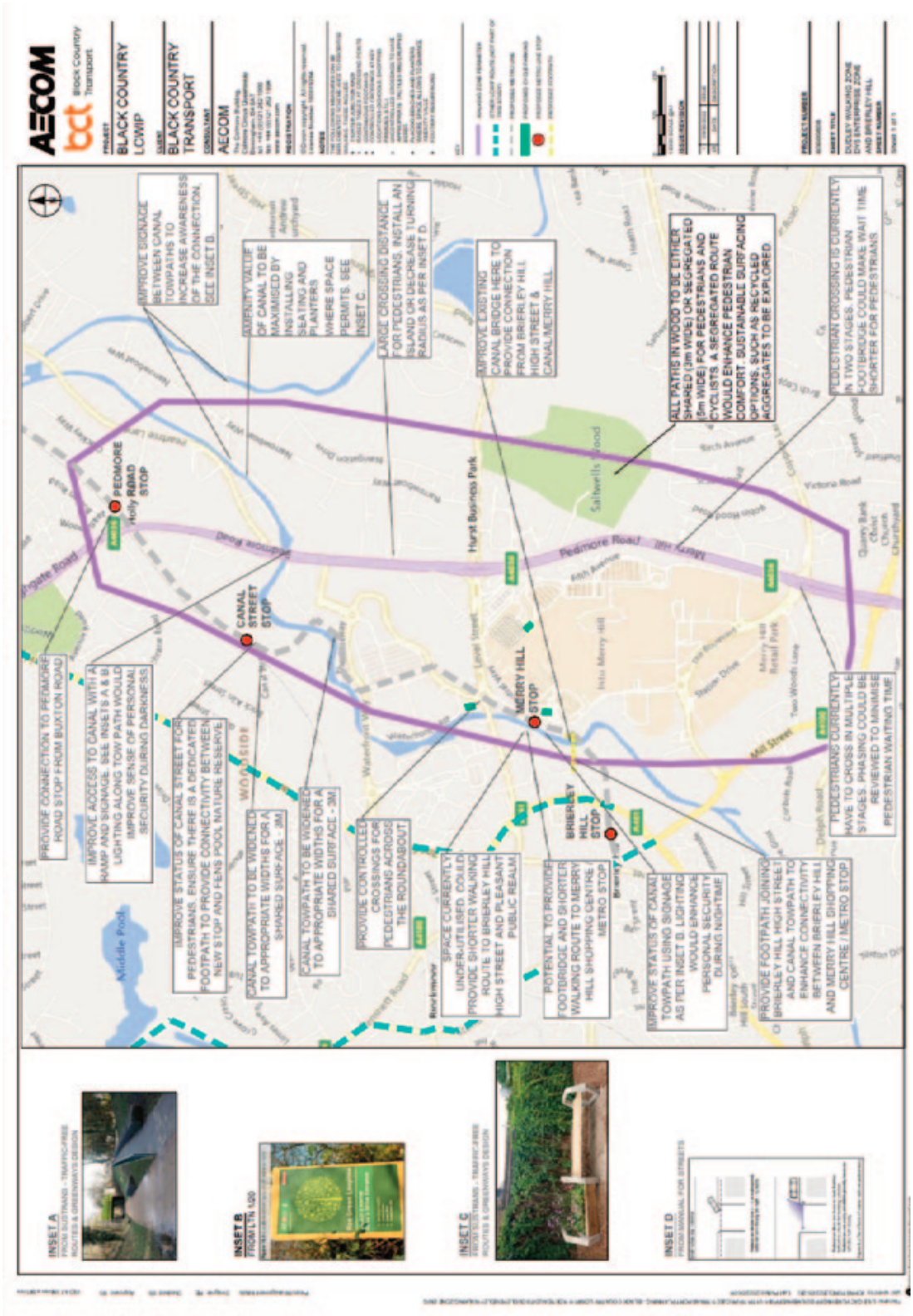


Figure 5-11: DY5 Enterprise Zone and Brierley Hill Walking Zone Proposed Improvements

Proposed Improvements

As set out in Figure 5-11, the proposed improvements seek to increase connectivity and permeability across the A4036 and to the canal network, town centre, surrounding green spaces and WBH metro stops. A new footpath has been proposed to better connect the town centre, Merry Hill Shopping Centre and the canal alongside the potential provision of a footbridge to connect to the Merry Hill stop of the WBH line.

Along the A4306 improvements are suggested at key crossing points and signals to reduce crossing times for pedestrians. Consideration should also be given to providing suitable crossing points for cyclists.

Various improvements are suggested along the canal to better integrate this into the walking zone. These include improving the amenity levels through better lighting, widening paths and canal bridges and adding attractive and suitable stopping points.

Constraints

Any integration and improvements along the canal network will need to be discussed with the Canal and River Trust to understand the feasibility and viability of any changes.

The A4036 is also heavily trafficked, therefore any measures which seek to prioritise walking and cycling may be met with public and political challenge. Engagement will therefore be required.

Indicative Scheme Costs

The scheme costs have been developed using the assumptions set out earlier in this section. The key components of this scheme and final indicative costs are set out in Table 5-22.

Scheme Type	Location	Length/Quantity
Mixed strategic footpath / cycle route	Saltwells Wood, Brierley Hill Street to Canal Towpath and the Canal Towpath	5.5
Benches	Five locations	5
New bridge	Two locations	2
Improve existing bridge	One location	1
Cycle crossing at major road	Two locations	2
Decrease Side Road Radii	Various	2
Ramp Access	Two locations	2
Cycle Parking (M/Sheffield stands)	Various locations	60
Cycle Parking (standard 'hub')	One location	1
Route signage	Throughout	3
Total Cost	**£10,069,401**	

Table 5-22: DY5 Enterprise Zone and Brierley Hill Walking Zone Indicative Costs

Sandwell – Rowley Regis Village and Hospital

Summary of Audit

The issues and opportunities identified during the audit are presented in Table 5-23.

Issue	Opportunities
• Upper Moor Lane is a narrow country road with a blind bend that would require further narrowing to accommodate walking/cycling facilities. • No existing footway on western side of Moor Lane • Moor Lane is steep which will provide issues for wheelchair access • No access to housing estate on Upper Moor Lane • Hospital requires emergency access road which may be difficult to build walking facilities across • Hospital has existing boundary fence which would make reclamation of land on Upper Moor Lane difficult for footway provision	• Better integration with Dudley Canal • Enhance bus stops on Powke Lane to improved standard, i.e., sheltered • Improve access to public facilities e.g., cemetery and hospital • Large residential catchment area with adjacent housing estate • Well-lit area therefore should feel safe for pedestrian users

Table 5-23: Rowley Regis Village and Hospital Audit Summary

Proposed Improvements

A key focus of the proposed improvements, as set out in Figure 5-12, is improving Moor Lane to make it accessible for all modes and enhancing walking routes to the hospital and village. As Moor Lane poses safety concerns and is inaccessible for non-motorised vehicles, the improvements seek to reduce the carriageway width to allow for single lane traffic movements enforced by traffic lights and increased walking and cycling facilities.

Appropriate parking provision is suggested around the hospital to reduce the level of kerbside conflict and provide pedestrians more accessible and unobstructive footways. This is further supported by measures on Powke Lane to reallocate space for pedestrians and the provision of a new footway on Harvest Fields to connect to communities to the north of the hospital. These improvements should create a more attractive and cohesive network around the village and hospital and encourage enhanced travel by active modes.

Constraints

Adjusting the current layout of Moor Lane to support single direction movements only may not be acceptable to local residents and users of the hospital. Similar issues may be encountered when rationalising parking provision around the hospital. To mitigate this, public, political and stakeholder engagement will be required as the designs are progressed.

Indicative Scheme Costs

The scheme costs have been developed using the assumptions set out earlier in this section. The key components of this scheme and final indicative costs are set out in Table 5-24.

Scheme Type	Location	Length/Quantity
Mixed strategic footpath / cycle route	Powke Lane, Harvest Fields, Moore Lane, Pennant Road and Orchard Close	1.2
Benches	Ten locations	10
Planters	Ten locations	10
Zebra crossing	One location	1
Decrease Side Road Radii	Various	0.5
Low level lighting	Cemetery	1
Route signage	Two locations	2
Total Cost	**£1,906,526**	

Table 5-24: Rowley Regis Village and Hospital Walking Zone Indicative Costs

Figure 5-12: Rowley Regis Village and Hospital Walking Zone Proposed Improvements

Walsall – Leamore / Bloxwich / Blakenall Heath

Summary of Audit

The issues and opportunities identified during the audit are presented in Table 5-25.

Issue	Opportunities
• Narrow footways where space is shared with bus stops and trees and carriageway widths are wide • Uneven and low-quality surface footways • Kerbside conflict as a result of parked cars across the area	• Enhance current signage for walking and cycling (i.e, blue arrows) • Expand network of barriers to restrict vehicle parking such as on Bloxwich Road • Improve links to schools and the high street

Table 5-25: Leamore / Bloxwich / Blakenall Heath Audit Summary

Proposed Improvements

The proposed improvements set out in Figure 5-13, seek to improve walking and cycling permeability between the three areas through increased footway widths, reduced obstructions and overall approved amenity levels. Tightened turning radii is also proposed at junctions where it is deemed too large to encourage lower speeds and shorten crossing distance for pedestrians.

The environment could be improved through the provision of benches and planters, improved park equipment for children and improved footway surfacing. Routes to services, green spaces and the canal could be better signposted through a comprehensive review of wayfinding.

Constraints

Narrow widths are commonplace within the audited area, however these could be improved through the reallocation of road space alongside a review of the current parking arrangements. This may not be acceptable to local residents and users of the hospital and therefore stakeholder engagement will be required during the design process.

Indicative Scheme Costs

The scheme costs have been developed using the assumptions set out earlier in this section. The key components of this scheme and final indicative costs are set out in Table 5-26.

Scheme Type	Location	Length/Quantity
Mixed strategic footpath / cycle route	Scheme wide	0.5
Resurfaced footpath	Leamore Park	0.5
Planters	Ten locations	10
Benches	Twelve locations	12
Uncontrolled crossing / controlled crossing	Four locations / Two locations	4 / 2
Playground / CCTV	One location / Skateboard Park	1 / 1
Remove tree	Five locations	5
Decrease Side Road Radii	Various	1.5
Route signage	Throughout	3
Cycle Parking (M/Sheffield stands)	Various locations	10
Total Cost	**£1,165,518**	

Table 5-26: Leamore / Bloxwich / Blakenall Heath Walking Zone Indicative Costs

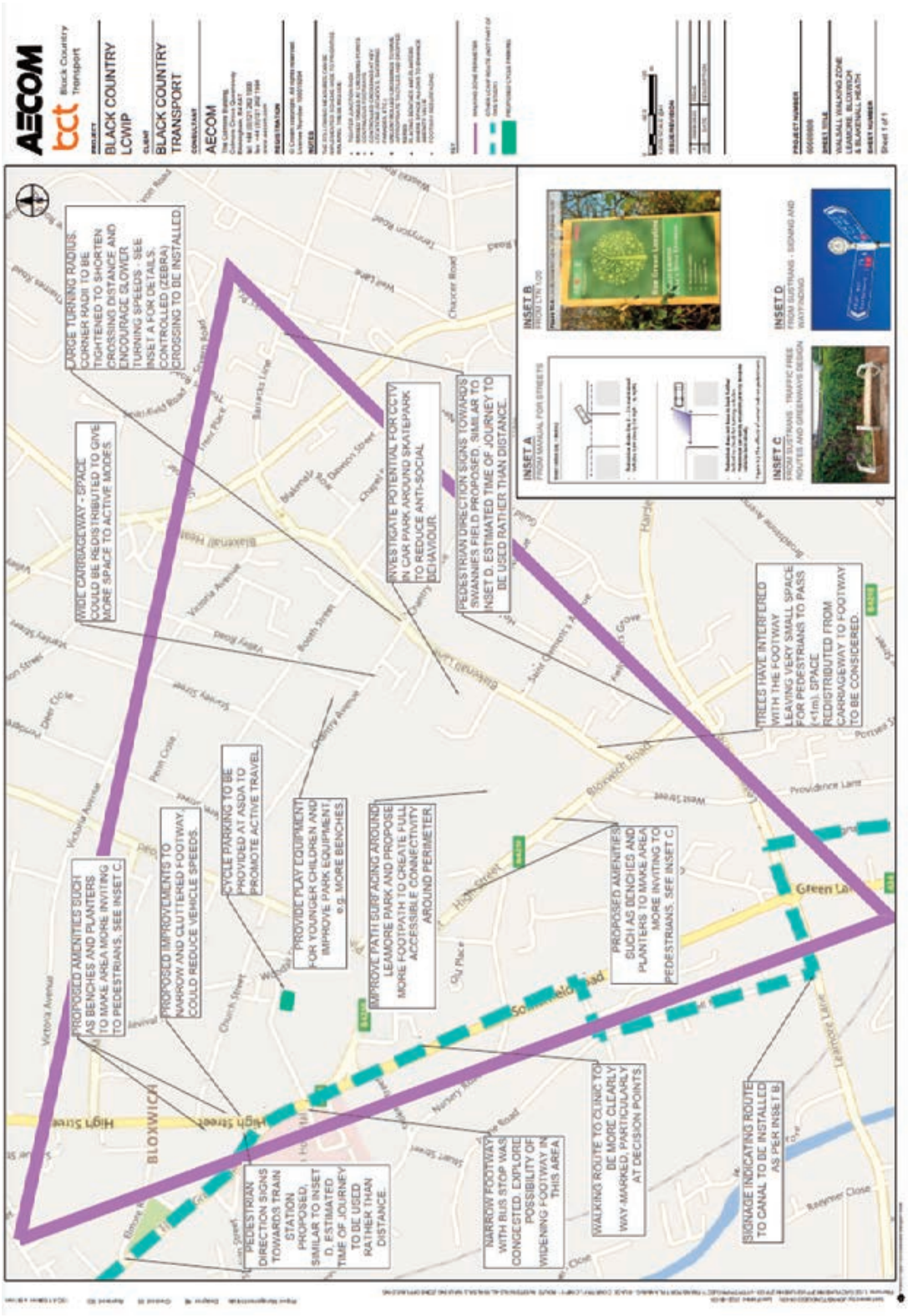


Figure 5-13: Leamore / Bloxwich / Blakenall Heath Walking Zone Proposed Improvements

Wolverhampton – West Park to Whitmore Reans

Summary of Audit

The issues and opportunities identified during the audit are presented in Table 5-27.

Issue	Opportunities
• Kerbside conflict as a result of parked cars across the area • Multilevel locations with step access only • Poor desire lines to local services / amenities	• Formalise signage and wayfinding • Build a network of routes to places of worship, schools and local amenities • Enhance crossing points along key routes

Table 5-27: West Park to Whitmore Reans Audit Summary

Proposed Improvements

As set out in Figure 5-14, the proposed improvements seek to support pedestrian desire lines to key amenities in the area including schools, West Park, places of worship and the canal network. This is predominantly through improved crossing points, improved footway surfacing, removing kerbside conflicts and enhancing signage and wayfinding.

Alongside pedestrian specific measures, cycling improvements connecting West Park to the surrounding areas, including the proposed WM LCWIP route on the A449 are also proposed. These measures will ensure provision for both pedestrians and cyclists.

Constraints

Potential road space reallocation is also suggested on New Hampton Road West and Hordern Road. Traffic calming measures are suggested on Coleman Street and Hordern Street, specifically speed reduction measures including a 20mph speed limit to ensure safety for school children. These measures will require stakeholder engagement during later design stages.

Indicative Scheme Costs

The scheme costs have been developed using the assumptions set out earlier in this section. The key components of this scheme and final indicative costs are set out in Table 5-28.

Scheme Type	Location	Length/Quantity
Mixed strategic footpath / cycle route	Park and New Hampton Road West	5
Ramp access	One location	1
Resurfaced footpath	Near Mosque	0.5
Benches	Fifteen locations	15
Planters	Fifteen locations	15
Controlled crossing	Five locations	2
Decrease Side Road Radii	Various	2.5
20 mph zone	Outside school	2
CCTV	New Hampton Road	1
Route signage	Throughout	2
Bollards	Coleman Street and Hordern Road	1.6
Remove tree	One location	1
Total Cost	**£5,722,908**	

Table 5-28: West Park to Whitmore Reans Walking Zone Indicative Costs

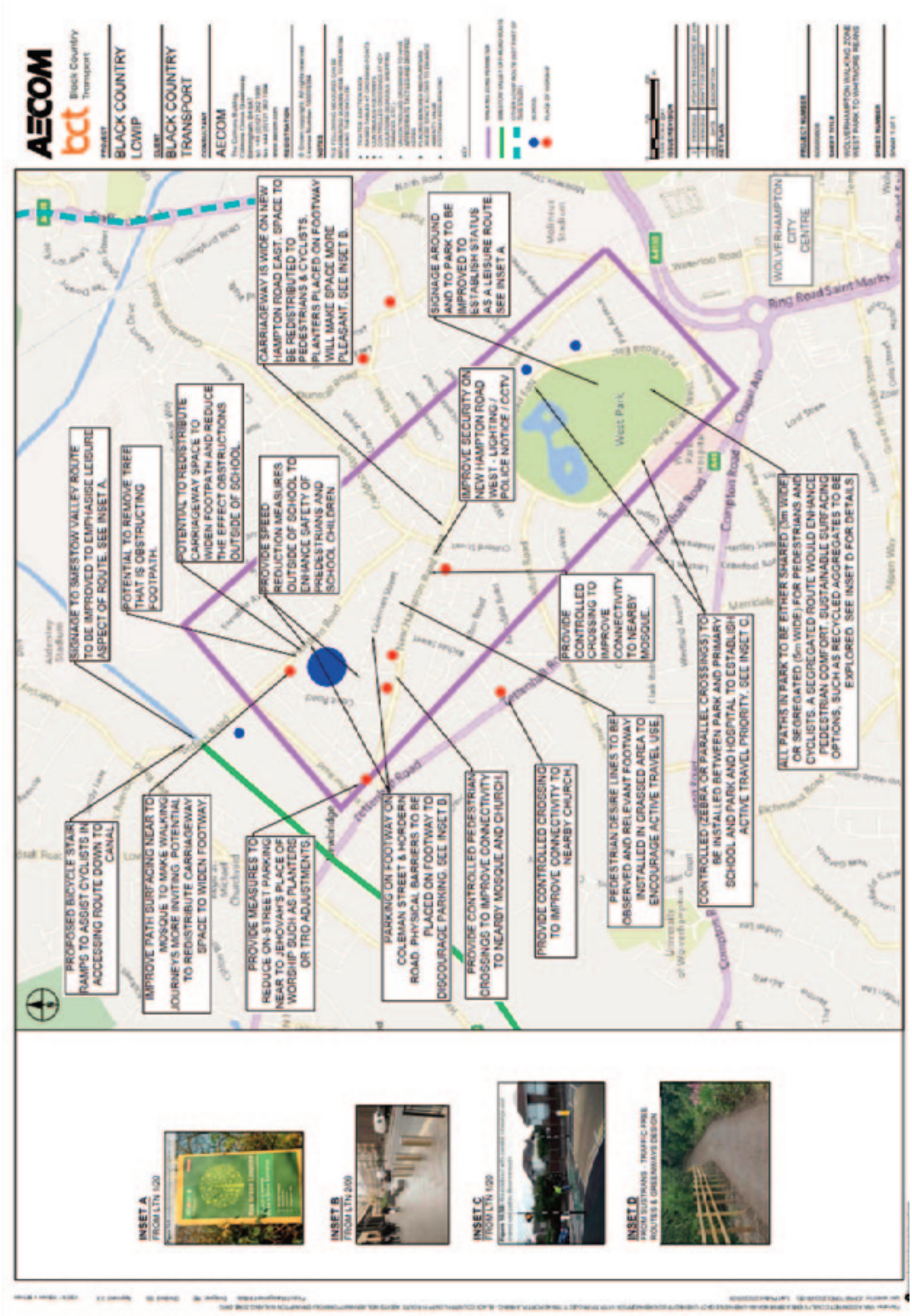


Figure 5-14: West Park to Whitmore Reans Walking Zone Improvements

Summary

Table 5-29 below presents a summary of the final shortlisted schemes and associated costs. The walking zones are highlighted in green text. It is anticipated that as the schemes progress through the design process the overall costs will reduce. As identified earlier in this section the costs currently include a 46% optimism bias which should decrease as the routes progress through the scheme development process.

Option	Length (km) / Area (m^2)	Total Cost
Dudley - A4101 Pensnett to Dudley Town Centre	3.365	£18,887,962
Dudley - Smestow Valley Leisure Route	4.654	£9,864,461
Dudley – DY5 Enterprise Zone and Brierley Hill	2,049,705	£10,069,401
Sandwell – Cradley (SCWIP Route) to WM LCWIP	1.025	£5,462,736
Sandwell – Stone Cross to West Bromwich	3.696	£18,376,027
Sandwell – Rowley Regis Village and Hospital	478,281	£1,906,526
Walsall – Pleck to Arboretum	3.277	£15,609,619
Walsall – Walsall Town Centre to Sandwell Valley Park (NCN5)	11.396	£18,403,183
Walsall – Leamore / Bloxwich / Blakenall	971,673	£1,165,518
Wolverhampton – Bentley Bridge to Darlaston	5.664	£20,250,31
Wolverhampton – Fordhouses to Heathtown	5.181	£24,761,366
Wolverhampton – Fordhouses to Heathtown	1,240,969	£5,722,908

Table 5-29: Shortlist Scheme Costs

6. Localised Improvements

Introduction

To support the routes and zones detailed in Section 5, localised improvements have also been identified to create connections and access points to neighbourhoods and communities which have the key characteristics to support cycling and pedestrian movements. This would build a coherent network for cyclists and pedestrians within the Black County and enable people to better access the network proposed.

To develop these connections, behavioural and physical measures must be considered. Behavioural measures look at encouraging people to use the new walking and cycling infrastructure and focus on changing their current perception towards walking and cycling. This supports the NPPF which aims to achieve healthy, inclusive, and safe spaces for people. Similarly, the CWIS has an ambition to make walking and cycling the natural choice for users, whether it is a short journey or part of a longer journey.

Wider supportive physical measures will help build the connections and access points to the cycle network and enable a more seamless transition from neighbourhoods to routes and zones.

Measures

Behavioural Change

There are several methods of promoting new walking and cycling infrastructure to maximise potential usage following installation. Many of these methods are complimentary, such that a scaled approach can be developed which is tailored both to the location but also the potential budget available.

First, however, it is important to consider some of the barriers that may exist to utilising new infrastructure. Multiple studies have been conducted to understand the barriers to cycling, both actual and perceived. It is widely understood that the factors influencing an individual's propensity to cycle is a complex and multifaceted interaction of individual, attitudinal, built environment and trip characteristics, including those set out in Figure 6-1. These are likely to also apply to walking, with road safety also encompassing 'personal security'.

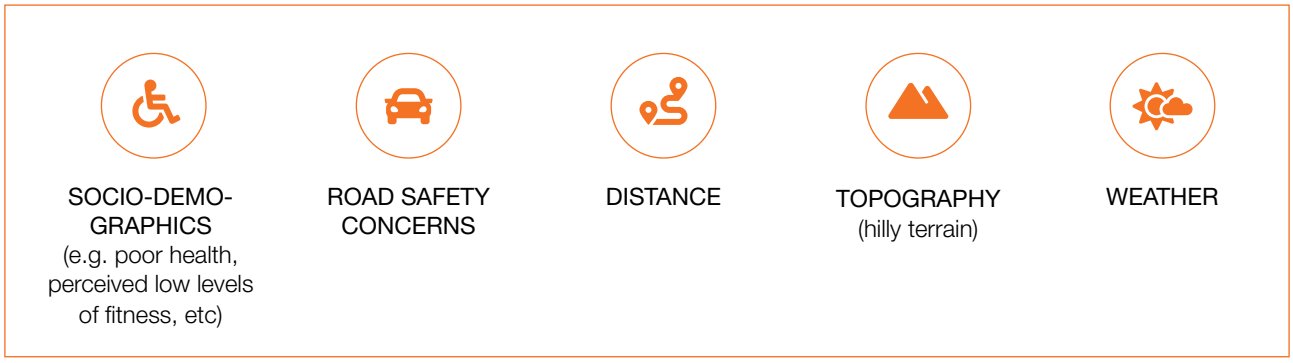


Figure 6-1: Barriers to cycling and walking

The most commonly cited barrier in the majority of studies are road safety concerns which has been identified as a key challenge during wider stakeholder workshops, with perceived road danger preventing many from using cycling as a method of travel. In total 66% of adults surveyed as part of the National Travel Attitudes Survey (2019) stated that "it is too dangerous for me to cycle on the roads". This barrier varies by age and gender, with 71% of women agreeing with this statement compared to 61% of men.

The collisions analysed within the Black Country has shown that 68% of all KSI collisions occurred where there were no physical crossing facilities within 50 metres. While 14% of all KSIs occurred at pelican, puffin, toucan or similar non-junction pedestrian light crossings, and 4% at zebra crossings.

Implementation of the LCWIP programme will therefore have the benefit of creating a safer network of cycling routes. Supporting behavioural change initiatives would therefore need to tackle perceptual barriers, and provide support (e.g. training) to those that have never cycled or are lapsed cyclists.

Another key barrier commonly cited is trip distance and topography, with longer (hillier) trips more attractive by car / public transport owing to the longer travel times and physical exertion associated with cycling the same trip. From the route audits which were undertaken on the shortlisted routes, the majority consisted of flat terrain around the Black Country with only short sections of incline. Dudley, however, does have a hillier topography in comparison to the other Black Country authorities.

Many studies find trip distance to have a statistically significant impact upon the propensity to cycle, with hillier terrain found to have a negative impact upon cycling levels which is compounded for inexperienced cyclists. It is therefore generally accepted that 5km represents a suitable cycling threshold; although research indicates that some individuals may be willing to cycle further than this depending upon other factors. For business users, the effort of cycling long distances (or difficult topography) can dissuade use if there are no shower / changing facilities available.

Distance and topography will be addressed to a certain extent by LCWIP schemes – in that a more coherent network will be easier to navigate. However, this could be further tackled through pro-active promotion of e-bikes that are able to go longer distances, be used by a greater range of people, and are good at assisting with topographical challenges.

Lastly, the concept of Personal Travel Planning (PTP) is built around the concepts of providing people with better information, challenging pre-conceptions and travel habits, and motivating them to try new modes. This tallies with evidence that PTP is most effective in areas that have recently developed new sustainable transport infrastructure.

Table 6-1 provides a range of suggested behavioural change promotional models, with examples of delivery methods which have been broken down into bronze, silver, and gold level categories.

Bronze represents the minimum approach which relies on the infrastructure to advertise its presence within the area along with consultations, social media advertisements and public notices. At the Silver level, specific groups who would use the infrastructure are targeted. Lastly, Gold level requires specific households to be targeted with personal travel plans and incentives to encourage people to actively travel.

Bronze: Level 1

Route Signage ✔
Scheme Consultation ✔
Site Work Notices ✔
The minimum approach relies on the infrastructure itself to advertise its presence, i.e. people will see it and also be alerted via any consultation / public notices surrounding the scheme prior to its delivery. This is essentially the 'build it and they will come' philosophy. The weakness is that there is only a very minimum relationship formed between the infrastructure and people's perceptions of their day-to-day needs. The relevance of the infrastructure to an individual may therefore be missed. Off-road infrastructure may also not be seen by those using other modes (e.g. car) therefore missing out on potential behaviour change benefits.

Bronze: Level 2

Builds on Bronze Level 1 ✔
Traditional Media Press Release ✔
Social Media Posts ✔
This approach seeks to promote the scheme via association with positive messages around both why the scheme has been implemented and its potential benefits to residents. Media messages will not be targeted to specific groups of households (though could be area based), however, and are likely to be seen by those far from the scheme which reduces relevance. This would also include engagement with community organisations to promote the scheme.

Bronze: Level 3

Builds on Bronze Level 1 / 2 ✔
Launch Events ✔
This approach seeks to add to any traditional / social media strategy through specific activities associated with the infrastructure to draw the attention of potential users. Such events could include photo opportunities with the press, "Dr Bike" cycle maintenance sessions, e-bike demonstrations, cycle security sessions with the police, and support via local cycle groups. Larger schemes may justify cycle 'fun' days with displays by BMX and other cycle-organisations.

Silver: Level 1

Builds on Bronze Levels 1 / 2 / 3 ✔
Active Travel Packs ✔
This approach specifically targets those for which it is hoped the infrastructure would be of most benefit and seeks to overcome barriers through the provision of information. This is most commonly done via preparation of Active Travel information packs to include information to encourage new cyclists to start cycling, including the latest area cycle map. This would be best accompanied through the provision of incentives and support such as arranging adult cycle training sessions in the area that could be booked by residents.

Travel packs could be distributed digitally, with the residential contact being reduced to a letter with a QR code. This would enable links to online cycle mapping (if available). Some form of printed material would be needed for those without access to the internet.

Silver: Level 2
Complimentary to Bronze Levels ✔ Business Management Engagement ✔ This approach seeks to target those businesses (and other organisations) for which it is hoped the infrastructure would be of most benefit to employees (and visitors). The strategy would be to engage with business organisations at a management level, who could be sent Active Travel information packs to be sent onto employees. This could also include a locally tailored guide on how to make businesses cycle friendly and provision of site specific advice, and advice on sustainable travel grants (if available).
Silver: Level 3
Complimentary to Bronze Levels ✔ School Engagement ✔ This approach recognises that school trips are an important component of cycling, and those cycling younger are more likely to continue cycling as an adult. Those schools near to the infrastructure could be approached to determine which have taken up Bikeability / Road Safety education training, and if this could be targeted around the opening of proposed infrastructure. This can be supplemented by site audits and provision of assemblies and other activities such as a banner competition for the school gate. This approach also has the benefit of raising awareness with adults around the opening of the scheme. Care needs to be taken, however, that schools have appropriate scooter / cycle parking available.
Gold: Level 1
Builds on Bronze and Silver Level 1 ✔ Travel Advisors ✔ Those households for which it is hoped the infrastructure would be of most benefit could be targeted via a programme of traditional Personal Travel Planning (PTP). PTP seeks to encourage mode shift via visits to households by trained travel advisors to ask how people travel and to encourage greater use of walking, cycling, public transport and car share. Although PTP can be used to promote specific infrastructure, it is generally on the basis of all-modes advice. The scale of the scheme would determine viability, with schemes less than 4,000 households generally costing more due to efficiencies of scale issues (although remain deliverable, particularly if smaller schemes can be packaged).
Gold: Level 2
Builds on Bronze and Silver Level 1 ✔ Travel Advisors ✔ An alternative to traditional approaches is to use screening surveys to identify residents that could be targeted via high quality incentives to promote active travel. This approach was developed during the COVID-pandemic as an alternative to traditional PTP. The incentives could include Activity Trackers (such as FitBits), and 3-month pedal and ebike loans (with options for post-loan purchase or return) and / or discounted bicycle / ebike purchase. This would need to be accompanied by adult cycle training courses. Hybrid models of gold levels 1 and 2 are likely available.
Gold: Level 3
Builds on Silver Level 2 ✔ Employee Engagement ✔ This approach builds on silver level 2, with more intensive work with employees via the arrangement of travel clinics and / or arrangement of Dr Bike, cycle maintenance training and adult cycle training at business / organisation venues.

Table 6-1 – Behavioural Change Promotional Models

Physical Supportive Measures

The proposed localised physical infrastructure, shown in Table 6-2, has been broken down in to bronze, silver and gold categories. At bronze level, the aim is to provide physical infrastructure which is relatively easy to implement and requires minimal funding. Silver level requires the introduction of hire bikes at locations where routes intersect and close to key trip attractors. Finally, gold level highlights infrastructure strategies that would seek to fully integrate cycling and walking services and facilities.

Bronze: Level 1

Route Signage ✔
Route Wayfinding ✔
Bicycle Stair Ramps ✔
Bike Parking ✔
Tidying Streets ✔

This bronze level approach focuses on what physical infrastructure could be implemented across all routes of the Black Country LCWIP. At bronze level, the aim is to provide physical infrastructure which is relatively easy to implement and requires minimal funding. This includes the provision of signage and wayfinding along all routes to make navigation easier for cyclists and pedestrians.

Bronze level also prioritises the implementation of bicycle stair ramps and bike parking at all public transport stations. Bike parking could be deployed using a variety of methods including Sheffield Stands, M stands or cycle hoops (use existing street furniture). Additionally, bronze level involves tidying up the streets along all routes by removing unnecessary road markings and broken furniture, with high-quality finishes made to all utility covers, as to minimise the trip risk. These relatively simple adjustments would be beneficial to both cyclists and pedestrians.

Bronze: Level 2

Builds on Bronze Level 1 ✔
Secure Cycle Storage ✔
Shared Use Surfaces ✔
Corduroy Paving ✔
Painted Cycle Symbols ✔

This approach seeks to build upon the bronze level 1 by adding further physical infrastructure measures to LCWIP routes which are relatively easy and inexpensive to implement. Strategies include installing secure cycle storage near all public transport links and trip attractors, whilst also removing bollards along any routes to improve connectivity and prevent cyclists needing to dismount. Furthermore, bronze level 2 strives to convert existing off-road footways into shared use pathways, which are resurfaced to a high standard and signposted. It is recommended that the shared use pathways are defined by corduroy paving, which will also improve experiences for disabled users. Painted cycle symbols should also be installed on all popular cycle and walking routes for ease of identification.

Silver: Level 1

Builds on Bronze Level 1 / 2 ✔
Introducing Hire Bikes ✔
Seating and Planters ✔
Improving Existing Modal Filters ✔
Light Cycling Segregation ✔
Silver level requires the introduction of hire bikes at locations where routes intersect, close to key trip attractors, and in Dudley where no hire bikes are currently provided. Silver standard also concentrates on improving cycling and pedestrian experience along all routes. This can be achieved by providing seating along routes and in open areas where pedestrians and cyclists might need a rest stop. Planters can also be deployed to increase the amenity value of the routes and encourage active travel. The planters can be designed with granite setts to define the edges and subsequently deter skateboarders from damaging them. Furthermore, silver level prioritises the improvement of existing modal filters (where motor traffic is already restricted) to improve cyclist/wheelchair access. It also seeks to implement coloured surfacing on cycling only routes and light segregation on existing cycle lanes, to improve cyclist safety.

Silver: Level 2

Builds on Bronze and Silver Level 1 ✔
Introducing Dropped Kerbs ✔
Upgrading Existing Crossings ✔
Segregated Cycle Routes ✔
Pedestrian Guard rails ✔
Widening Footways ✔
Decreasing Kerb Radii at Side Roads ✔
Silver level 2 represents the stage where physical infrastructure improvements along the routes become more advanced and expensive to implement. This level consists of introducing dropped kerbs, upgrading existing puffin crossings to Toucans where appropriate, and implementing new controlled crossings according to demand. Cycling priority over the car is facilitated in this level through the provision of segregated cycle routes. Silver standard also seeks to provide more pedestrian guard rails and widen footways to create shared use spaces. Additionally, this approach aims to decrease kerb radii at side roads to promote slower turning speeds and shorten crossing distances for pedestrians and cyclists.

Silver: Level 3

Builds on Bronze and Silver Level 1 / 2 ✔
Reducing on Street Parking Provision ✔
Redistributing Carriageway Space ✔
Traffic Calming Measures ✔
Strategically Located Crossing Points ✔
Introducing Lighting ✔
Pocket Parks ✔
The silver level 3 approach seeks to reduce the provision of on street parking only in areas where off-street parking and other parking facilities are available. It also aims to redistribute carriageway space to prioritise active travel. To promote safe cycling, traffic calming measures such as speed bumps with a cyclist bypass will be implemented at this stage. Furthermore, strategically located crossing points – including cycling refuge areas and traffic control (toucan or parallel crossings) will be introduced. Lighting could also be installed along all routes (could be motion activated on remote / quieter routes) as a component of silver level, alongside the deployment of pocket parks in pedestrianised zones. This would encourage greater active travel participation.

Gold: Level 1
Builds on Bronze and Silver Levels ✔ Mobility Hubs ✔ Modal Filters ✔ Traffic Regulation Orders (TROs) ✔ Sustainable Drainage Systems (SuDS) ✔ Gold level highlights infrastructure strategies that are more challenging and expensive to implement. This includes the provision of mobility hubs at desired locations within each local authority area. This strategy has previously been successful in Redbridge, London. Modal filters could also be introduced gradually at gold level. Initially the filters could start with signage to restrict certain vehicles entering the street. Following this, the permeability of streets could be further decreased through 'harder' infrastructure such as bollards. Traffic Regulation Orders (TROs) could also be implemented alongside modal filters to modify vehicle access to streets temporarily or permanently. Additionally, sustainable drainage systems (SuDS) could be integrated along routes to increase the amenity value.
Gold: Level 2
Builds on Bronze, Silver, and Gold Level 1 ✔ Low Traffic Neighbourhoods (LTNs) ✔ School Streets ✔ Cycle Bridges ✔ Full Kerb Segregation on Cycle Routes ✔ Cyclops Junctions ✔ Gold level 2 focuses on physical infrastructure measures that require the most effort and funding to implement. High activity neighbourhoods could be implemented to increase public support which prioritises sustainable travel movements over private vehicles. The creation of school streets (temporary restrictions placed on motorised traffic at school drop-off and pick-up times) along LCWIP routes is also an important aspect of gold. This is because school trips are an important component of cycling and walking, with those travelling by active modes at younger ages likely to continue to do so as adults. Implementing cycle bridges, full kerb segregation along routes, and cyclops junctions would be optimal strategies to promote safer cycling, however, they would be time and cost intensive to complete.

Table 6-2 - Proposed Localised Physical Infrastructure

Case Study

A case study has been used to investigate potential localised improvements which could be implemented across the Black Country to support the proposed cycle schemes identified within this LCWIP. In consultation with the Working Group, Bushbury South and Low Hill was identified as the case study location. The main reasons for this choice are set out below:

- Interacts directly with the Fordhouses to Heathtown cycle scheme set out in this LCWIP
- Is in proximity to the A449 Stafford Road cycle scheme proposed in the LCWIP
- Has two schools and several local facilities and services within a relatively small area
- The core activity area (retail, green space etc) is located centrally within the neighbourhood

It should be noted that this just provides an example of measures and does not define the actual localised schemes or commit the local authority to implementing any of the measures identified.

Roads within the area with the potential improvements that could be installed to better the connections and access in the area have been listed. Table 6-3 defines some of the key potential improvements set out and the case study is presented in Figure 6-2. Figure 6-3 provides the rationale behind the proposed improvements.

Proposed Improvement	Explanation of Improvement
School Street	A school street is a road outside a school with a temporary restriction on motorised traffic at school drop-off and pick-up times. The restriction applies to school traffic and through traffic.
Modal Filters	A modal filter is any measure, at a single point on the carriageway/footway, that allows the passage of some modes of transport but not others. In this instance, it would be limited to pedestrians and cyclists only.
Mobility Hubs	A mobility hub is designed to facilitate access and connections between sustainable transport modes. Its purpose is to provide a range of mode choices to support onward travel including tools required for maintenance (e.g., bike pumps)
Parklets	A parklet is a movable small seating area or green space with cycle parking, created as a public amenity as an extension to the footway using existing car parking spaces on the carriageway. They can be moved from the carriageway if the parking spaces are required again.

Table 6-3 - Definitions for Proposed Improvements

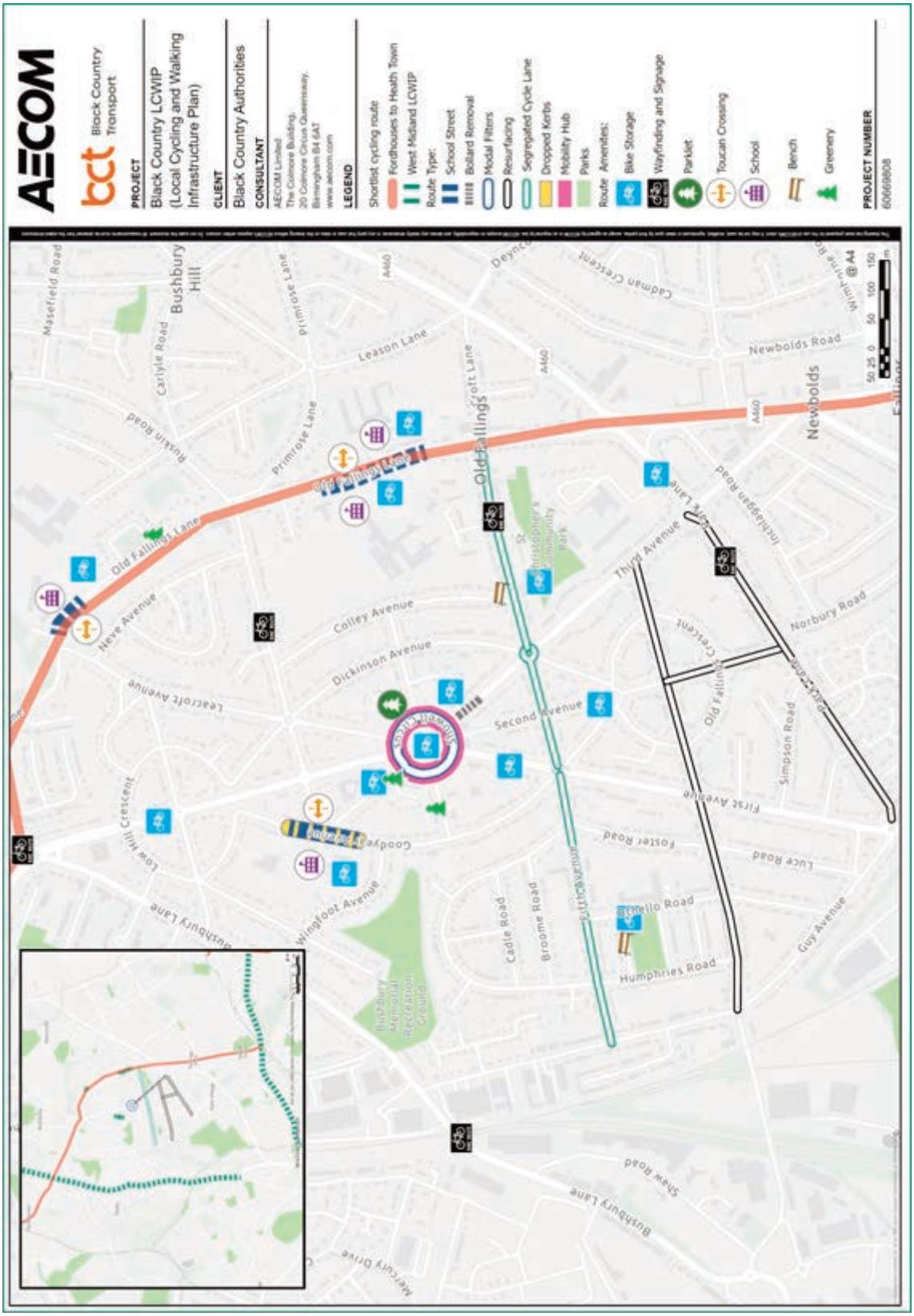


Figure 6-2: Case Study

Good Year Avenue

School Streets, Toucan Crossins and Dropped Kerbs

- Various educational institutions nearby, including Whitgreave Primary School and Low Hill Nursary School
- Speed bumps do not have gaps on either side which allow bikes to pass easily
- A toucan crossing could create a safe area and increase students' ability and confidence to cycle to school.

Showell Circus

Modal Filters, Mobility Hub, Parklets, Greenery and Cycle Storage

- Upgrades to the bike racks culd make there more desirable and practical. This could include a bike shelter, cleaning facilities (bike sanitisation station), lightning, CCTV cameras and signage.
- Provide hire bikes close to bus routes. This will provide a mobility hub.
- A bus gate could be implemented to support bus movement.

Park Lane, Fifth Avenue, Whitgrave Avenue and Juliet Grove

Wayfinding, signage and Seating

- There roads provide key entry and exist points to the Forhouses to Heathrow cycling route therefore, signage and wayfinding would be useful to promote the existence of the route.
- Expand signage onto Park Lane and connect to existing networks.
- Location is near to a wide grass verge so a bench would accompany this area well and give cyclists a place to rest.

Fifth Avenue/Third Avenue

Segregated Cycle Lane

- Cycle lanes could be implemented on these roads as they provide key entry and exit points from the Forhouses to Heathtown cycle route.
- A cycle lane along Third Avenue would provide a simple route into the town centre.
- Residents on these roads do not solely rely on on-street parking therefore it may be reduced or removed to accommodate a segregated cycle late.

Old Fallings Lane

Toucan Crossings, Greenery and School Streets

- Toucan crossing could be implemented to make it safe and convenient for students to cycle into school.
- Dropped kerbs on the footway adjacent to Out Lady and St Chad Catholic Academy to make it easier for cyclists to cross without dismounting.

Low Hill Crescent/Kempton Avenue

Cycle Storage

- Major trip attractors around here include the Co op and a high street.
- Strategically located cycle storage could encourage greater use of this mode.

Third Avenue

Bollard Removal

- Bollards locate(locations?) are likely obstruct cyclists and should be removed to improve cycling permeability.

Fourth Avenue/Park Lane and Second Avenue junction

Resurfacing

- Sections of the footway and road network are cracked and uneven. It may be beneficial to resurface this area to increase the comfort level for cyclists.

Figure 6-3: Rationale for Proposed Improvements

A number of other locations where similar such improvements could be implemented across the Black Country have been mapped in Figure 6-4. In choosing these location, similar characteristics to those identified for the case study were noted. The green stars depict the locations and while many of these are new sites, all longlisted walking zones have also been included. It is considered that these locations have the characteristics to support enhanced walking and cycling activity and provide good connections to both the existing and proposed cycle network. The rationale behind each site is provided in Table 6-4.

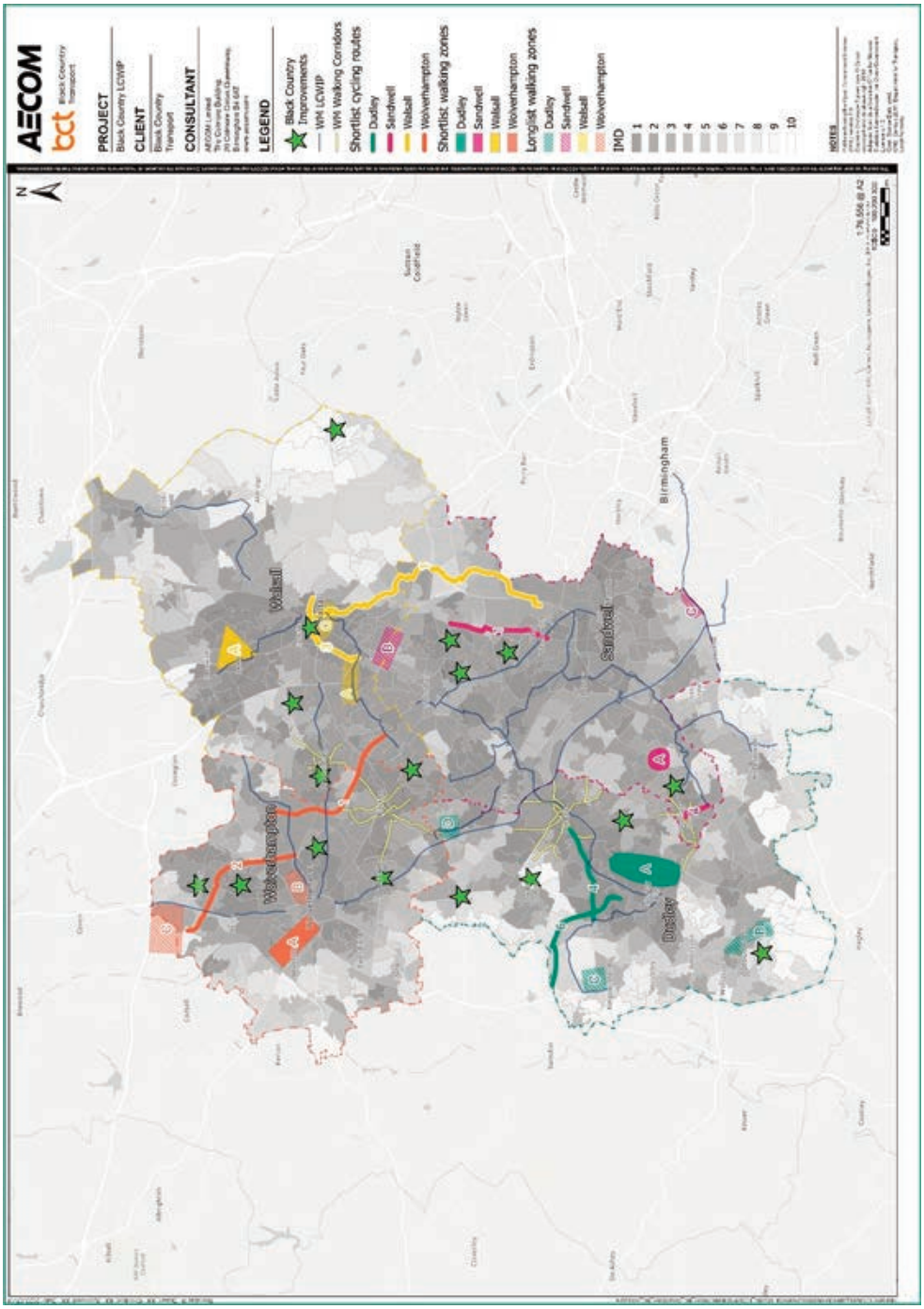


Figure 6-4: Potential locations for wider implementation of localised improvements

Local Authority	Location	Rationale
Dudley	Netherton	• A prime location with a primary schools, nurseries, local shops and amenities nearby • In proximity to Dudley town centre – a large trip attractor • Near to the DY5 Enterprise Zone which encompasses Merry Hill and the Waterfront Business Park • Near residential area which is a target audience • Near to nature reserves which would provide leisure and recreational facilities
	Sedgley	• Near to open spaces, ideal for cyclists to stop and rest • Near to the A4123 cycle route • The A459 nearby provides a key north to south route from Sedgley to Dudley as well as from Sedgley to Wolverhampton. Both centres are major trip attractors • Ability to promote multi modal trips with the presence of Coseley train station (a longlist Dudley walking zone) nearby
	Milking Bank	• The B4176 located to the south of Milking Bank provides a key east to west route to Dudley centre • Various cycle routes surrounding the area • Near to Russell's Hall Hospital – could help encourage cycling / walking to the hospital for both employees and non-emergency patients • A number of trip attractors in the vicinity
	Mary Stevens Park	• In proximity to Stourbridge town centre, Mary Stevens Park, King Edwards College • Near to Stourbridge Interchange, Stourbridge Junction, Dudley walking zone and the longlist Himley to Stourbridge cycle route • Near residential area which is a target audience • Opportunity to encourage multi modal trips
Sandwell	Stone Cross	• On the approach to the proposed Stone Cross to West Bromwich cycle route and cycle route to the north along Walsall Road • In proximity to a high street on Hall Green Road and primary schools • Near residential area which is a target audience • Bus stops and train station (Tame Bridge Parkway) nearby – ability to promote multi modal trips
	Old Hill	• Encircled by various cycle routes • Near to the Sandwell Walking Zone of Rowley Regis Village and Hospital • Near to Old Hill rail station so there is the ability to promote multi modal trips • Near to open space to provide rest areas for cyclists • A4100 to the north provides a direct route into Cradley town centre
	Black Lake	• A lot of trips are likely to be made into West Bromwich town centre nearby, the proposed cycle route from Stone Cross to West Bromwich will help facilitate these trips. Localised improvements will make it easier for individuals to use this route. • Potential to promote multi modal trips once the tram extension is complete

Sandwell	Balls Hill	• Near residential area which is a target audience • Tram extension abuts Balls Hill - potential to promote multi modal trips into Wolverhampton (along the tram line) • On the approach to an existing cycling route on the A4196 • Multiple open space/ parks nearby to provide rest areas for cyclists
Walsall	Birchills	• Birchills is north of the shopping centre and Walsall town centre – major trip attractors • Localised improvements here would help to connect the longlist Bloxwich to Walsall Town Centre cycle route with the proposed routes in Walsall which are currently disconnected
	Willenhall	• Connect to proposed cycle route • Local amenities such as a pharmacy, Morrisons and local takeaways • Open spaces nearby include Willenhall Memorial Park which often holds events – local cycling improvements could promote visitors to attend events via bike
	Bentley	• Small residential area with few local amenities meaning that residents are likely to travel to Walsall centre to attain goods instead • Churchill Road to the south-east of Bentley provides direct access to the B4464 which routes into Walsall city centre • Primary schools nearby include King Charles Primary School, Bentley West Primary School which would support school streets proposals
	Streetly	• B4151 proposed cycle route is located to the north of Streetly. Localised improvements could help increase the use of this route due to proximity • Few large supermarkets - residents likely to travel into the city centre to attain goods. The B4151 proposed cycle route provides a direct route into Walsall centre • In proximity to Sutton Park which can provide a good resting area for cyclists using the nearby cycle route. • Sutton Park often hosts events – localised improvements may encourage others to cycle to events
Wolverhampton	Bushbury South and Low Hill	• See case study for details
	Mosely	• The A454 to the south provides an east to west route to Walsall and Wolverhampton centres. • Numerous bus stops on the A454 providing ability to promote multi modal trips • Within the vicinity of the cycle route from Bentley Bridge to Darlaston and Fordhouses to Heathtown
	Parkfield	• Nursery and primary schools nearby • Near to the A4123 cycle route • Wolverhampton city centre localised improvements could increase the use of this route • Local amenities nearby

Wolverhampton	Bushbury	• Near residential area which is a target audience • Near to the proposed Fordhouses to Heathtown cycle route and an existing route along the A449 • Various local small shops, local amenities • Well-connected area with bus stops and bus routes providing the ability to promote multi modal trips

Table 6-4: Rational for wider locations

7. Appraisal and Prioritisation

As outlined within the LCWIP Technical Guidance, the fifth stage of the LCWIP process involves undertaking a prioritisation exercise to determine investment priorities in the short, medium and long term. It also helps determine a joint programme of walking and cycling investment for the Black Country. The methodology and assessment for the scheme's prioritisation is described below.

Appraisal

As part of the prioritisation process a high-level appraisal was also undertaken using the Active Mode Appraisal Toolkit (AMAT) for each of the proposed Black Country LCWIP routes and zones (eight cycling routes and four walking zones). The AMAT was originally developed by the Department for Transport (DfT) to assess the overall benefits and costs of walking and cycling schemes. The tool quantifies the benefits of cycling and walking interventions by focusing on the three core benefits they help contribute to: health improvements, improvements to journey quality and modal shift.

Health improvements associated with new walking and cycling interventions include greater levels of physical activity, reduced mortality risk, and lower work absenteeism. Meanwhile, improvements to journey quality result from providing the perception of a safer, more comfortable journey using the new infrastructure. Moreover, the AMAT captures that modal shift resulting from the new interventions will encompass a multitude of benefits such as improvements to congestion, greenhouse gas emissions and air quality. Generally, in the AMAT, health improvements represent 50% of a scheme's benefits with journey quality improvements and the impacts of modal shift accounting for 30% and 20%, respectively.

Overall, the AMAT takes into consideration the impact new cycling and walking interventions have on transport users, the environment, society, and the economy and subsequently produces a benefit-cost ratio (BCR) for the scheme. At this stage in the scheme development process there remain a number of unknowns which has led to the BCRs having similar outputs. As a result, they have not been used as part of the appraisal process.

Approach

The scheme prioritisation is a key part of the LCWIP process of which the main outcomes are:

- To determine a pipeline of schemes that can be delivered in the short, medium and long term
- To prioritise each scheme on factors such as effectiveness, policy, economic viability, and deliverability

A multi-criteria prioritisation matrix was developed alongside the Working Group to identify which schemes would be most appropriate for early delivery but also to identify which schemes may require greater resource due to the level of ambition. Each of the short-listed walking and cycling schemes were scored against these factors.

Table 7-1 shows the criteria and scoring metrics that were developed to assess and prioritise the walking and cycling corridors and the associated points that could be achieved.

Criteria	Factors	Description and Points
Timescales	Anticipated length of delivery (short, medium and long term)	• Long Term: over 4 years: The scheme might need detailed planning before implementation. **(1 point)** • Medium Term (between 2 and 4 years): There is clear intention to act, but delivery is dependent on other factors such as funding, detail design, planning permission, land acquisition. **(2 points)** • Short Term (less than 2 years): The scheme can be implemented very quickly or is under development. **(3 points)**
Effectiveness	PCT forecast increase in number of trips	Cycling schemes were measured in percentage increase of numbers of trip: • Low: <50% **(1 point)** • Medium 50% - 100% **(2 points)** • High > 100 % **(3 points)**
		Walking schemes were measured in number of trips • Low: < 500 trips **(1 point)** • Medium: 500 - 1000 trips **(2 points)** • High > 1000 trips **(3 points)**
	Population who directly benefit from the intervention	The route passes through areas of deprivation with most deprived areas scoring the highest: • Low IMD: 8- 10 deciles **(1 point)** • Medium IMD: 3 - 7 deciles **(2 points)** • High IMD: Deciles 1-2 **(3 points)**
	The route supports integration of the network	• Limited Integration: Connects to trip attractors or routes **(1 point)** • Medium Integration: Connects to both trip attractors and routes **(2 points)** • High Integration: Connects to trip attractors and routes and fills a gap in the network **(3 points)**
	Improvement in air quality	The route goes through an exceedance area according to each borough's latest Air Quality Annual Status Report • No **(0 points)** • Yes **(1 point)**
	The scheme addresses road safety	The route goes through a high density cycling and pedestrian KSI corridor • No **(0 points)** • Yes **(1 point)**
Policy	Performance against Black Country Local Plan polices	The scheme will deliver towards Local Plan policies and outcomes • No **(0 points)** • Yes **(1 point)**
	Delivers towards Public Health objectives	The scheme will deliver towards Public Health objectives • No **(0 points)** • Yes **(1 point)**

Economic	Potential to attract funding	Is the scheme likely to attract funding? • No **(0 points)** • Yes **(1 point)**
	Cost Effectiveness	Is the scheme cost effective? (Measured by investment cost per additional trip)
		• Less cost effective: > £200,000 per additional trip routes **(1 point)** • Medium: £100,000 - £200,000 per additional trip **(2 points)** • Highest cost effective: < £100,000 per additional trip **(3 points)**
Deliverability	Constraints in delivering the scheme	Does the route or a section of the route interacts with listed buildings, Sites of Specific Scientific Interest (SSSI), heritage sites, the road network?
		• Multiple constraints: > 5 constraints **(1 point)** • Some Constraints: 3- 4 constraints **(2 points)** • Minimal Constraints: <2 constraints **(3 points)**
	Dependency on other schemes	• Yes, benefits are dependent on other schemes coming forward **(1 point)** • Yes, but can provide some benefits without dependent schemes coming forward **(2 points)** • No, benefits are independent of other schemes **(3 points)**
	Stakeholder / Political Support	The scheme is likely to attract stakeholder or political support • Low support **(1 point)** • Medium support **(2 points)** • High support **(3 points)**

Table 6-4: Rational for wider locations

Prioritisation Assessment

Each cycling corridor and walking zone was scored against the criteria presented in Table 7-1 above. Each metric carried a score for performance towards meeting the criteria objective. Some criteria were scored between 1 and 3, with 1 being the lowest score and 3 the highest score that could be achieved. Other criteria were scored 1 (yes) and 0 (no). The scheme with the potential to best achieve the criteria was given the highest score. Overall, the highest score a scheme could achieve was 29 points and the lowest was 8 points.

Table 7-2 and Table 7-3 present a summary of the resulting prioritised list of cycle and walking routes, respectively. The full list can be found in Appendix K.

Description				Prioritisation
Scheme Name / Route	Local Authority	Length (km)	Cost	Total Score
A4101 Pensnett to Dudley Town Centre	**Dudley**	3.365	£18,887,962	25
Cradley Heath (SCWIP Route) to WM LCWIP Route	**Sandwell**	1.025	£5,462,736	22
Pleck to Arboretum	**Walsall**	3.277	£15,609,619	22
Smestow Valley Leisure Route	**Dudley**	4.654	£9,864,461	21
Bentley Bridge to Darlaston Road	**Wolverhampton**	5.664	£20,250,317	21
Fordhouses to Heathtown	**Wolverhampton**	5.181	£24,761,366	18
Stone Cross to West Bromwich	**Sandwell**	3.696	£18,376,027	17
Walsall Town Centre to Sandwell Valley Park (NCN5)	**Walsall**	11.396	£18,403,183	17

Table 7-2: Cycling Priority List

Description				Prioritisation
Scheme Name / Route	Local Authority	Area (m^2)	Cost	Total Score
Y5 Enterprise Zone	**Dudley**	2,049,705	£10,069,401	24
West Park to Whitmore Reans	**Wolverhampton**	1,240,969	£5,722,908	24
Leamore / Bloxwich / Blakenall Heath	**Walsall**	971,673	£1,165,518	21
Rowley Regis Village and Hospital	**Sandwell**	478,281	£1,906,526	20

Table 7-3: Walking Priority List

8. Integration and Application

This stage of the LCWIP process concentrates on how the findings that have emerged throughout this report can be integrated into wider transport policies, strategies and delivery plans. Throughout the LCWIP process, continued communication between Black Country Transport, Local Authorities and key external stakeholders has ensured that all involved are working towards a shared vision of delivering high quality walking and cycling infrastructure across the Black Country. The schemes proposed as part of the LCWIP demonstrate our joint commitment to improving walking and cycling levels in the Black Country and supporting a modal shift towards active travel. Delivery of these schemes will also simultaneously address the key challenges the region faces such as chronic physical inactivity, creating a net zero transport network by 2041, and transport inequality.

Immediate Actions

The Final Black Country LCWIP strategy document and delivery plan will be submitted to Black Country Transport in September 2022 for approval. Once approved the LCWIP report and accompanying outputs will be published on the Black Country Transport website.

Medium Term Actions

In the medium term, the LCWIP strategy and associated outputs will form part of the appendix to any future Black Country Transport Strategy. The report will also be used to support and build upon the existing walking and cycling strategies across the region.

Furthermore, there will be a priority in the medium term to continue developing and refining the cycling and walking routes and their associated costs, whilst also generating greater political and public support for the schemes. Additionally, this stage will concentrate on identifying any remaining skills gaps and competing work programmes which may hinder LCWIP delivery. There will also be an opportunity to start assembling teams to assist with scheme delivery and creating a pool of resources to be distributed across all organisations.

Ongoing Process

The investment priorities have been identified in Section 0 with the schemes planning to be delivered in order of identified priority. The Black Country LCWIP will then sit alongside TfWM's Movement for Growth strategy and the Black Country Plan, with all documents working towards a collective vision of increasing walking and cycling levels across the region through the delivery of high-quality infrastructure.

Throughout the LCWIP process, numerous outputs have been produced, most notably the LCWIP strategy (this document), network maps, and a prioritisation matrix. As Black Country Transport navigate through their implementation plan, the prioritisation matrix will continually be updated as routes are refined, and costings become more finalised.

Five Year Plan

An indicative 5-year delivery programme between 2023-2028 outlining the approximate timeframe for delivering all LCWIP schemes has been developed. The delivery plan also considers the year 2022 as this is the year the strategy was developed, however, the routes plan to be implemented from 2023 onwards. This LCWIP delivery plan (Appendix B) outlines the approximate duration of all the core stages required to deliver each route in the following key stages:

- Strategy and Prioritisation
- Option Identification and Selection
- Preliminary Design
- Detailed Design
- Construction.

It is important to note that these timeframes are subject to change but are based on the most appropriate estimates to date. An overview of some of the core stage durations for each cycling route and walking zone can be found in Table 8-1 and Table 8-2 respectively.

Local Authority	Cycle Routes	Length (km)	Preliminary design duration (months)	Detailed design duration (months)	Construction duration (months)
Wolverhampton	Fordhouses to Heathtown	5.18	6	9	24
	Bentley Bridge to Darlaston	5.66	6	9	24
Dudley	Smestow Valley Leisure Route	4.65	3	8	18
	A4101 Pensnett to Dudley Town Centre	3.37	3	8	18
Walsall	Walsall Town Centre to Sandwell Valley Park (NCN5)	11.40	4	9	36
	Pleck to Arboretum	3.28	3	8	18
Sandwell	Cradley Heath (SCWIP Route) to WM LCWIP Route	1.03	3	6	12
	Stone Cross to West Bromwich	3.70	6	9	24

Table 8-1: Approximate durations for identified Delivery Stages - Cycling

Local Authority	Cycle Routes	Length (km)	Preliminary design duration (months)	Detailed design duration (months)	Construction duration (months)
Wolverhampton	Fordhouses to Heathtown	5.18	6	9	24
	Bentley Bridge to Darlaston	5.66	6	9	24
Dudley	Smestow Valley Leisure Route	4.65	3	8	18
	A4101 Pensnett to Dudley Town Centre	3.37	3	8	18
Walsall	Walsall Town Centre to Sandwell Valley Park (NCN5)	11.40	4	9	36
	Pleck to Arboretum	3.28	3	8	18
Sandwell	Cradley Heath (SCWIP Route) to WM LCWIP Route	1.03	3	6	12
	Stone Cross to West Bromwich	3.70	6	9	24

Table 8-1: Approximate durations for identified Delivery Stages - Cycling

A governance process has been developed to identify when and what key resources will be required during scheme delivery, including critical decision making and approval points. This should be reviewed alongside Appendix B as a means of ensuring the right skills and governance is mobilised in advance of scheme delivery. The governance process can be found in Appendix C.

Funding Mechanisms

Acquiring funding to deliver the LCWIP schemes is a pivotal component of the LCWIP process. As the demand for high quality walking and cycling infrastructure continues to grow and the transition to active travel modes accelerates across the Black Country, local authorities must consider alternative opportunities for attaining funding.

This LCWIP report manifestly demonstrates the benefits cycling and walking could provide to the Black Country region, as well as the key challenges it will help to tackle. It is paramount that this report is used to promote active travel and that the findings produced within it are used as a mechanism for funding.

Some of the funding opportunities include:

- Funding from a dedicated local government cycling infrastructure budget – this funding would likely need to be supplemented by other funding streams.
- Incorporating cycling and walking infrastructure into other works programmes - cycling and walking infrastructure is becoming more of a priority across the Black Country and can often be easily integrated into other works.

- Developer funded schemes/agreements (such as S106) – opportunity to use future developments (regardless of scale) to implement high quality cycling and walking infrastructure within new developments. S106 agreements could be utilised to encourage improvements to existing and proposed offsite improvements.
- Funding through Local Economic Partnerships (LEP) - the LCWIP is an opportunity to promote the regional and local benefits of cycling and walking to relevant LEPs.
- Various funding streams have been available in recent years to support the implementation of active mode infrastructure. It is important that new funding streams continue to be identified as funding will be required for numerous aspects of scheme delivery including the implementation of walking and cycling infrastructure, promoting the schemes and for monitoring and evaluation. Funding streams that have been used in recent years are set out below:
  - Active Travel Fund / Emergency Active Travel Fund
  - Transforming Cities Fund
  - Levelling Up Fund
  - Local Authority Capability Fund
  - City Regional Sustainable Transport Settlements Fund

9. Consultation and Review Period

The Black Country Local Authorities and the LCWIP working group identified key internal and external stakeholders which were invited to participate in the early stages of the LCWIP. The summary of this engagement is located in Section 3 and Section 4.

It is anticipated that the LCWIP will be finalised in the final quarter of 2022 which will be followed by a review period of internal stakeholders. The recommendations from this review will form part of the iterative nature of developing the Black Country LCWIP. This is to ensure that the key routes and zones identified as investment priorities remain strategically significant for the region.

An overview of the upcoming review and consultation is set out in Figure 9-1.

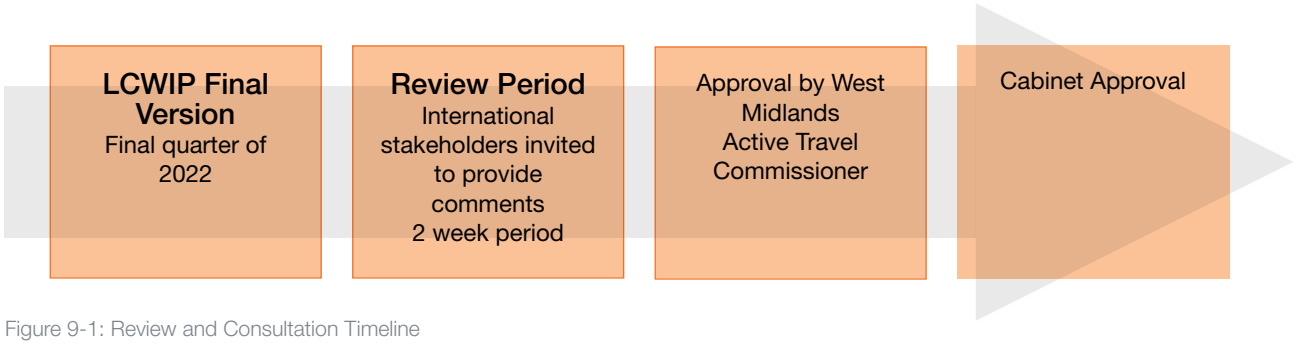


Figure 9-1: Review and Consultation Timeline

The key stakeholders that have been identified to take part during this consultation and review period are presented in Figure 9-2.

Stakeholders

Internal				External

Dudley	Sandwell	Walsall	Wolverhampton	• General Public
				• Canal and River Trust
				• Sustrans
				• Active Travel England
				  • Transport for West Midlands
				  • Cycling and Walking Teams
				• Bus Teams
				• Others

Local Authorities Internal Teams • Public Health • Regeneration • Maintenance • Senior Strategic Transport				

Figure 9-2: Stakeholder Identification

Following this review period, comments and recommendations will be considered and aligned to the original prioritised routes and zones. The Black Country LCWIP will be updated and provided to cabinet for final approval.

Appendix A: Document copies – Stakeholder Engagement Log

Workshop recap

4

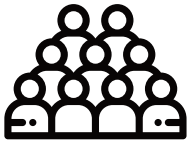
Workshops in November

1

Workshop per authority

10-18

Attendees at each workshop



57

Attendees across all workshops

14

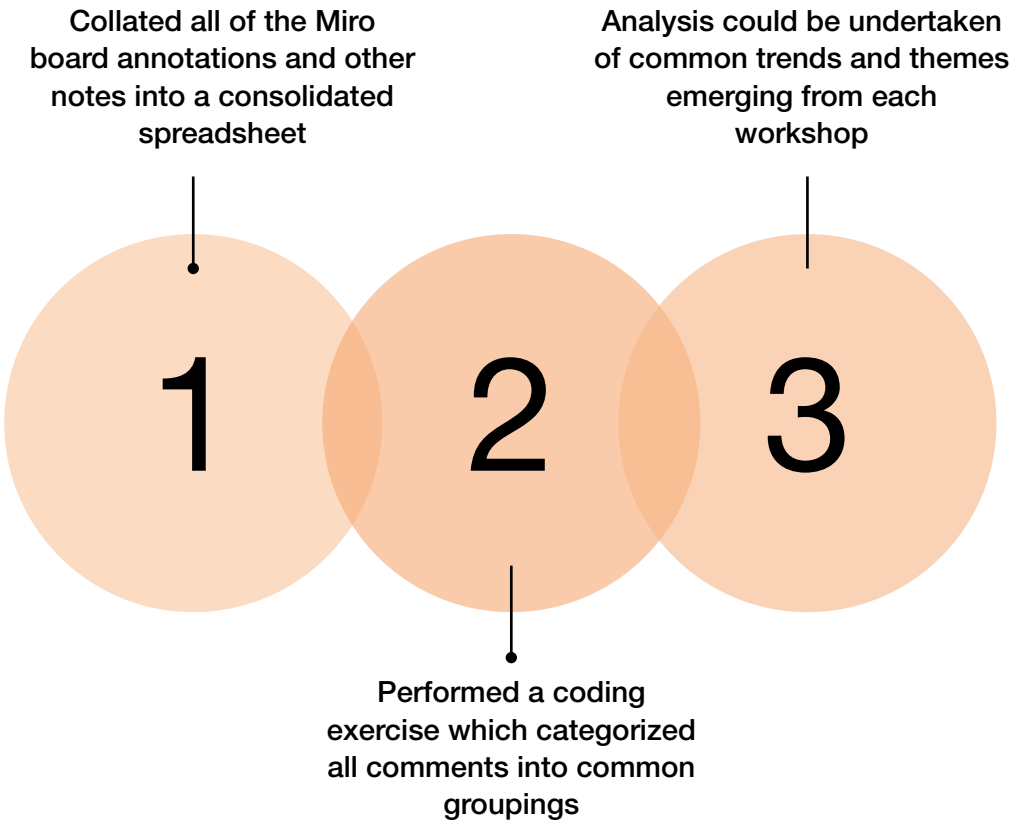
Different partners represented

Workshop objectives

- To identify current walking and cycling provision available and existing demand
- To identify key challenges and opportunities for implementing a coordinated network
- To understand what investment and initiatives are already planned
- To understand the longer-term vision for the network ("blue-sky thinking")
- To understand emphasis on the strategic priorities of the Black Country
- To inform optioneering process and record outputs as part of the Stakeholder Engagement Log

Appendix A: Document copies – Stakeholder Engagement Log

Workshop Outputs – Method



Theme 1

Challenges	Coding
A current barrier is barriers. There are many cycle barriers along the towpaths in Wolverhampton to prevent motorbike usage. However, these also prevent legitimate use.	Infrastructure
Safety is a challenge: with better lighting and more people using. It is key to improve the perception of safety.	Safety
Have the funding, but need political support. The scheme needs to be LTN1/20 compliant.	Political
A lot of of political backlash for prioritising cycle travel.	Political
Political willigness and influence / political champions able to work and influence across the different local authorities.	Political

Appendix A: Document copies – Stakeholder Engagement Log

Workshop Outputs – Challenges

Infrastructure

- Infrastructure and signage needs to be accessible for all, including adapted cycles
- Lack of highway space to accommodate appropriate cycling / walking infrastructure
- Many miles of canal towpath still to be upgraded. The network does not always consider walking and cycling in the same capacity
- Infrastructure has to be inviting and fit for purpose to encourage more users
- Physical constraints such as railway bridges, M5 and the ring road pose significant challenges in developing co- ordinated routes
- Signage can be confusing. Joined-up approach for waymaking is required

Political

- Politicians are not engaged in walking / cycling
- Difficult to introduce new measures which may be politically sensitive
- Change needs to be driven from the top – but changes to the road network are unlikely to gain political support
- Political backlash for prioritising cycle travel

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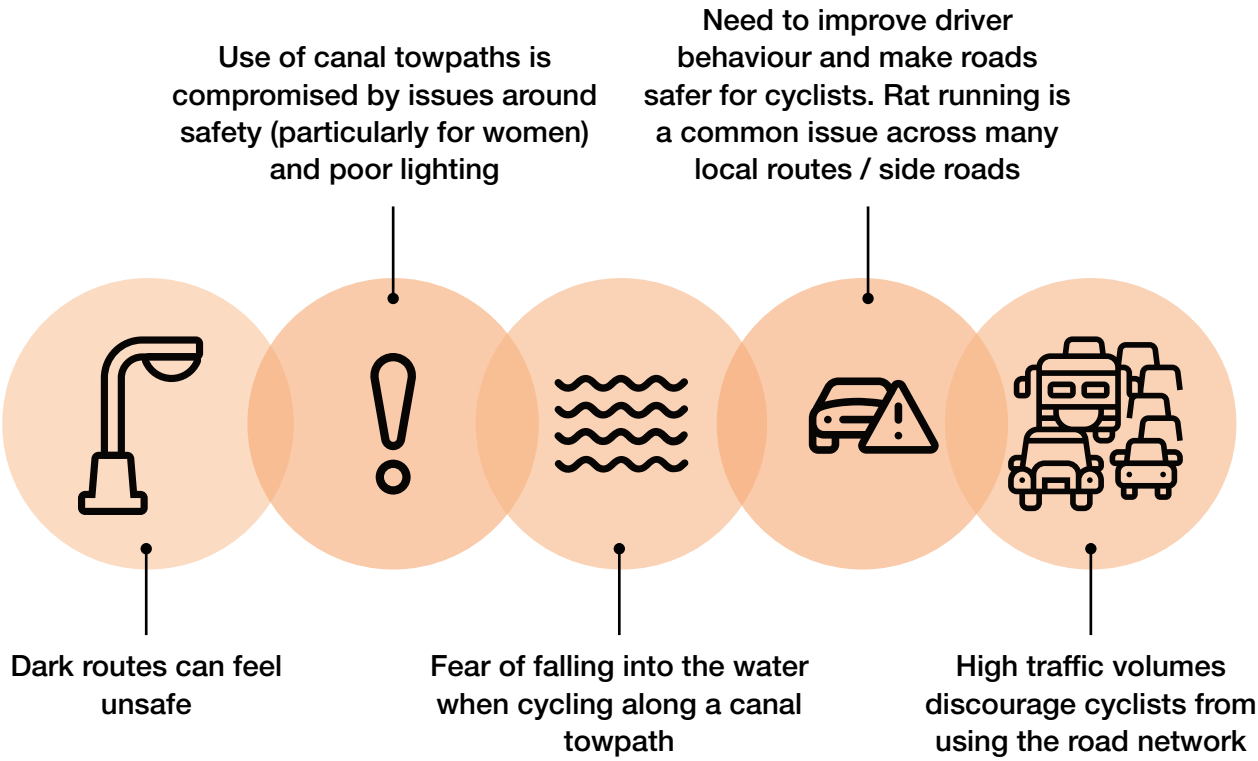
Championing / Public Support

- Interest in cycling over the summer has been high – need to find more ride leaders
- There is a lack of political champions across each Local Authority. No one is championing walking and cycling across the Black Country
- There is growing community activism but it is not well supported by the Council. If people want cycle training or advice, it is not clear who they are meant to go to
- Unwillingness to make sacrifices to provide more effective infrastructure
- Resistance to cycling on footpaths
- People do not like temporary measures and will fight to remove them

Safety



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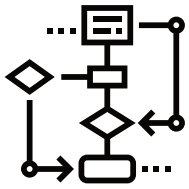
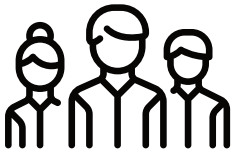
Governance / Resourcing



Governance processes are inflexible and officers are reluctant to change/challenge



Limited internal resources to respond to the opportunity presented by Covid-19 and take advantage of increased walking / cycling

Need more specialists to fit specialist roles

Internal training required for officers, particularly in relation to LTN 1/20

Other

- Need to consider user needs including access to cycle equipment and training for people unable to ride a bike
- LTN 1/20 could be a barrier to investment on the canal network as physical constraints of the network mean that design standards are not appropriate
- Canal River Trust do not have a clear map of assets showing surfaced / non- surfaced areas, accesses or gaps in the network
- Conflict between road users all competing for the same road space
- Need to reduce parking provision at development sites
- Existing cycle routes in Dudley are not fully used

Appendix A: Document copies – Stakeholder Engagement Log

Workshop Outputs – Demand

- 171% increase in cycling along Wolverhampton towpaths during first Covid-19 lockdown (compared to 138% increase in Birmingham). The cycle towpaths in Wolverhampton are green and appealing.
- Bike hire scheme has performed well – high demand at Walsall Arboretum
- High demand for cycling from industrial workers in Darlaston. Also opportunities to link the network with the new Darlaston Railway Station and Phoenix 10 development
- Appetite for cycling to school, with 2021 data indicating that 26% of primary school children would like to cycle to school
- Existing cycle routes in Dudley are not fully used

The figures above suggest that there has been a significant increase in demand. As demand figures are based on a low baseline, this could result in a potential overestimate of the benefits that have been seen across the Black Country. Therefore the figures may not be completely representative and should be treated with some level of caution.

Which routes / locations (up to 3) do you consider have the greatest demand for cycling and walking?*

Sandwell

Dudley

*The outputs of these polls should be caveated by the fact that they are based on a small sample size of attendees at the stakeholder workshops. Source: Mentimeter.com/app

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Progress Meeting Outputs* – Demand

Which routes / locations (up to 3) do you consider have the greatest demand for cycling and walking?

*Based on outputs from a small sample of Black Country Local Authority representatives at the Progress Meeting held on 15/12/21. Source: Mentimeter.com/app

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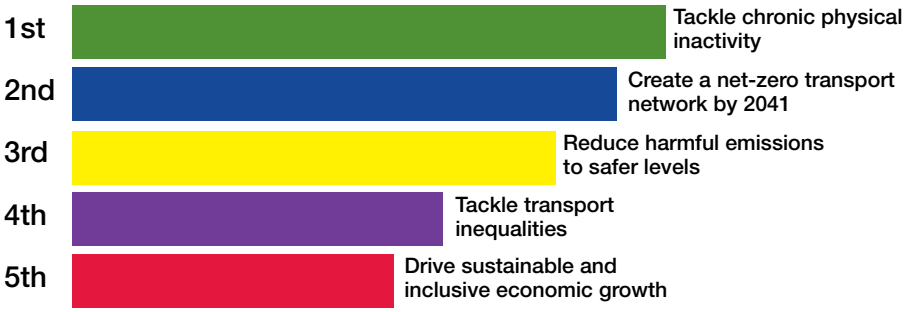
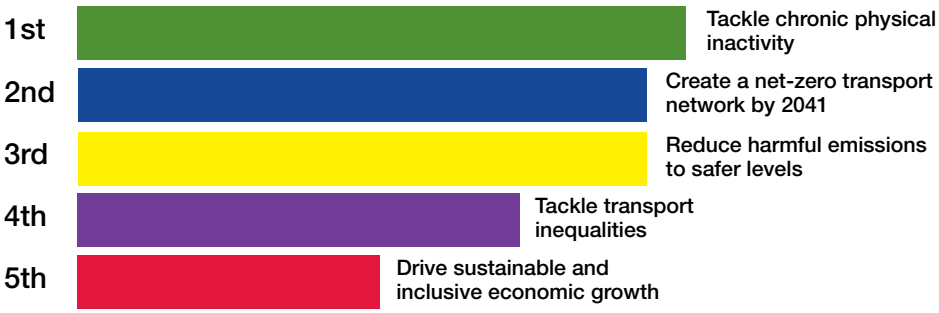
Workshop Outputs – Strategic Priorities*

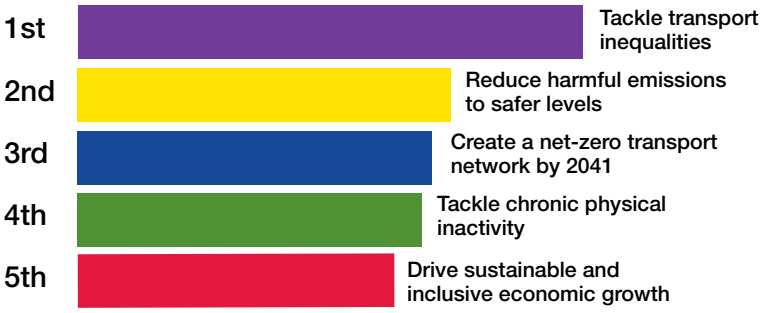
Walsall



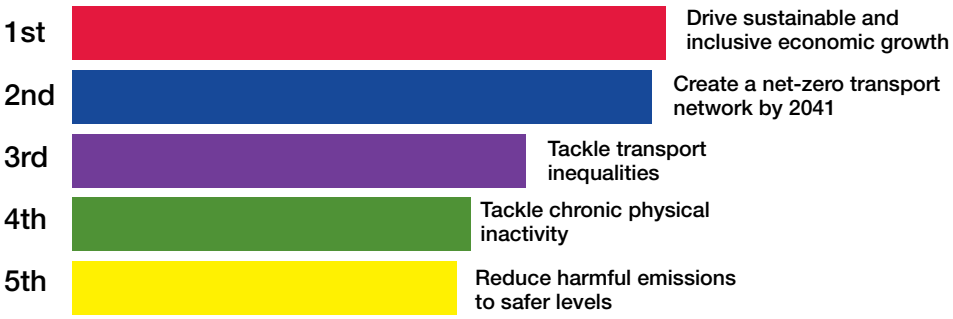
Wolverhampton



Sandwell



Dudley

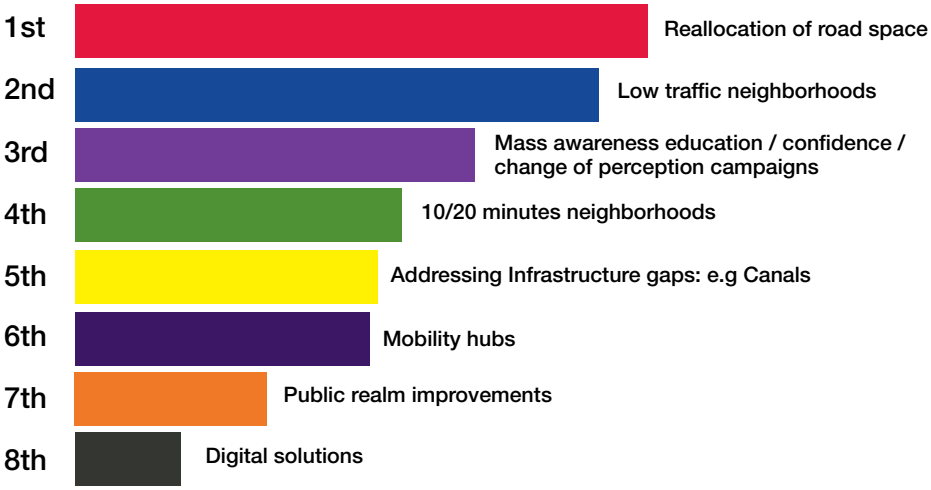


*The outputs of these polls should be caveated by the fact that they are based on a small sample size of attendees at the stakeholder workshops. Source: Mentimeter.com/app

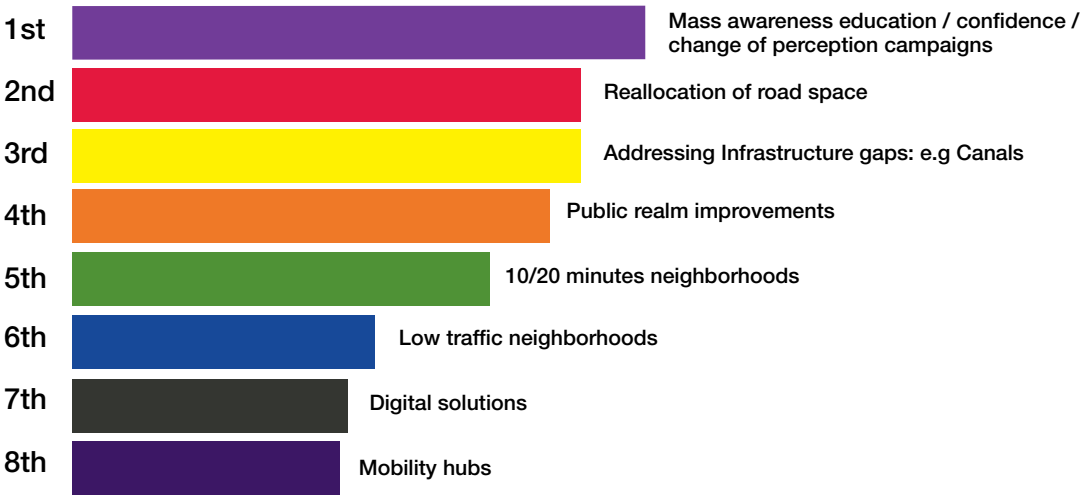
Appendix A: Document copies – Stakeholder Engagement Log

Please rank the available options in order of importance, one being the most important*.

Sandwell



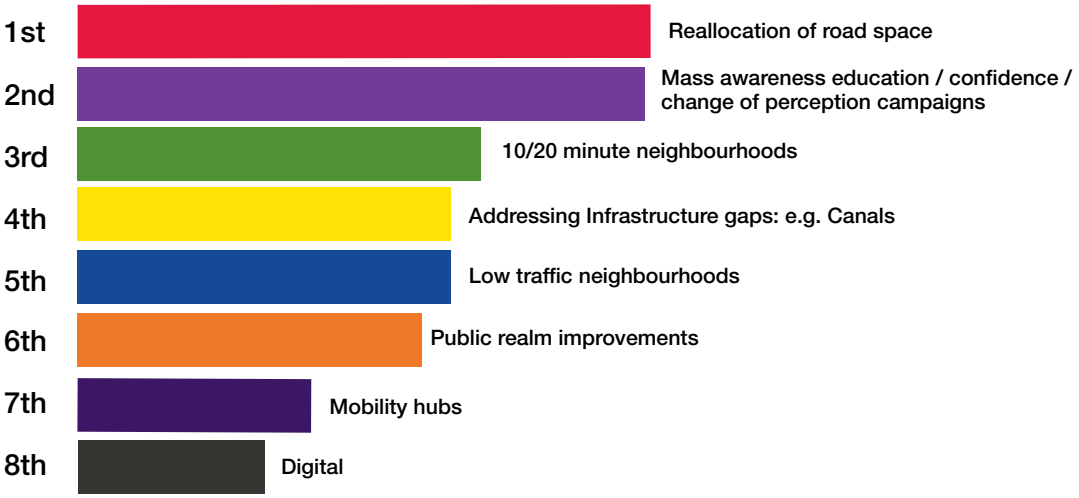
Dudley



*The outputs of these polls should be caveated by the fact that they are based on a small sample size of attendees at the stakeholder workshops. Source: Mentimeter.com/app

Appendix A: Document copies – Stakeholder Engagement Log

Please rank the available options in order of importance, one being the most important.



*Based on outputs from a small sample of Black Country Local Authority representatives at the Progress Meeting held on 15/12/21. Source: Mentimeter.com/app

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Workshop Outputs – Future Vision

- **Inclusivity:** providing equal and equitable opportunity to access all modes and providing people with the opportunity and facilities to walk and cycle without barriers for all journey purposes.
- **Multimodal:** support and encourage integration between active travel and public transport provision. Specifically through improved connections and enhanced accessibility.
- **Connected:** improve connectivity within and between boroughs through enhanced walking, cycling and public transport provision.
- **Digital:** explore opportunities to digitise information such as maps, way finding, apps, etc to support greater dissemination of information.
- **15/20 Minute Neighbourhoods:** viewed as a real opportunity to encourage walking and cycling and an aspect that should be considered in future large-scale developments.
- **Collaboration:** provide an opportunity to share ideas but also enable consistency in delivery across the Black Country and the West Midlands.

Appendix A: Document copies – Stakeholder Engagement Log

Workshop Outputs – Potential LCWIP Routes

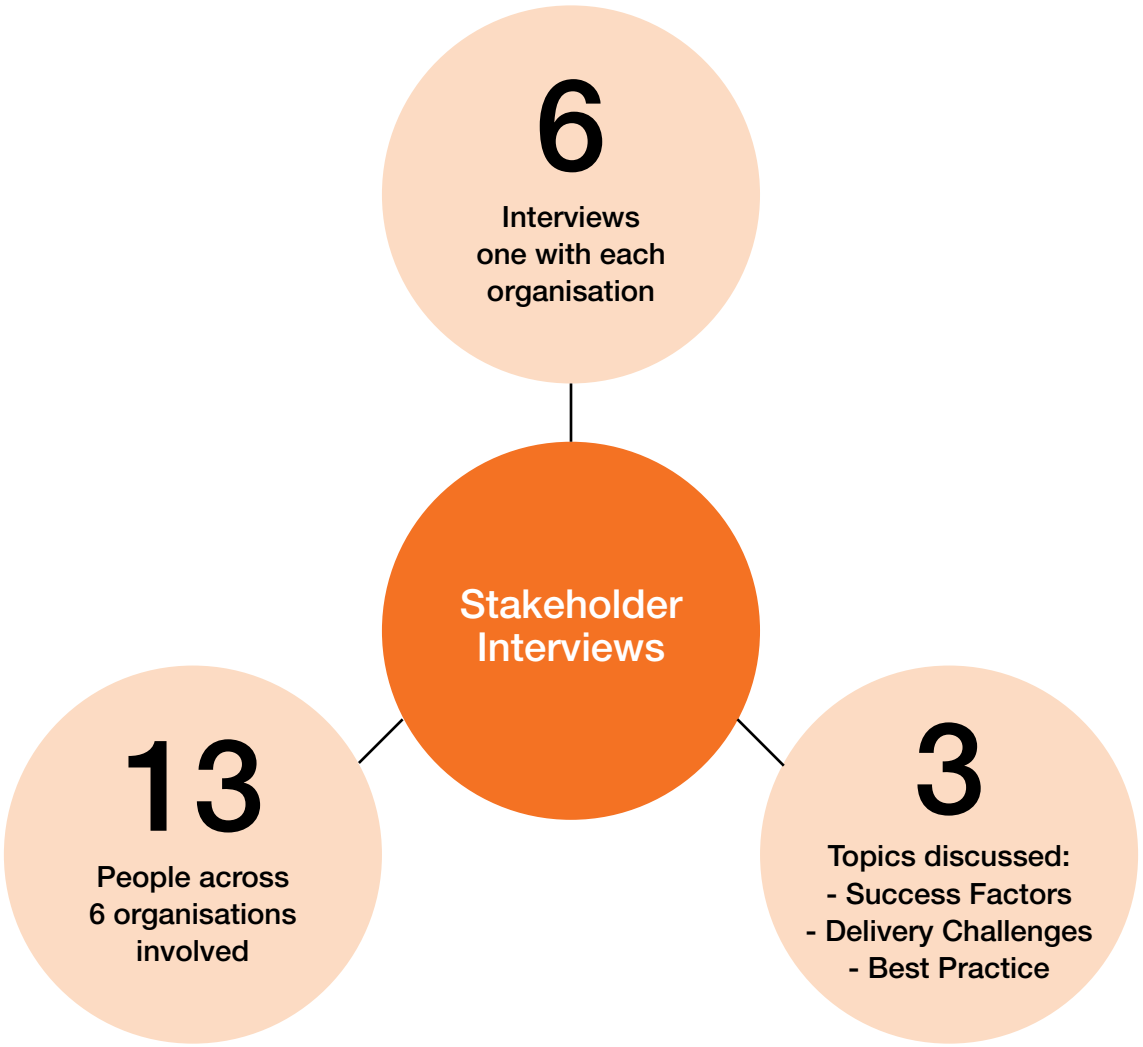
Dudley

- All cross boundary corridors (Wolverhampton/Dudley/Sandwell)
- Stour Valley (Stourbridge to Halesowen)
- Norton Covert to Coombeswood (Nine Mile Route)
- A4101 corridor (Dudley to Brierley Hill)
- Dudley to Tipton
- A449 corridor
- Dudley & Stourbridge canals
- A456 corridor (Halesowen to Woodgate Valley)
- A491 corridor (Stourbridge to Himley)
- A459 corridor
- A4123 & link to Coseley rail station
- A461 Dudley Road (Burnt Tree to Castle Gate)
- Smestow Valley (Fens Pools to Himley)
- NCN 54/81
- Old Hill station via Leasowes to Manor Way (A456)
- Rowley Regis rail station to Halesowen (avoiding steep roads)
- Leasowes and Saltwells park paths
- Geo trail

Potential routes have also been requested from Sandwell, Walsall and Wolverhampton

Appendix A: Document copies – Stakeholder Engagement Log

Governance Reviews



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LCWIP Delivery Success Factors

- **Political support / acceptance:** Highlighted in all interviews – need more advocates for cycling and walking across the Black Country.
- **Champion:** Essential to promote and raise awareness for cycling and walking. Active Travel Commissioner & Councillors to play a key part in this.
- **Collaboration:** Strengthen relationships within teams and between departments, LAs and with TfWM. Opportunity to share knowledge, best practice and resources.
- **Stakeholder engagement / support:** Considered essential for successful delivery but also to discuss ideas and innovation.
- **Awareness raising:** Importance of education, mass awareness but also consistency in messaging and material across the Black Country.
- **Multimodal:** Viewing cycling and walking as a viable mode and giving both the same level of consideration in design.

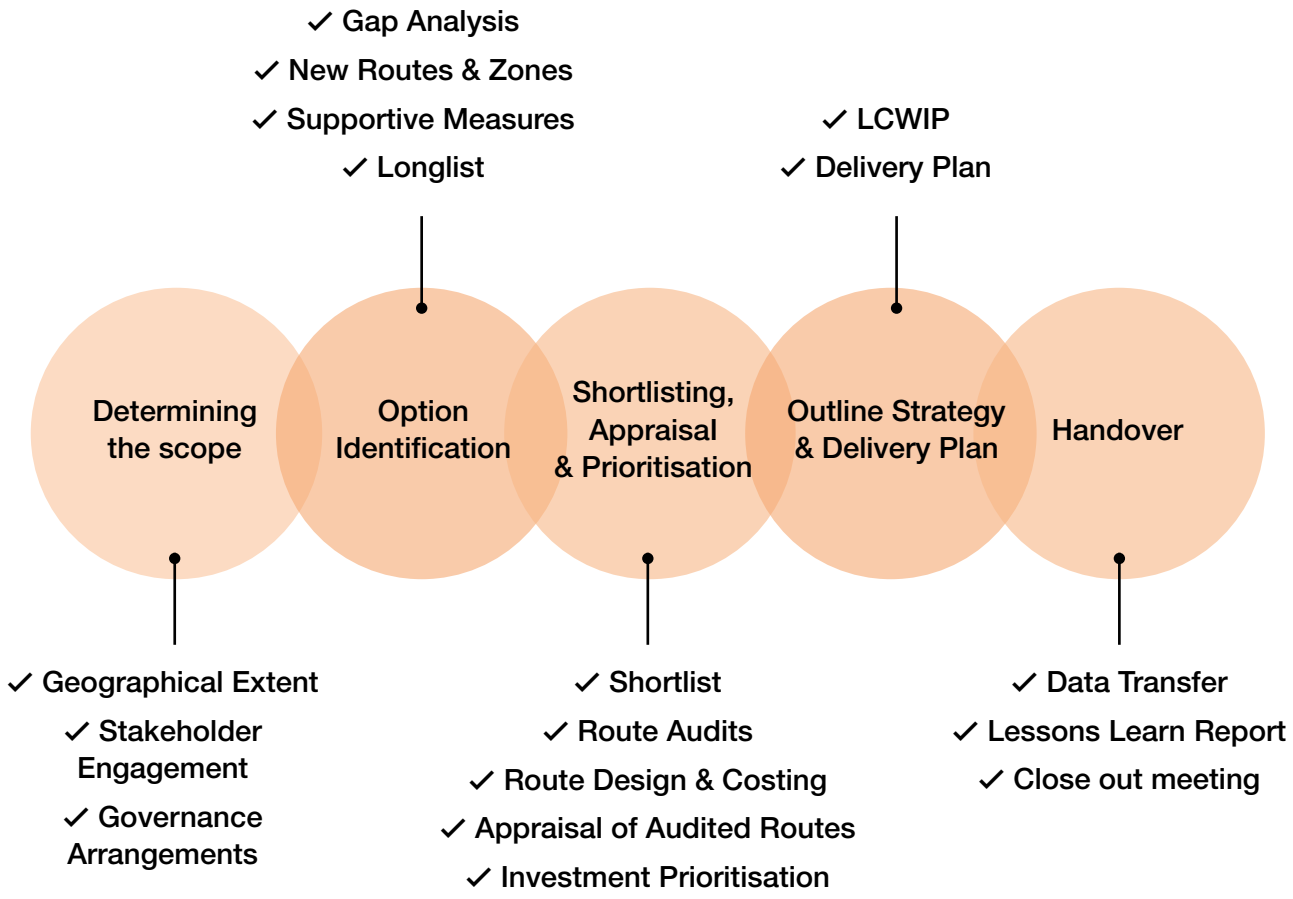
Appendix A: Document copies – Stakeholder Engagement Log

LCWIP Delivery Challenges

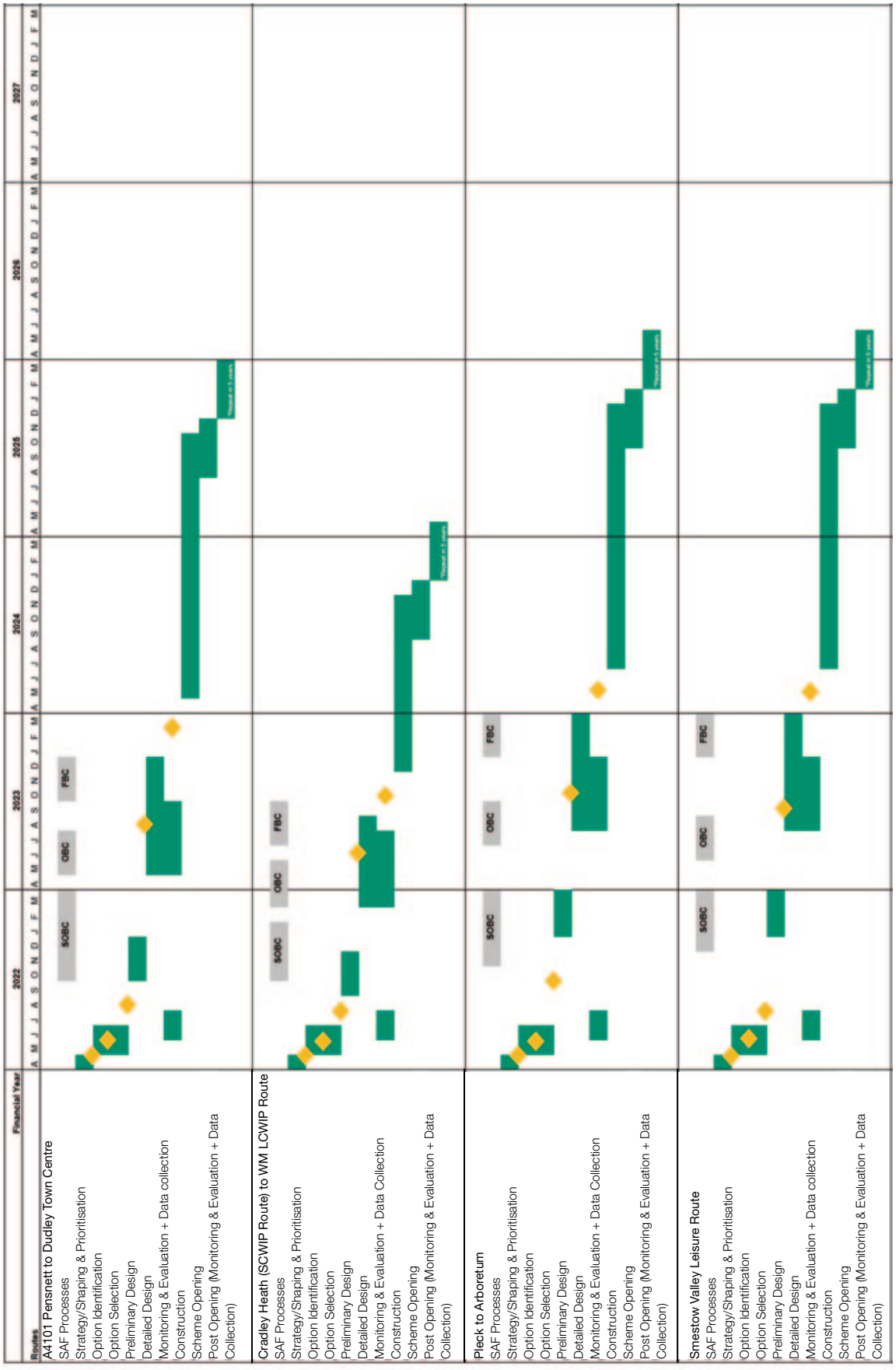
- **Resource:** Limited resource availability and issues with staff retention, knowledge continuity within teams and limited funding to grow in-house teams.
- **Upskilling:** Additional in- house expertise required to develop schemes in line with new guidance (i.e. LTN 1/20). Training needs to be offered to staff.
- **Competing Priorities:** Different agendas and competing work programmes internally but also issues with supply chain robustness / contractor availability.
- **Funding:** Strong cash flow and continued funding will be needed to effectively deliver the LCWIP.
- **Infrastructure:** Strong evidence base is needed to better understand the types of schemes that need to be delivered and the role that 'softer' measures have in making them a success.

Appendix A: Document copies – Stakeholder Engagement Log

Next Steps

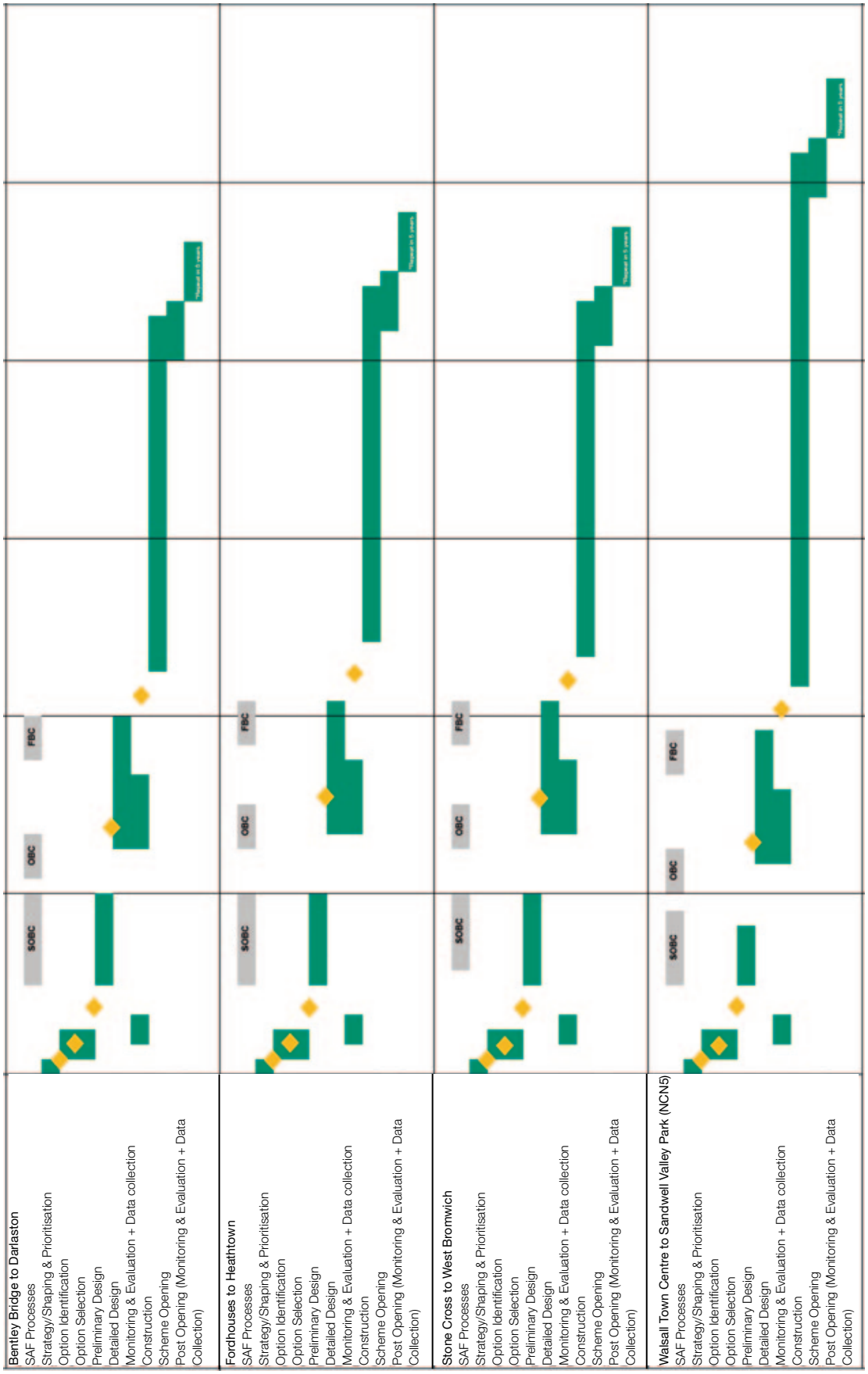


Appendix B: Delivery Plan



Routes
A4101 Pensnett to Dudley Town Centre
SAF Processes
Strategy/Shaping & Prioritisation
Option Identification
Option Selection
Preliminary Design
Detailed Design
Monitoring & Evaluation + Data collection
Construction
Scheme Opening
Post Opening (Monitoring & Evaluation + Data Collection)
Cradley Heath (SCWIP Route) to WM LCWIP Route
SAF Processes
Strategy/Shaping & Prioritisation
Option Identification
Option Selection
Preliminary Design
Detailed Design
Monitoring & Evaluation + Data Collection
Construction
Scheme Opening
Post Opening (Monitoring & Evaluation + Data Collection)
Pleck to Arboretum
SAF Processes
Strategy/Shaping & Prioritisation
Option Identification
Option Selection
Preliminary Design
Detailed Design
Monitoring & Evaluation + Data Collection
Construction
Scheme Opening
Post Opening (Monitoring & Evaluation + Data Collection)
Smestow Valley Leisure Route
SAF Processes
Strategy/Shaping & Prioritisation
Option Identification
Option Selection
Preliminary Design
Detailed Design
Monitoring & Evaluation + Data collection
Construction
Scheme Opening
Post Opening (Monitoring & Evaluation + Data Collection)

Appendix B: Delivery Plan



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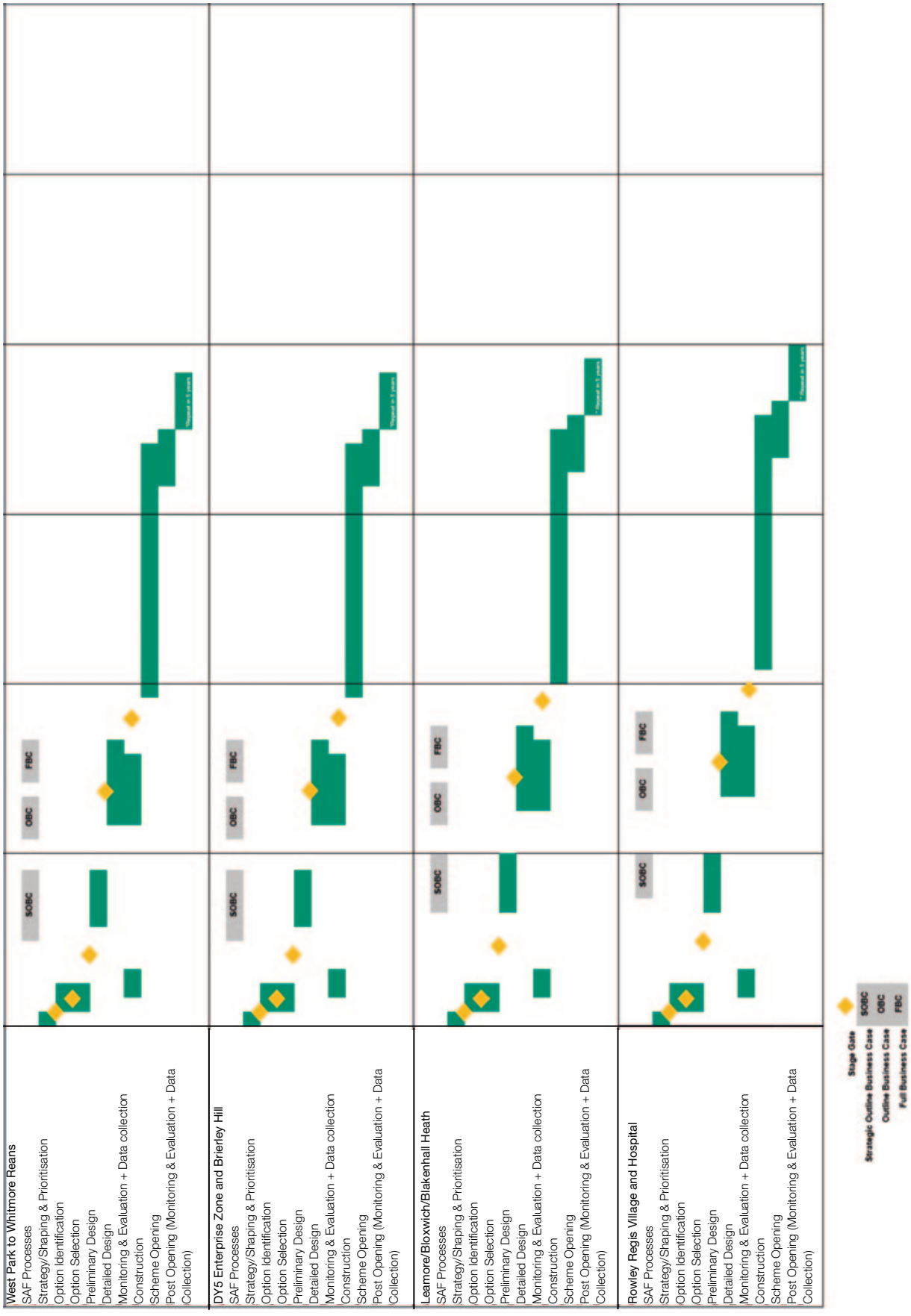
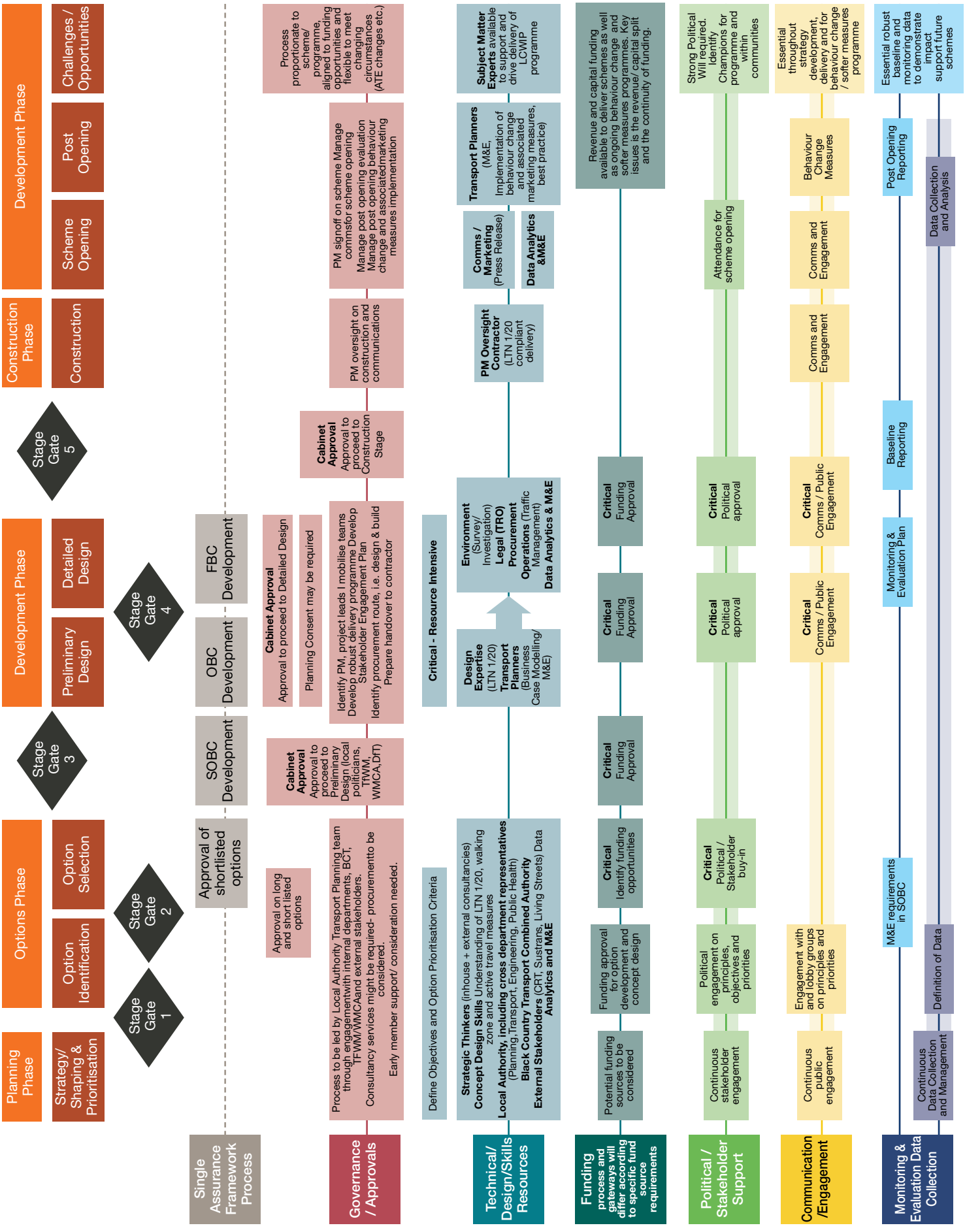


Appendix C: Governance Process



Appendix D: Shortlisting Spreadsheet

Cycle Route Scoring

Ref	Scheme Name	Local Authority	20%				20%	15%	20%			15%	10%	Comments
			A. Connectivity				B. Demand	C. Demographics	D. Quality and Safety			E. Health	F. Stakeholder Support.	
			Connectivity to trip attractors	Connectivity to public transport provisions	Connectivity to public transport with cycli parking provision	Connectivity to existing and planned routes and green routes	Predicted demand	Population who directly benefit from the intervention	Delivery barriers	Frieght network	Collision data	Public health	Stakeholder Support	
			5	5	5	5	20	15	7	7	7	15	10	
1	Himley to Stourbridge	Dudley	1	2	1	3	2	2	1	3	3	2	2	
2	Brierly Hill to Cradley Heath	Dudley	1	1	1	3	2	2	1	3	1	2	2	
3	Dudley to Cradley Heath	Dudley	2	1	1	3	1	2	1	3	1	2	2	
4	A4101 Pensnett to Dudley Town Centre	Dudley	2	3	1	3	1	2	3	3	3	2	2	
5	Pensnett to Upper Gornal	Dudley	1	2	1	2	1	2	2	3	2	2	2	
6	Smestow Valley Leisure Route	Dudley	1	1	1	2	2	2	3	3	1	2	2	
7	A458 to Woodgate Valley Country Park	Dudley	1	1	1	2	1	1	2	3	1	2	2	
8	Stourbridge to Halesowen	Dudley	2	2	3	2	1	2	1	3	3	2	2	
9	Hagley to M5 J3	Dudley	1	1	1	3	1	1	3	3	2	2	2	

Appendix D: Shortlisting Spreadsheet

Cycle Route Scoring

Ref	Scheme Name	Local Authority	20%				20%	15%	20%			15%	10%	Comments
			A. Connectivity				B. Demand	C. Demographics	D. Quality and Safety			E. Health	F. Stakeholder Support.	
			Connectivity to trip attractors	Connectivity to public transport provisions	Connectivity to public transport with cycli parking provision	Connectivity to existing and planned routes and green routes	Predicted demand	Population who directly benefit from the intervention	Delivery barriers	Frieght network	Collision data	Public health	Stakeholder Support	
			5	5	5	5	20	15	7	7	7	15	10	
1	Stone Cross to West Bromwich	Sandwell	1	3	1	3	2	3	2	3	3	2	2	
2	Tipton to Oldbury	Sandwell	1	2	1	3	2	2	2	3	1	2	2	
3	Smethwick to Bearwood	Sandwell	2	3	3	2	2	3	1	3	3	3	2	
4	Cradley Heath (SCWIP Route) to WM LCWIP Route	Sandwell	3	3	1	2	2	3	2	3	3	3	2	
5	Old Hill Town Centre to A458	Sandwell	1	2	1	3	2	2	3	3	1	2	2	
6	Metro Stop Upgrades	Sandwell	1	1	3	3	3	3	1	3	3	3	2	
7	Newton to Hamstead	Sandwell	1	3	1	2	1	2	2	3	3	2	2	
1	Walsall Town Centre to Sandwell Valley Park (NCN5)	Walsall	1	1	1	3	1	2	2	3	3	2	2	
2	M6 J10 to Walsall	Walsall	2	3	1	2	3	3	3	3	1	2	2	
3	Pleck to Arboretum	Walsall	2	1	1	2	3	3	2	3	1	3	2	
4	Rushall to Walsall	Walsall	1	3	1	2	3	3	2	3	1	3	2	
5	North East Ring Road	Walsall	1	2	1	2	1	2	2	3	1	2	2	
6	Arboretum to Boundary	Walsall	2	1	1	2	1	1	1	3	1	1	2	
7	Walsall to Streetly	Walsall	1	2	1	2	1	1	3	3	1	2	2	

Appendix D: Shortlisting Spreadsheet

Cycle Route Scoring

Ref	Scheme Name	Local Authority	20%				20%	15%	20%			15%	10%	Comments
			A. Connectivity				B. Demand	C. Demographics	D. Quality and Safety			E. Health	F. Stakeholder Support.	
			Connectivity to trip attractors	Connectivity to public transport provisions	Connectivity to public transport with cycli parking provision	Connectivity to existing and planned routes and green routes	Predicted demand	Population who directly benefit from the intervention	Delivery barriers	Frieght network	Collision data	Public health	Stakeholder Support	
			5	5	5	5	20	15	7	7	7	15	10	
1	Bentley Bridge to Darlaston	W-ton	2	2	1	3	3	3	2	3	3	3	2	
2	Fordhouses to Heathtown	W-ton	2	2	1	3	3	3	2	3	3	3	2	
3	City Centre to Lower Penn	W-ton	1	3	1	3	2	2	3	3	3	2	2	
4	City Centre to Perton	W-ton	1	2	1	3	2	2	2	3	3	2	2	
5	Smestow Valley Leisure Route	W-ton	2	1	1	3	2	1	3	3	1	2	2	
6	Ring Road	W-ton	1	1	3	3	2	3	1	3	3	2	2	
7	Metro Stop Upgrades	W-ton	1	1	3	3	3	3	1	3	3	3	2	
8	Metro Stop Up	W-ton	1	3	1	2	2	2	2	3	3	2	2	

Appendix D: Shortlisting Spreadsheet

Cycle Route Scoring								
Ref	Local Authority	Total A	Total B	Total C	Total D	Total E	Total F	Total Score
1	Dudley	35	40	30	47	30	20	202
2	Dudley	30	40	30	33	30	20	183
3	Dudley	35	20	30	33	30	20	168
4	Dudley	45	20	45	60	45	20	235
5	Dudley	30	20	30	47	30	20	177
6	Dudley	25	40	30	47	30	20	192
7	Dudley	25	20	15	40	30	02	150
8	Dudley	45	20	30	47	30	20	192
9	Dudley	30	20	15	53	30	20	168

Cycle Route Scoring								
Ref	Local Authority	Total A	Total B	Total C	Total D	Total E	Total F	Total Score
1	Sandwell	40	40	45	53	45	20	243
2	Sandwell	35	40	30	40	30	20	195
3	Sandwell	50	40	45	47	45	20	247
4	Sandwell	45	40	45	53	45	20	248
5	Sandwell	35	40	30	47	30	20	202
6	Sandwell	40	60	45	47	45	20	257
7	Sandwell	35	20	30	53	30	20	188

Appendix D: Shortlisting Spreadsheet

Cycle Route Scoring								
Ref	Local Authority	Total A	Total B	Total C	Total D	Total E	Total F	Total Score
1	Walsall	30	20	30	53	30	20	183
2	Walsall	40	60	45	47	45	20	257
3	Walsall	30	60	45	40	45	20	240
4	Walsall	35	60	45	40	45	20	245
5	Walsall	30	20	30	40	30	20	170
6	Walsall	30	20	15	33	15	20	133
7	Walsall	30	20	15	47	30	20	162

Cycle Route Scoring								
Ref	Local Authority	Total A	Total B	Total C	Total D	Total E	Total F	Total Score
1	Wolverhampton	40	60	45	53	45	20	263
2	Wolverhampton	40	60	45	53	45	20	263
3	Wolverhampton	40	40	30	60	30	20	220
4	Wolverhampton	35	40	30	53	30	20	208
5	Wolverhampton	35	40	15	47	30	20	187
6	Wolverhampton	40	40	45	47	30	20	222
7	Wolverhampton	40	60	45	47	45	20	257
8	Wolverhampton	35	40	30	53	30	20	208

Appendix D: Shortlisting Spreadsheet

Walking Zone Scoring

Ref	Scheme Name	Local Authority	20%				20%	15%	20%		15%	10%	Comments
			A. Connectivity				B. Demand	C. Demographics	D. Quality and Safety		E. Health	F. Stakeholder Support.	
			Connectivity to trip attractors	Connectivity to public transport provisions	Connectivity to public transport with cycli parking provision	Connectivity to existing and planned routes and green routes	Predicted demand	Population who directly benefit from the intervention	Delivery barriers	Collision data	Public health	Stakeholder Support	
			5	5	5	5	20	15	10	10	15	10	
1	DY5 Enterprise Zone and Brierley Hill	Dudley	2	2	1	3	2	3	2	3	3	2	
2	Stourbridge Interchange / Stourbridge Junction / Town Centre	Dudley	3	3	3	3	2	2	2	3	2	2	
3	Kingswinford	Dudley	3	3	1	2	1	2	3	3	2	2	
4	Coseley Rail Station	Dudley	3	3	3	2	2	2	2	3	2	2	
1	1 Rowley Regis Village and Hospital	Sandwell	3	3	1	3	2	2	2	1	2	2	
2	Bescot	Sandwell	1	3	2	2	2	2	1	1	2	2	
3	Bearwood Town Centre to Warley Woods	Sandwell	1	3	1	2	1	2	2	3	2	2	
1	Darlaston to Phoenix 10	Walsall	2	3	1	2	3	3	1	3	3	2	
2	Leamore / Bloxwich / Blakenall Heath	Walsall	3	3	1	2	2	3	3	3	3	2	
3	Walsall Town Centre	Walsall	3	3	3	2	3	3	2	3	3	2	
1	West Park to Whitmore Reans	W-ton	3	3	1	3	3	3	3	3	3	2	
2	Park Village	W-ton	3	2	3	3	3	3	2	2	3	2	
3	i54	W-ton	2	2	1	3	1	3	1	1	2	2	

Appendix D: Shortlisting Spreadsheet

Walking Zone Scoring								
Ref	Local Authority	Total A	Total B	Total C	Total D	Total E	Total F	Total Score
1	Dudley	40	40	45	50	45	20	240
2	Dudley	60	40	30	50	30	20	230
3	Dudley	45	20	30	60	30	20	205
4	Dudley	55	40	30	50	30	20	225
1	Sandwell	20	40	30	30	30	20	200
2	Sandwell	40	40	30	20	30	20	180
3	Sandwell	35	20	30	50	30	20	185
1	Walsall	40	60	45	40	45	20	250
2	Walsall	45	40	45	60	45	20	255
3	Walsall	55	60	45	50	45	20	275
1	Wolverhampton	50	60	45	60	45	20	280
2	Wolverhampton	55	60	45	40	45	20	265
3	Wolverhampton	40	20	45	30	30	20	185

Appendix E: Shortlisting Scores / Ranks

SIFT 1 + SIFT 2 - Discounted based on: CRSTS Scheme / Metro Related Scheme / Established Parallel Routes / Undeliverable to LTN 1/20

Rank	Scheme No.	Route Name	District	Score	Comment
11	**4**	**A4101 Pensnett to Dudley Town Centre**	**Dudley**	**235**	
16	1	Himley to Stourbridge	Dudley	202	Undeliverable to LTN 1/20
19	**6**	**Smestow Valley Leisure Route**	**Dudley**	**192**	
20	8	Stourbridge to Halesowen	Dudley	192	Undeliverable to LTN 1/20
23	2	Brierley Hill to Cradley Heath	Dudley	183	Undeliverable to LTN 1/20
25	5	Pensnett to Upper Gornal	Dudley	177	
27	3	Dudley to Cradley Heath	Dudley	168	Undeliverable to LTN 1/20
28	9	Hagley to M5 J3	Dudley	168	
30	7	A458 to Woodgate Valley Country Park	Dudley	150	
4	6	Metro Stop Upgrades	Sandwell	257	Metro related scheme
6	**4**	**Cradley Heath (SCWIP Route) to WM LCWIP Route**	**Sandwell**	**248**	
7	2	Smethwick to Bearwood	Sandwell	247	Undeliverable to LTN 1/20
9	**2**	**Stone Cross to West Bromwich**	**Sandwell**	**243**	
17	2	Old Hill Town Centre to A458	Sandwell	202	
18	2	Tipton to Oldbury	Sandwell	195	
21	2	Newton to Hamstead	Sandwell	188	

Shortlisted Routes = green

Appendix E: Shortlisting Scores / Ranks

SIFT 1 + SIFT 2 - Discounted based on: CRSTS Scheme / Metro Related Scheme / Established Parallel Routes / Undeliverable to LTN 1/20

Rank	Scheme No.	Route Name	District	Score	Comment
5	2	M6 J10 to Walsall	Walsall	257	CRSTS Scheme
8	4	Rushall to Walsall	Walsall	245	Established Parallel Route
10	**3**	**Pleck to Arboretum**	**Walsall**	**240**	
24	**1**	**Walsall Town Centre to Sandwell Valley Park (NCN5)**	**Walsall**	**183**	
26	5	North East Ring Road	Walsall	170	
29	7	Walsall to Streetly	Walsall	162	
31	6	Arboretum to Boundary	Walsall	133	Undeliverable to LTN 1/20
1	**1**	**Bentley Bridge to Darlaston**	**W-ton**	**263**	
2	**2**	**Fordhouses to Heathtown**	**W-ton**	**263**	
3	7	Metro Stop Upgrades	W-ton	257	Metro related scheme
12	6	Ring Road	W-ton	222	Undeliverable to LTN 1/20
13	3	City Centre to Lower Penn	W-ton	220	
14	4	City Centre to Perton	W-ton	208	
15	8	Penn to Bilston (A4039)	W-ton	208	
22	5	Smestow Valley Leisure Route	W-ton	187	

Shortlisted Routes = green

Appendix E: Shortlisting Scores / Ranks

SIFT 1 + SIFT 2 - Discounted based on: CRSTS Scheme / Metro Related Scheme / Established Parallel Routes / Undeliverable to LTN 1/20

Rank	Scheme No.	Route Name	District	Score
6	**1**	**DY5 Enterprise Zone and Brierley Hill**	**Dudley**	**240**
7	2	Stourbridge Interchange / Stourbridge Junction / Town Centre	Dudley	230
8	4	Coseley Rail Station	Dudley	225
9	3	Kingswinford	Dudley	205
10	**1**	**Rowley Regis Village and Hospital**	**Sandwell**	**200**
11	3	Bearwood Town Centre to Warley Woods	Sandwell	185
13	2	Bescot	Sandwell	180
2	3	Walsall Town Centre	Walsall	275
4	**2**	**Leamore / Bloxwich / Blakenall Heath***	**Walsall**	**255**
5	1	Darlaston to Phoenix 10	Walsall	250
1	**1**	**West Park to Whitmore Reans**	**Wolverhampton**	**280**
3	2	Park Village	Wolverhampton	265
12	3	i54	Wolverhampton	185

*opted for this location due to limited funding here to date and lots of funding in Walsall

Appendix F: Cycle Route Audit Outputs - CloS - A4101 Pensnett to Dudley Town Centre

Design Feature	Factor	Design Principle	Indictors	Critical	(0) Red	(1) Amber	(2) Green	Score	Comments	Supporting photos
Cohesion	Connections	Cyclists should be able to easily and safely join and navigate along different sections of the same route and between different routes in the network	1. Ability to join/leave route safely and easily; consider left and right turns.		Cyclists cannot connect to other routes without dismounting	Cyclists can connect to other routes with minimal disruption to their journey	Cyclists have dedicated connections to other routes provided, with no interruption to their journey	0	Cyclists must dismount to Smestow Valley route, and are asked to dismount frequently along the main route	
	Continuity and Wayfinding	Routes should be complete with no gaps in provision. 'End of route' signs should not be installed – cyclists should be shown how the route continues. Cyclists should not be 'abandoned', particularly at junctions where provision may be required to ensure safe crossing movements.	2. Provision for cyclists throughout the whole length of the route		Cyclists are 'abandoned' at points along the route with no clear indication of how to continue their journey.	The route is made up of discrete sections, but cyclists can clearly understand how to navigate between them, including through junctions.	Cyclists are provided with a continuous route, including through junctions	1	Cyclists are delivered into the opposing traffic lane at the end of the route heading westbound at hospital. Not clear how to access the shared use surface on approach to Dudley Town.	
	Density of network	Cycle networks should provide a mesh (or grid) of routes across the town or city. The density of the network is the distance between the routes which make up the grid pattern. The ultimate aim should be a network with a mesh width of 250m.	3. Density of routes based on mesh width ie distances between primary and secondary routes within the network		Route contributes to a network density mesh width >1000m	Route contributes to a network density mesh width 250 – 1000m	Route contributes to a network density mesh width <250m	2	Connection to NCN 54 & Smestow Valley.	

Appendix F: Cycle Route Audit Outputs - CloS - A4101 Pensnett to Dudley Town Centre

Design Feature	Factor	Design Principle	Indictors	Critical	(0) Red	(1) Amber	(2) Green	Score	Comments	Supporting photos
Directness	Distance	Routes should follow the shortest option available and be as near to the 'as-the-crow-flies' distance as possible.	4. Deviation of route Deviation Factor is calculated by dividing the actual distance along the route by the straight line (crow-fly) distance, or shortest road alternative		Deviation factor against straight line or shortest road alternative >1.4	Deviation factor against straight line or shortest road alternative 1.2 – 1.4	Deviation factor against straight line or shortest road alternative <1.2	1	Route follows the shortest option, including bypassing some of the arms of the Scotts Green Island. Some deviation required at side roads and other junctions.	
	Time: Frequency of required stops or give ways	The number of times a cyclist has to stop or loses right of way on a route should be minimised. This includes stopping and give ways at junctions or crossings, motorcycle barriers, pedestrian-only zones etc.	5. Stopping and give way frequency		The number of stops or give ways on the route is more than 4 per km	The number of stops or give ways on the route is between 2 and 4 per km	The number of stops or give ways on the route is less than 2 per km	1	Cyclists must stop frequently on the route, and give way at side roads. 3.3 stops per km.	
	Time: Delay at junctions	The length of delay caused by junctions should be minimised. This includes assessing impact of multiple or single stage crossings, signal timings, toucan crossings etc.	6. Delay at junctions		Delay for cyclists at junctions is greater than for motor vehicles	Delay for cyclists at junctions is similar to delay for motor vehicles	Delay is shorter than for motor vehicles or cyclists are not required to stop at junctions (e.g. bypass at signals)	0	While treatment at Scotts Green Island is good, provision at other junctions is poor, with cyclists having to give way frequently at side roads.	

Appendix F: Cycle Route Audit Outputs - CloS - A4101 Pensnett to Dudley Town Centre

Design Feature	Factor	Design Principle	Indictors	Critical	(0) Red	(1) Amber	(2) Green	Score	Comments	Supporting photos
Directness	Time: Delay on links	The length of delay caused by not being able to bypass slow moving traffic.	7. Ability to maintain own speed on links		Cyclists travel at speed of slowest vehicle (including a cycle) ahead	Cyclists can usually pass slow traffic and other cyclists	Cyclists can always choose an appropriate speed.	2	Cyclists mostly able to travel to desired speeds.	
	Gradients	Routes should avoid steep gradients where possible. Uphill sections increase time, effort and discomfort. Where these are encountered, routes should be planned to minimise climbing gradient and allow users to retain momentum gained on the descent	8. Gradient		Route includes sections steeper than the gradients recommended in Chapter 5	There are no sections of route steeper than the gradients recommended in Chapter 5	There are no sections of route which steeper than 2%	0	The gradient up to Dudley Town heading east is steep and difficult for cyclists.	
Safety	Reduce/remove speed differences where cyclists are sharing the carriageway.	Where cyclists and motor vehicles are sharing the carriageway, the key to reducing severity of collisions is reducing the speeds of motor vehicles so that they more closely match that of cyclists. This is particularly important at points where risk of collision is greater, such as at junctions.	9. Motor traffic speed on approach and through junctions where cyclists are sharing the carriageway through the junction	85th percentile > 37mph (60kph)	85th percentile . >30mph	85th percentile 20mph-30mph	85th percentile <20mph	1	Some segregation on 30mph junctions, others lack segregation.	
			10. Motor traffic speed on sections of shared carriageway	85th percentile > 37mph (60kph)	85th percentile . >30mph	85th percentile 20mph-30mph	85th percentile <20mph	0	Cyclists must share carriageway in areas that are at least 30mph, with speeds approaching 37mph.	

Appendix F: Cycle Route Audit Outputs - CloS - A4101 Pensnett to Dudley Town Centre

Design Feature	Factor	Design Principle	Indictors	Critical	(0) Red	(1) Amber	(2) Green	Score	Comments	Supporting photos
Safety	Risk of collision	Avoid high motor traffic olumes where cyclists are sharing the carriageway	Cyclists should not be required to share the carriageway with high volumes of motor vehicles. This is particularly important at points where risk of collision is greater, such as at junctions.	11. Motor traffic volume on sections of shared carriageway, expressed as vehicles per peak hour	>10000 AADT, or >5% HGV	50000-10000 AADT and 2-5% HGV	25000-5000 and <2% HGV	0-2500 AADT	Critical	AADT is high along the route, with cyclists expected to share carriageway in some locations.	
		Where speed differences and high motor vehicle flows cannot be reduced cyclists should be separated from traffic – see Figure 4.1. This separation can be achieved at varying degrees through on-road cycle lanes, hybrid tracks and off-road provision. Such segregation should reduce the risk of collision from beside or behind the cyclist.	12. Segregation to reduce risk of collision alongside or from behind	Cyclists sharing carriageway – nearside lane in critical range between 3.2m and 3.9m wide and traffic volumes prevent motor vehicles moving easily into opposite lane to pass cyclists.	Cyclists in unrestricted traffic lanes outside critical range (3.2 to 3.9m) or in cycle lanes less than 1.8m wide	Cyclists in cycle lanes at least 1.8m wide on-carriageway; 85th percentile motor traffic speed max 30mph.	Cyclists on route away from motor traffic (off road provision) or in off-carriageway cycle track. Cyclists in hybrid/light segregated track; 85th percentile motor traffic speed max 30mph	1	Some areas of fully kerbed segregation, some area where cyclists expected to share carriageway. Lots of parking in advisory cycle lanes.	
		A high proportion of collisions involving cyclists occur at junctions. Junctions therefore need particular attention to reduce the risk of collision. Junction treatments include: Minor/side roads – cyclists priority and/or speed reduction across side roads Major roads – separation of cyclists from motor traffic through junctions	13. Conflicting movements at junctions		Side road junctions frequent and/or untreated. Major junctions conflicting cycle/motor traffic movements not separated	Side road junctions infrequent and with effective entry treatments. Major junctions, principal conflicting cycle/motor traffic movements separated	Side roads closed or treated to blend in with footway. Major junctions, all conflicting cycle/motor traffic streams separated	0	Frequent side roads where cyclists must give way, and signs indicating that they should dismount. Lack of separation/protection at busy junctions with conflicting traffic movements.	

Appendix F: Cycle Route Audit Outputs - CloS - A4101 Pensnett to Dudley Town Centre

Design Feature	Factor	Design Principle	Indictors	Critical	(0) Red	(1) Amber	(2) Green	Score	Comments	Supporting photos
Safety	Avoid complex design	Avoid complex designs which require users to process large amounts of information. Good network design should be self explanatory and self-evident to all road users. All users should understand where they and other road users should be and what movements they might make.	14. Legible road markings and road layout.		Faded, old, unclear complex road markings/unclear or unfamiliar road layout	Generally legible road markings and road layout but some elements could be improved	Clear, understandable, simple road markings and road layout	1	Generally legible along route, some areas for improvement – e.g. better indication of where the footway becomes shared use on way into Dudley Town Centre.	
	Consider and reduce risk from kerbside activity	Routes should be assessed in terms of all multi-functional uses of a street including car parking, bus stops, parking, including collision with opened door.	15. Conflict with kerbside activity		Significant conflict with kerbside activity (e.g. nearside cycle lane <2m (including buffer) wide alongside kerbside parking)	Some conflict with kerbside activity – e.g. less frequent activity on nearside of cyclists, min 2m cycle lanes including buffer.	No/very limited conflict with kerbside activity or width of cycle lane including buffer exceeds 3m.	1	Significant kerbside conflict, particularly on Stourbridge Road. Numerous vehicles were parked on the nearside of the carriageway, completely obstructing the cycleway in places.	
	Reduce severity of collisions where they do occur	Wherever possible routes should include "evasion room" (such as grass verges) and avoid any unnecessary physical hazards such as guardrail, build outs, etc. to reduce the severity of a collision should it occur.	16. Evasion room and unnecessary hazards		Cyclists at risk of being trapped by physical hazards along more than half of the route.	The number of physical hazards could be further reduced.	The route includes evasion room and avoids any physical hazards	1	Some evasion room on some sections (grass verge near to Hospital) but frequency of pedestrian guardrail could pose a hazard.	

Appendix F: Cycle Route Audit Outputs - CloS - A4101 Pensnett to Dudley Town Centre

Design Feature										
Safety	Factor	Design Principle	Indictors	Critical	(0) Red	(1) Amber	(2) Green	Score	Comments	Supporting photos
	Surface quality	Density of defects including non cycle friendly ironworks, raised/sunken covers/gullies, potholes, poor quality carriageway paint (e.g. from previous cycle lane)	17. Major and minor defects		Numerous minor defects or any number of major defects	Minor and occasional defects.	Smooth high grip surface	1	A few defects on the route – old gullies, evidence of previous road markings.	
		Pavement or carriageway construction providing smooth and level surface	18. Surface type		Any bumpy, unbound, slippery and potentially hazardous surface.	Hand-laid materials, concrete paviours with frequent joints	Machine laid smooth and non-slip surface – e.g. Thin Surfacing, or firm and closely joints blocks undisturbed by turning heavy vehicles	1	Surfacing could be improved throughout.	
	Effective width without conflict	Cyclists should be able to comfortably cycle without risk of conflict with other users both on and off road.	19. Desirable minimum widths according to volume of cyclists and route type (where cyclists are separated from motor vehicles).		More than 25% of the route includes cycle provision with widths which are no more than 25% below desirable minimum values.	No more than 25% of the route includes cycle provision with widths which are no more than 25% below desirable minimum.	Recommended widths are maintained throughout whole route	0	Cycleway widths near to hospital are acceptable, however buffer area will need to be widened.. Some areas (e.g. shared space at Scotts Green Island) are too narrow, advisory cycle lanes are redundant due to number of cars parked there.	
Comfort	Wayfinding	Non-local cyclists should be able to navigate the routes without the need to refer to maps.	20. Signing		Route signing is poor with signs missing at key decision points.	Gaps identified in route signing which could be improved	Route is well signed with signs located at all decision points and junctions	2	Generally well signed.	
	Social safety and perceived vulnerability of user	Routes should be appealing and be perceived as safe and usable. Well used, well maintained, lit, overlooked routes are more attractive and therefore more likely to be used.	21. Lighting		Most or all of route is unlit	Short and infrequent unlit/poorly lit sections	Route is lit to highway standards throughout	2	Route is lit throughout.	

Appendix F: Cycle Route Audit Outputs - CloS - A4101 Pensnett to Dudley Town Centre

Design Feature	Factor	Design Principle	Indictors	Critical	(0) Red	(1) Amber	(2) Green	Score	Comments	Supporting photos
Comfort	Social safety and perceived vulnerability of user	Routes should be appealing and be perceived as safe and usable. Well used, well maintained, lit, overlooked routes are more attractive and therefore more likely to be used.	22. Isolation		Route is generally away from activity	Route is mainly overlooked and is not far from activity throughout its length	Route is overlooked throughout its length	2	Route is overlooked.	
Comfort	Impact on pedestrians, including people with disabilities	Introduction of dedicated on-road cycle provision can enable people to cycle on-road rather than using footways which are not suitable for shared use. Introducing cycling onto well used footpaths may reduce the quality of provision for both users, particularly if the shared use path does not meet recommended widths.	23. Impact on pedestrians, Pedestrians Comfort Level based on Pedestrian Comfort guide for London (Section 6.1)		Route impacts negatively on pedestrian provision, Pedestrian Comfort is at Level C or below.	No impact on pedestrian provision or Pedestrian Comfort Level remains at B or above.	Pedestrian provision enhanced by cycling provision, or Pedestrian Comfort Level remains at A.	1	Pedestrians must share space with cyclists at sections on route.	
Comfort	Minimise street clutter	Signing required to support scheme layout	24. Signs informative and consistent but not overbearing or of inappropriate size		Large number of signs needed, difficult to follow and/or leading to clutter.	Moderate amount of signing particularly around junctions.	Signing for wayfinding purposes only and not causing additional obstruction.	2	Good amount of signage on route, it does not cause unnecessary clutter.	
Attractiveness	Secure cycle parking	Ease of access to secure cycle parking within businesses and on-street	25. Evidence of bicycles parking to street furniture or cycle stands		No additional cycle parking provided or inadequate provision in insecure non overlooked areas.	Some secure cycle parking provided but not enough to meet demand.	Secure cycle parking provided, sufficient to meet demand.	0	No evidence of cycle parking on route.	

Maximum Score	**50**
Achieved Score	**23**
Percentage	**46**
Critical	**1**
N/A	**0**

Appendix F: Cycle Route Audit Outputs - CloS - Bentley Bridge to Darlaston

Design Feature	Factor	Design Principle	Indicators	Critical	(0) Red	(1) Amber	(2) Green	Score	Comments	Supporting photos
Cohesion	Connections	Cyclists should be able to easily and safely join and navigate along different sections of the same route and between different routes in the network.	1. Ability tojoin/leave route safely and easily: consider left and right turns.		Cyclists cannot connect to other routes without dismounting.	Cyclists can connect to other routes with minimal disruption to their journey.	Cyclists have dedicated connections to other routes provided with no interruption to their journey.	0	Connects to cycle routes along Steelpark Way and Wednesfield Way. Also connections to canal towpath at the Neachells Lane end of the route, however these connections are often constricted and may require less confident cyclists to dismount. Connection onto towpath did require dismount as well as access to George Rose park.	
	Continuing and Wayfinding	Routes should be complete with no gaps in provision. 'End of route' signs should not be installed – cyclists should be shown how the route continues. Cyclists should not be 'abandoned' particularly at junctions where provision may be required to ensure safe crossing movements.	2. Provision for cyclists throughout the whole length of the route.		Cyclists are 'abandoned' at points along the route with no clear indication of how to continue their journey.	The route is made up of discrete sections, but cyclists can clearly understand how to navigate between them, including through junctions.	Cyclists are provided with a continuous route, including through junctions.	1	Larger junctions such as the Wednesfield Way roundabout have clear road markings and signage on how cyclists should navigate the junction, however small junctions – though easy to navigate – do not have road markings for cyclists.	
	Density of network	Cycle networks should provide a mesh (or grid) of routes across the town or city. The density of the network is the distance between the routes which makes up the grid pattern. The ultimate aim should be a network with a mesh width of 250m.	3. Density of routes based on mesh width ie distances between primary and secondary routes within the network		Route contributes to a network density mesh width > 1000m.	Route contributes to a network density mesh width 250 – 1000m.	Routes contributes to a network density mesh width <250m.	2	Cycle routes on canal, Darlaston Lane, Steelpark Way and Wednesfield Way.	

Appendix F: Cycle Route Audit Outputs - CloS - Bentley Bridge to Darlaston

Design Feature	Factor	Design Principle	Indictors	Critical	(0) Red	(1) Amber	(2) Green	Score	Comments	Supporting photos
Directness	Time: Frequency of required stops or give ways	The number of times a cyclist has to stop or loses right of way on a route should be minimised. This includes stopping and give ways at junctions or crossings, motorcycle barriers, pedestrian-only zones etc.	5. Stopping and give way frequency		The number of stops or give ways on the route is more than 4 per km	The number of stops or give ways on the route is between 2 and 4 per km	The number of stops or give ways on the route is less than 2 per km	1	5 give way or locations cyclists should stop over 5km. 1 signalised stop line, 3 major junctions signalised (1 with Advanced Stop Line).	
	Time: Delay at junctions	The length of delay caused by junctions should be minimised. This includes assessing impact of multiple or single stage crossings, signal timings, toucan crossings etc.	6. Delay at junctions		Delay for cyclists at junctions is greater than for motor vehicles	Delay for cyclists at junctions is similar to delay for motor vehicles	Delay is shorter than for motor vehicles or cyclists are not required to stop at junctions (e.g. bypass at signals)	1	An advanced stop line is only provided at one of the junctions, therefore cyclists cannot move away earlier than cars. Also mixed results were obtained when trying to move past stationary traffic to front of junction (not possible at Willenhall Road junction but was possible at Bilston Road junction). However, waiting time was no longer than cars.	
	Time: Delay on links	The length of delay caused by not being able to bypass slow moving traffic.	7. Ability to maintain own speed on links		Cyclists travel at speed of slowest vehicle (including a cycle) ahead	Cyclists can usually pass slow traffic and other cyclists	There are no sections of route which steeper than 2%	1	Overtaking slower bicycles difficult on canal section as quite narrow. Also mixed results when trying to pass stationary traffic (see above).	
	Gradients	Routes should avoid steep gradients where possible. Uphill sections increase time, effort and discomfort. Where these are encountered, routes should be planned to minimise climbing gradient and allow users to retain momentum gained on the descent	8. Gradient		Route includes sections steeper than the gradients recommended in Chapter 5	There are no sections of route steeper than the gradients recommended in Chapter 5	Cyclists can always choose an appropriate speed.	1	Steep section of the route on approach to the railway line at Neachells Lane (4.2%). Only for 150m.	

Appendix F: Cycle Route Audit Outputs - ClоS - Bentley Bridge to Darlaston

Safety				Design Feature
Risk of collision	Avoid high motor traffic volumes where cyclists are sharing the carriageway	Reduce/remove speed differences where cyclists are sharing the carriageway.		Factor
Where speed differences and high motor vehicle flows cannot be reduced cyclists should be separated from traffic – see Figure 4.1. This separation can be achieved at varying degrees through on-road cycle lanes, hybrid tracks and off-road provision. Such segregation should reduce the risk of collision from beside or behind the cyclist.	Cyclists should not be required to share the carriageway with high volumes of motor vehicles. This is particularly important at points where risk of collision is greater, such as at junctions.	Where cyclists and motor vehicles are sharing the carriageway, the key to reducing severity of collisions is reducing the speeds of motor vehicles so that they more closely match that of cyclists. This is particularly important at points where risk of collision is greater, such as at junctions.		Design Principle
12. Segregation to reduce risk of collision alongside or from behind	11. Motor traffic volume on sections of shared carriageway, expressed as vehicles per peak hour	10. Motor traffic speed on sections of shared carriageway	9. Motor traffic speed on approach and through junctions where cyclists are sharing the carriageway through the junction	Indictors
Cyclists sharing carriageway – nearside lane in critical range between 3.2m and 3.9m wide and traffic volumes prevent motor vehicles moving easily into opposite lane to pass cyclists.	>10000 AADT, or >5% HGV	85th percentile > 37mph (60kph)	85th percentile > 37mph (60kph)	Critical
Cyclists in unrestricted traffic lanes outside critical range (3.2 to 3.9m) or in cycle lanes less than 1.8m wide	50000-10000 AADT and 2-5% HGV	85th percentile .>30mph	85th percentile . >30mph	(0) Red
Cyclists in cycle lanes at least 1.8m wide on-carriageway; 85th percentile motor traffic speed max 30mph.	25000-5000 and <2% HGV	85th percentile 20mph-30mph	85th percentile 20mph-30mph	(1) Amber
Cyclists on route away from motor traffic (off road provision) or in off-carriageway cycle track. Cyclists in hybrid/light segregated track; 85th percentile motor traffic speed max 30mph	0-2500 AADT	85th percentile <20mph	85th percentile <20mph	(2) Green
1	0	1	1	Score
First half of route up to Willenhall Road (Texaco) was poor. Carriageway lanes were not sufficiently wide that vehicles could overtake whilst staying in lane and provide 1.8m clearance. However, after this point, roads were wide and did not allow this to happen.	Urgent check on first half of route. Many HGVs sharing route with cyclists on Neachells Lane approach to Willenhall Road.	Generally between 20-30mph.	Vehicles consistently travelling between 20-30 mph on approach/through junctions. Sometimes makes cycling on road uncomfortable particularly where HGVs are concerned.	Comments
				Supporting photos

Appendix F: Cycle Route Audit Outputs - CloS - Bentley Bridge to Darlaston

Design Feature	Factor	Design Principle	Indictors	Critical	(0) Red	(1) Amber	(2) Green	Score	Comments	Supporting photos
Safety	Risk of collision	A high proportion of collisions involving cyclists occur at junctions. Junctions therefore need particular attention to reduce the risk of collision. Junction treatments include: Minor/side roads – cyclists priority and/or speed reduction across side roads Major roads – separation of cyclists from motor traffic through junctions	13. Conflicting movements at junctions		Side road junctions frequent and/or untreated. Major junctions conflicting cycle/motor traffic movements not separated.	Side road junctions infrequent and with effective entry treatments. Major junctions, principal conflicting cycle/motor traffic movements separated.	Side roads closed or treated to blend in with footway. Major junctions, all conflicting cycle/motor traffic streams separated.	1	Only one advanced stop line provided. Major roundabout junction provided cycle diversion which separated the movement of cyclists. All other major junctions signalised so traffic movements were separated.	
	Avoid complex design	Avoid complex designs which require users to process large amounts of information. Good network design should be self explanatory and self-evident to all road users. All users should understand where they and other road users should be and what movements they might make.	14. Legible road markings and road layout.		Faded, old, unclear complex road markings/unclear or unfamiliar road layout.	Generally legible road markings and road layout but some elements could be improved	Clear, understandable, simple road markings and road layout	1	Road markings generally clear and visible.	
	Consider and reduce risk from kerbside activity	Routes should be assessed in terms of all multi-functional uses of a street including car parking, bus stops, parking, including collision with opened door.	15. Conflict with kerbside activity		Significant conflict with kerbside activity (e.g. nearside cycle lane <2m (including buffer) wide alongside kerbside parking).	Some conflict with kerbside activity – e.g. less frequent activity on nearside of cyclists, min 2m cycle lanes including buffer.	No/very limited conflict with kerbside activity or width of cycle lane including buffer exceeds 3m.	1	Urgent check on first half of route. Many HGVs sharing route with cyclists on Neachells Lane approach to Willenhall Road.	

Appendix F: Cycle Route Audit Outputs - CloS - Bentley Bridge to Darlaston

Design Feature	Factor	Design Principle	Indictors	Critical	(0) Red	(1) Amber	(2) Green	Score	Comments	Supporting photos
Safety		Reduce severity of collisions where they do occur	Wherever possible routes should include "evasion room" (such as grass verges) and avoid any unnecessary physical hazards such as guardrail, build outs, etc. to reduce the severity of a collision should it occur.	16. Evasion room and unnecessary hazards		Cyclists at risk of being trapped by physical hazards along more than half of the route.	The number of physical hazards could be further reduced.	The route includes evasion room and avoids any physical hazards	0	Industrial estate had consistent hazards including rutted sides of carriageway, HGVs, frequent side roads and debris.	
Comfort	Surface quality	Density of defects including non cycle friendly ironworks, raised/sunken covers/gullies, potholes, poor quality carriageway paint (e.g. from previous cycle lane)	17. Major and minor defects		Numerous minor defects or any number of major defects	Minor and occasional defects.	Smooth high grip surface.	0	Industrial estate had degraded surfaces with numerous pot holes. Quite bumpy for cyclists.	
		Pavement or carriageway construction providing smooth and level surface	18. Surface type		Any bumpy, unbound, slippery and potentially hazardous surface.	Hand-laid materials, concrete paviours with frequent joints	Machine laid smooth and non-slip surface – e.g. Thin Surfacing, or firm and closely joints blocks undisturbed by turning heavy vehicles	0	Same as above. Initial portion of route along canal was muddy and slippy.	
	Effective width without conflict	Cyclists should be able to comfortably cycle without risk of conflict with other users both on and off road.	19. Desirable minimum widths according to volume of cyclists and route type (where cyclists are separated from motor vehicles).		More than 25% of the route includes cycle provision with widths which are no more than 25% below desirable minimum values.	No more than 25% of the route includes cycle provision with widths which are no more than 25% below desirable minimum.	Recommended widths are maintained throughout whole route	1	See comments for point 12.	

Appendix F: Cycle Route Audit Outputs - CloS - Bentley Bridge to Darlaston

Design Feature	Factor	Design Principle	Indictors	Critical	(0) Red	(1) Amber	(2) Green	Score	Comments	Supporting photos
Comfort	Wayfinding	Non-local cyclists should be able to navigate the routes without the need to refer to maps.	20. Signing		Route signing is poor with signs missing at key decision points.	Gaps identified in route signing which could be improved	Route is well signed with signs located at all decision points and junctions	1	Signage generally good but more signage required on canal section.	
Attractiveness	Social safety and perceived vulnerability of user	Routes should be appealing and be perceived as safe and usable. Well used, well maintained, lit, overlooked routes are more attractive and therefore more likely to be used.	21. Lighting		Most or all of route is unlit	Short and infrequent unlit/poorly lit sections	Route is lit to highway standards throughout	1	Route is generally well-lit except for short canal section.	
			22. Isolation		Route is generally away from activity	Route is mainly overlooked and is not far from activity throughout its length	Route is overlooked throughout its length	1	Route is predominantly overlooked by houses and businesses but canal section is not overlooked.	
	Impact on pedestrians, including people with disabilities	Introduction of dedicated on-road cycle provision can enable people to cycle on-road rather than using footways which are not suitable for shared use. Introducing cycling onto well used footpaths may reduce the quality of provision for both users, particularly if the shared use path does not meet recommended widths.	23. Impact on pedestrians, Pedestrians Comfort Level based on Pedestrian Comfort guide for London (Section 6.1)		Route impacts negatively on pedestrian provision, Pedestrian Comfort is at Level C or below.	No impact on pedestrian provision or Pedestrian Comfort Level remains at B or above.	Pedestrian provision enhanced by cycling provision, or Pedestrian Comfort Level remains at A.	1	Pedestrian comfort level remains at B or above.	

Appendix F: Cycle Route Audit Outputs - CloS - Bentley Bridge to Darlaston

Design Feature	Factor	Design Principle	Indictors	Critical	(0) Red	(1) Amber	(2) Green	Score	Comments	Supporting photos
Attractiveness	Minimise street clutter	Signing required to support scheme layout	24. Signs informative and consistent but not overbearing or of inappropriate size		Large number of signs needed, difficult to follow and/or leading to clutter.	Moderate amount of signing particularly around junctions.	Signing for wayfinding purposes only and not causing additional obstruction.	1	Offshoot cycle routes and junction cycle diversions well labelled, with shared use signage as well. However could do with more wayfinding signs.	
	Secure cycle parking	Ease of access to secure cycle parking within businesses and on-street	25. Evidence of bicycles parking to street furniture or cycle stands		No additional cycle parking provided or inadequate provision in insecure non overlooked areas.	Some secure cycle parking provided but not enough to meet demand.	Secure cycle parking provided, sufficient to meet demand.	0	More cycle parking should be provided, particularly around St Thomas More School.	

Maximum Score	**50**
Achieved Score	**19**
Percentage	**39**
Critical	**0**
N/A	**0**

Appendix F: Cycle Route Audit Outputs - CloS - Cradley Heath_SCWIP Route_to WM LCWIP Route

Design Feature	Factor	Design Principle	Indictors	Critical	(0) Red	(1) Amber	(2) Green	Score	Comments	Supporting photos
Cohesion	Connections	Cyclists should be able to easily and safely join and navigate along different sections of the same route and between different routes in the network	2. Ability to join/leave route safelyand easily: consider left and right turns		Cyclists cannot connect to other routes without dismounting	Cyclists can connect to other routes with minimal disruption to their journey	Cyclists have dedicated connections to other routes provided, with no interruption to their journey	1	Kerb barrier to minor road that only allows cyclists through, making connection from one section to another safe and easy. However, it is a drop kerb which means some cyclists may not be comfortable to transverse it without dismounting. There is a connection to Blackheath cycle route.	
	Continuity and Wayfinding	Routes should be complete with no gaps in provision 'End of route' signs should not be installed -cyclists should be shown how the route continues. Cyclists should not be 'abandoned', particularly at junctions where provision may be required to ensure safe crossing movements.	2. Provision for cyclists throughout the whole length of the route		Cyclists are abandoned' at points along the route with no clear indication of how to continue their journey.	The route is made up of discrete sections, but cyclists can clearly understand how to navigate between them, including through junctions	Cyclists are provided with a continuous route, including through junctions	2	Note: it's a short route and hence the route is continuous. It would be easy to signpost to allow clear navigation.	
	Density of network	Cycle networks should provide a mesh (or grid) of routes across the town or city. The density of the network is the distance between the routes which make up the grid pattern. The ultimate aim should be a network with a mesh width of 250m	3. Density of routes based on mesh width i.e. distances between primary and secondary routes within the network		Route contributes to a network density mesh width >1000m	Route contributes to a network density mesh width 250 – 1000m	Route contributes to a network density mesh width <250m	1	There is only one other cycle width present along the route, which travels to Old Hill and Blackheath.	
Directness	Distance	Routes should follow the shortest option available and be as near to the 'as-the-crow-flies' distance as possible.	4. Deviation of route Deviation Factor is calculated by dividing the actual distance along the route by the straight line (crow-fly) distance, or shortest road alternative		Deviation factor against straight line or shortest road alternative >1.4	Deviation factor against straight line or shortest road alternative 1.2 – 1.4	Deviation factor against straight line or shortest road alternative <1.2	2	Very little deviation – follows the most direct road route to end destination.	

Appendix F: Cycle Route Audit Outputs - CloS - Cradley Heath_SCWIP Route_to WM LCWIP Route

Design Feature	Factor	Design Principle	Indictors	Critical	(0) Red	(1) Amber	(2) Green	Score	Comments	Supporting photos
Directness	Time: Frequency of required stops or give ways.	The number of times a cyclist has to stop or loses right of way on a route should be minimised. This includes stopping and give ways at junctions or crossings, motorcycle barriers, pedestrian-only zones etc.	5. Stopping and give way frequency.		The number of stops or give ways on the route is more than 4 per km.	The number of stops or give ways on the route is between 2 and 4 per km	The number of stops or give ways on the route is less than 2 per km	1	There is a dropped kerb present (only accessible to cyclists and peds) to access Pennant Road from High Street. There is then a give way onto Corngreaves Road and onto Graingers Lane, both of which are unavoidable.	
	Time Delay at junctions	The length of delay caused by junctions should be minimised. This includes assessing impact of multiple or single stage crossings, signal timings, toucan crossings etc.	6. Delay at junctions.		Delay for cyclists at junctions is greater than for motor vehicles.	Delay for cyclists at junctions is similar to delay for motor vehicles	Delay is shorter than for motor vehicles or cyclists are not required to stop at junctions (e.g. bypass at signals)	1	There are no ASL provided at the give way junctions, nor any early release signals at these locations. However, the roads are wide enough for cyclists to get to the front of queues therefore waiting time will not be worse for cyclists.	
	Time: Delay on links	The length of delay caused by not being able to bypass slow moving traffic.	7. Ability to maintain own speed on links.		Cyclists travel at speed of slowest vehicle (including a cycle) ahead.	Cyclists can usually pass slow traffic and other cyclists	Cyclists can always choose an appropriate speed.	1	Carriageways are wide enough to allow cyclists to pass when stationary, apart from regions of kerbside parking, where this is not possible.	
	Gradients	Routes should avoid steep gradients where possible. Uphill sections increase time, effort and discomfort. Where these are encountered, routes should be planned to minimise climbing gradient and allow users to retain momentum gained on the descent	8. Gradient.		Route includes sections steeper and the gradients recommended in Chapter 5	There are no sections of route steeper than the gradients recommended in Chapter 5	There are no sections of route which is steeper than 2%	2		

Appendix F: Cycle Route Audit Outputs - ClOS - Cradley Heath_SCWIP Route_to WM LCWIP Route

Safety				Design Feature
Risk of collision	Avoid high motor traffic volumes where cyclists are sharing the carriageway		Reduce/remove speed differences where cyclists are sharing the carriageway	Factor
Where speed differences and high motor vehicle flows cannot be reduced cyclists should be separated from traffic – see Figure 4.1. This separation can be achieved at varying degrees through on-road cycle lanes, hybrid tracks and off-road provision. Such segregation should reduce the risk of collision from beside or behind the cyclist.	Cyclists should not be required to share the carriageway with high volumes of motor vehicles. This is particularly important at points where risk of collision is greater, such as at junctions.		Where cyclists and motor vehicles are sharing the carriageway, the key to reducing severity of collisions is reducing the speeds of motor vehicles so that they more closely match that of cyclists. This is particularly important at points where risk of collision is greater, such as at junctions.	Design Principle
12. Segregation to reduce risk of collision alongside or from behind	11. Motor traffic volume on sections of shared carriageway, expressed as vehicles per peak hour	10. Motor traffic speed on sections of shared carriageway	9. Motor traffic speed on approach and through junctions where cyclists are sharing the carriageway through the junction.	Indictors
Cyclists sharing carriageway – nearside lane in critical range between 3.2m and 3.9m wide and traffic volumes prevent motor vehicles moving easily into opposite lane to pass cyclists.	>10000 AADT or >5% HGV	85th percentile > 37mph (60kph)	85th percentile > 37mph (60kph)	Critical
Cyclists in unrestricted traffic lanes outside critical range (3.2 to 3.9) or in cycle lanes less than 1.8m wide.	5000-10000 AADT and 2-5% HGV	85th percentile > 30mph	85th percentile >30mph	(0) Red
Cyclists in cycle lanes at least 1.8m wide on-carriageway; 85th percentile motor traffic speed max 30mph	2500-5000 and <2% HGV	85th percentile 20mph-30mph	85th percentile 20mph-30mph	(1) Amber
Cyclists on route away from motor traffic (off road provision) or in off-carriageway cycle track. Cyclists in hybrid/light segregated track; 85th percentile motor traffic speed max 30mph	0-2500 AADT	85th percentile <20mph	85th percentile <20mph	(2) Green
2	2	1	1	Score
The route is all on carriageway for cyclists, however this carriageway is at least 1.8m wide with a maximum speed of 30mph.	Check against DfT data (or similar data source).	There are regions of 30mph along the majority of the route, excluding Pennant Road, where though not marked, cars tended to travel slower.	There are regions of 30mph along the majority of the route, excluding Pennant Road, where though not marked, cars tended to travel slower.	Comments
				Supporting photos

Appendix F: Cycle Route Audit Outputs - CloS - Cradley Heath_SCWIP Route_to WM LCWIP Route

Design Feature	Factor	Design Principle	Indictors	Critical	(0) Red	(1) Amber	(2) Green	Score	Comments	Supporting photos
Safety	Consider and reduce risk from kerbside activity	Avoid complex design	Risk of collision		Side road junctions frequent and/or untreated. Major junctions, conflicting cycle/motor traffic movements not separated.	Side road junctions infrequent and with effective entry treatments. Major junctions, principal conflicting cycle/motor traffic movements separated.	Side roads closed or treated to blend in with footway. Major junctions all conflicting cycle/ motor traffic streams separated.	0	There are multiple untreated side roads, including a petrol station on Corngreaves Road which is frequently used and could be a hotspot for collisions.	
	Routes should be assessed in terms of all multi-functional uses of a street including car parking, bus stops, parking, including collision with opened door.	Avoid complex designs which require users to process large amounts of information. Good network design should be self-explanatory and self-evident to all road users. All users should understand where they and other road users should be and what movements they might make.	13. Conflicting movements at junctions		Faded, old, unclear, complex road markings/unclear or unfamiliar road layout	Generally legible road markings and road layout but some elements could be improved	Clear, understandable, simple road markings and road layout	2	Only 2 simple give way priority junctions which are easy to navigate.	
	Reduce severity of collisions where they do occur	Wherever possible routes should include "evasion room" (such as grass verges) and avoid any unnecessary physical hazards such as guardrail, build outs, etc. to reduce the severity of a collision should it occur.	14. Legible road markings and road layout		Significant conflict with kerbside activity (e.g. nearside cycle lane <2m (including buffer) wide alongside kerbside parking)	Some conflict with kerbside activity – e.g. less frequent activity on nearside of cyclists, min 2m cycle lanes including buffer.	No/very limited conflict with kerbside activity or width of cycle lane including buffer exceeds 3m.	0	Substantial kerbside parking on Corngreaves Road, which appears to be a permanent fixture on the street. This requires cyclists to move into the centre of the carriageway. Moreover, the petrol station introduces kerbside conflict.	
			15. Conflict with kerbside activity		Cyclists at risk of being trapped by physical hazards along more than half of the route.	The number of physical hazards could be further reduced.	The route includes evasion room and avoids any physical hazards	1	On-street parking could be removed to alleviate the extra risk of physical hazards.	
			16. Evasion room and unnecessary hazards							

Appendix F: Cycle Route Audit Outputs - CloS - Cradley Heath_SCWIP Route_to WM LCWIP Route

Design Feature	Factor	Design Principle	Indictors	Critical	(0) Red	(1) Amber	(2) Green	Score	Comments	Supporting photos
Comfort	Surface quality	Density of defects including non cycle friendly ironworks, raised/sunken covers/gullies, potholes, poor quality carriageway paint (e.g. from previous cycle lane)	17. Major and minor defects		Numerous minor defects or any number of major defects	Minor and occasional defects.	Smooth high grip surface.	1	Occasional pothole or rutting along edge of carriageway.	
		Pavement or carriageway construction providing smooth and level surface	18. Surface type		Any bumpy, unbound, slippery, and potentially hazardous surface.	Hand-laid materials, concrete paviours with frequent joints	Machine laid smooth and non-slip surface – e.g. Thin Surfacing, or firm and closely jointed blocks undisturbed by turning heavy vehicles	1		
	Effective width without conflict	Cyclists should be able to comfortably cycle without risk of conflict with other users both on and off road.	19. Desirable minimum widths according to volume of cyclists and route type (where cyclists are separated from motor vehicles).		More than 25% of the route includes cycle provision with widths which are no more than 25% below desirable minimum values.	No more than 25% of the route includes cycle provision with widths which are no more than 25% below desirable minimum.	Recommended widths are maintained throughout whole route	0	None of the route currently has any cycle facilities either on carriageway or off carriageway. Cyclists potentially use footway in the current state which is well below desired widths.	
	Wayfinding	Non-local cyclists should be able to navigate the routes without the need to refer to maps.	20. Signing		Route signing is poor with signs missing at key decision points.	Gaps identified in route signing which could be improved	Route is well signed with signs located at all decision points and junctions	1	Only one sign present on the route, toward Blackheath and Old Hill. Further signage at beginning and end of route would be desired.	

Appendix F: Cycle Route Audit Outputs - CloS - Cradley Heath_SCWIP Route_to WM LCWIP Route

Design Feature	Factor	Design Principle	Indictors	Critical	(0) Red	(1) Amber	(2) Green	Score	Comments	Supporting photos
Attractiveness	Social safety and perceived vulnerability of user	Routes should be appealing and be perceived as safe and usable. Well used, well maintained, lit, overlooked routes are more attractive and therefore more likely to be used.	21. Lighting		Most or all of route is unlit	Short and infrequent unlit/poorly lit sections	Route is lit to highway standards throughout	2	Frequent street lighting across the whole scheme.	
			22. Isolation		Route is generally away from activity	Route is mainly overlooked and is not far from activity throughout its length	Route is overlooked throughout its length	2	Route either passes residential/industrial areas at all points as well as the petrol station.	
	Impact on pedestrians, including people with disabilities	Introduction of dedicated on-road cycle provision can enable people to cycle on-road rather than using footways which are not suitable for shared use. Introducing cycling onto well used footpaths may reduce the quality of provision for both users, particularly if the shared use path does not meet recommended widths.	23. Impact on pedestrians, Pedestrians Comfort Level based on Pedestrian Comfort guide for London (Section 6.1)		Route impacts negatively on pedestrian provision, Pedestrian Comfort is at Level C or below.	No impact on pedestrian provision or Pedestrian Comfort Level remains at B or above.	Pedestrian provision enhanced by cycling provision, or Pedestrian Comfort Level remains at A.	2	Pedestrian activity would be enhanced by the inclusion of the cycle facilities, as cycles would be less likely to use footway.	
	Minimise street clutter	Signing required to support scheme layout	24. Signs informative and consistent but not overbearing or of inappropriate size		Large number of signs needed, difficult to follow and/or leading to clutter.	Moderate amount of signing particularly around junctions.	Signing for wayfinding purposes only and not causing additional obstruction.	1	Only one sign present on the route, toward Blackheath and Old Hill. Further signage at beginning and end of route would be desired.	

Appendix F: Cycle Route Audit Outputs - CloS - Cradley Heath_SCWIP Route_to WM LCWIP Route

Design Feature	Factor	Design Principle	Indictors	Critical	(0) Red	(1) Amber	(2) Green	Score	Comments	Supporting photos
Attractiveness	Secure cycle parking	Ease of access to secure cycle parking within businesses and on-street	25. Evidence of bicycles parked to street furniture or cycle stands		No additional cycle parking provided or inadequate provision in insecure non overlooked areas.	Some secure cycle parking provided but not enough to meet demand.	Secure cycle parking provided, sufficient to meet demand.	0	No cycle parking facilities present along the route (although at the Tesco near the beginning of the route there is place to lock up a bike).	

Maximum Score	**50**
Achieved Score	**29**
Percentage	**58**
Critical	**0**
N/A	**0**

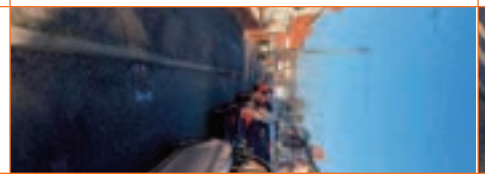
Appendix F: Cycle Route Audit Outputs - CloS - Fordhouses to Heathtown

Design Feature	Factor	Design Principle	Indictors	Critical	(0) Red	(1) Amber	(2) Green	Score	Comments	Supporting photos
Cohesion	Connections	Cyclists should be able to easily and safely join and navigate along different sections of the same route and between different routes in the network	1.Ability to join/leave route safely and easily: consider left and right turns		Cyclists cannot connect to other routes without dismounting	Cyclists can connect to other routes with minimal disruption to their journey	Cyclists have dedicated connections to other routes provided, with no interruption to their journey	1	End connection required dismount due to presence of staggered gates. There are little other connections to other cycle routes however the rest of the route as a whole required no dismount.	
	Continuity and Wayfinding	Routes should be complete with no gaps in provision, 'End of route' signs should not be installed -cyclists should be shown how the route continues. Cyclists should not be 'abandoned', particularly at junctions where provision may be required to ensure safe crossing movements.	2. Provision for cyclists throughout the whole length of the route		Cyclists are abandoned' at points along the route with no clear indication of how to continue their journey.	The route is made up of discrete sections but cyclists can clearly understand how to navigate between them including through junctions	Cyclists are provided with a continuous route including through junctions	1	Little signage until Raynor Road, however after this there are numerous wayfinding signs, including at Showell Circus and into housing estates on Shelley Road. However, the latter has a clutter of signs and can be misleading.	
	Density of network	Cycle networks should provide a mesh (or grid) of routes across the town or city. The density of the network is the distance between the routes which make up the grid pattern. The ultimate aim should be a network with a mesh width of 250m	3. Density of routes based on mesh width i.e. distances between primary and secondary routes within the network		Route contributes to a network density mesh width >1000m	Route contributes to a network density mesh width 250 – 1000m	Route contributes to a network density mesh width <250m	2	Connect to designated cycle route along the canal at Fordhouses. This connection is provided via a small bridge (requires dismount).	
Directness	Distance	Routes should follow the shortest option available and be as near to the 'as-the-crow-flies' distance as possible.	4. Deviation of route Deviation Factor is calculated by dividing the actual distance along the route by the straight line (crow-fly) distance, or shortest road alternative		Deviation factor against straight line or shortest road alternative >1.4	Deviation factor against straight line or shortest road alternative 1.2 – 1.4	Deviation factor against straight line or shortest road alternative <1.2	2	Very slight deviation from shortest road alternative.	

Appendix F: Cycle Route Audit Outputs - ClоS - Fordhouses to Heathtown

Safety	Directness				Design Feature
Reduce/remove speed differences where cyclists are sharing the carriageway	Gradients	Time: Delay on links	Time Delay at junctions	Time: Frequency of required stops or give ways	Factor
Where cyclists and motor vehicles are sharing the carriageway, the key to reducing severity of collisions is reducing the speeds of motor vehicles so that they more closely match that of cyclists. This is particularly important at points where risk of collision is greater, such as at junctions.	Routes should avoid steep gradients where possible. Uphill sections increase time, effort and discomfort. Where these are encountered, routes should be planned to minimise climbing gradient and allow users to retain momentum gained on the descent	The length of delay caused by not being able to bypass slow moving traffic.	The length of delay caused by junctions should be minimised. This includes assessing impact of multiple or single stage crossings, signal timings, toucan crossings etc.	The number of times a cyclist has to stop or loses right of way on a route should be minimised. This includes stopping and give ways at junctions or crossings, motorcycle barriers, pedestrian-only zones etc.	Design Principle
9. Motor traffic speed on approach and through junctions where cyclists are sharing the carriageway through the junction.	8. Gradient	7. Ability to maintain own speed on links	6. Delay at junctions	5. Stopping and give way frequency	Indictors
85th percentile > 37mph (60kph)					Critical
85th percentile >30mph	Route includes sections steeper and the gradients recommended in Chapter 5	Cyclists travel at speed of slowest vehicle (including a cycle) ahead	Delay for cyclists at junctions is greater than for motor vehicles	The number of stops or give ways on the route is more than 4 per km	(0) Red
85th percentile 20mph-30mph	There are no sections of route steeper than the gradients recommended in Chapter 5	Cyclists can usually pass slow traffic and other cyclists	Delay for cyclists at junctions is similar to delay for motor vehicles	The number of stops or give ways on the route is between 2 and 4 per km	(1) Amber
85th percentile <20mph	There are no sections of route which is steeper than 2%	Cyclists can always choose an appropriate speed.	Delay is shorter than for motor vehicles or cyclists are not required to stop at junctions (e.g. bypass at signals)	The number of stops or give ways on the route is less than 2 per km	(2) Green
1	1	1	1	1	Score
Vehicles approaching A460 junction (from Bushbury Road) often travelling at speed c. 30mph. Carriageway narrows near traffic signals increasing likelihood of collision with cyclists.	Alternative route did not exceed any of Chapter 5 however original route exceeded 5% along Old Falling Lane.	See above – lack of reservoir meant road cyclists could not pass cars.	Little to no advanced cycle lanes at junctions or dedicated cycle signals. On Bushbury Road it was not possible to move past stationary traffic to the front of junction, therefore cyclists moved in same sequence as cars.	Beginning of route had a multiple signalled junctions (2 in first km) as well as multiple pedestrian crossings. Second half of route was free flowing, with only infrequent roundabouts.	Comments
					Supporting photos

Appendix F: Cycle Route Audit Outputs - ClioS - Fordhouses to Heathtown

Safety				Design Feature
Risk of collision		Avoid high motor traffic volumes where cyclists are sharing the carriageway	Reduce/remove speed differences where cyclists are sharing the carriageway	Factor
A high proportion of collisions involving cyclists occur at junctions. Junctions therefore need particular attention to reduce the risk of collision. Junction treatments include: Minor/side roads – cyclist priority and/or speed reduction across side roads Major roads – separation of cyclists from motor traffic through junctions.	Where speed differences and high motor vehicle flows cannot be reduced cyclists should be separated from traffic – see Figure 4.1. This separation can be achieved at varying degrees through on-road cycle lanes, hybrid tracks and off-road provision. Such segregation should reduce the risk of collision from beside or behind the cyclist.	Cyclists should not be required to share the carriageway with high volumes of motor vehicles. This is particularly important at points where risk of collision is greater, such as at junctions.	Where cyclists and motor vehicles are sharing the carriageway, the key to reducing severity of collisions is reducing the speeds of motor vehicles so that they more closely match that of cyclists. This is particularly important at points where risk of collision is greater, such as at junctions.	Design Principle
13. Conflicting movements at junctions	12. Segregation to reduce risk of collision alongside or from behind	11. Motor traffic volume on sections of shared carriageway, expressed as vehicles per peak hour	10. Motor traffic speed on sections of shared carriageway	Indictors
	Cyclists sharing carriageway – nearside lane in critical range between 3.2m and 3.9m wide and traffic volumes prevent motor vehicles moving easily into opposite lane to pass cyclists.	>10000 AADT or >5% HGV	85th percentile > 37mph (60kph)	Critical
Side road junctions frequent and/or untreated. Major junctions, conflicting cycle/motor traffic movements not separated.	Cyclists in unrestricted traffic lanes outside critical range (3.2 to 3.9) or in cycle lanes less than 1.8m wide.	5000-10000 AADT and 2-5% HGV	85th percentile > 30mph	(0) Red
Side road junctions infrequent and with effective entry treatments. Major junctions, principal conflicting cycle/motor traffic movements separated.	Cyclists in cycle lanes at least 1.8m wide on-carriageway; 85th percentile motor traffic speed max 30mph	2500-5000 and <2% HGV	85th percentile 20mph-30mph	(1) Amber
Side roads closed or treated to blend in with footway. Major junctions all conflicting cycle/ motor traffic streams separated.	Cyclists on route away from motor traffic (off road provision) or in off-carriageway cycle track. Cyclists in hybrid/light segregated track; 85th percentile motor traffic speed max 30mph	0-2500 AADT	85th percentile <20mph	(2) Green
1	1	1	1	Score
Signalised junctions separated traffic streams, meaning there was little risk of collision, however side roads were not treated with raised tables or blended with footway.	Most footways were wide enough for shared use and there were sections of on-carriageway cycle lanes however this was infrequent. Most carriageways were wide and comfortable cycling on, however from Heath Town Park up to Newbolds junction, carriageways were narrow and did not afford cyclists 1.8m when vehicles overtook.	Check online data – especially by Heath Town Park and A460 – Bushbury Road junction	Similar to point above.	Comments
				Supporting photos

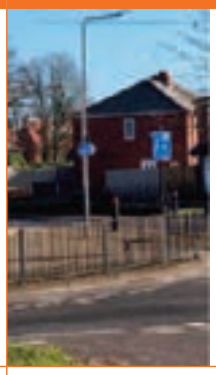
Appendix F: Cycle Route Audit Outputs - CloS - Fordhouses to Heathtown

Design Feature										
Comfort	Surface quality	Pavement or carriageway construction providing smooth and level surface	18. Surface type		Any bumpy, unbound, slippery, and potentially hazardous surface.	Hand-laid materials, concrete paviours with frequent joints	Machine laid smooth and non-slip surface – e.g. Thin Surfacing, or firm and closely jointed blocks undisturbed by turning heavy vehicles	2	Smooth, non slippy carriageway.	
		Density of defects including non cycle friendly ironworks, raised/sunken covers/gullies, potholes, poor quality carriageway paint (e.g. from previous cycle lane)	17. Major and minor defects		Numerous minor defects or any number of major defects.	Minor and occasional defects.	Smooth high grip surface.	2	Road surface was of a high quality with minimal potholes evident.	
Safety	Reduce severity of collisions where they do occur	Wherever possible routes should include "evasion room" (such as grass verges) and avoid any unnecessary physical hazards such as guardrail, build outs, etc. to reduce the severity of a collision should it occur.	16. Evasion room and unnecessary hazards		Cyclists at risk of being trapped by physical hazards along more than half of the route.	The number of physical hazards could be further reduced.	The route includes evasion room and avoids any physical hazards	1	Where on-street parking is present, cyclists do not have any evasion room and could become trapped on carriageway.	
	Consider and reduce risk from kerbside activity	Routes should be assessed in terms of all multi-functional uses of a street including car parking, bus stops, parking, including collision with opened door.	15. Conflict with kerbside activity		Significant conflict with kerbside activity (e.g. nearside cycle lane <2m (including buffer) wide alongside kerbside parking)	Some conflict with kerbside activity – e.g. less frequent activity on nearside of cyclists, min 2m cycle lanes including buffer.	No/very limited conflict with kerbside activity or width of cycle lane including buffer exceeds 3m.	1	Vehicles often parked along the road on Third Avenue but road wide enough to safely manoeuvre around parked vehicles. Kerbside parking quite prominent on Marsh Lane.	
	Avoid complex design	Avoid complex designs which require users to process large amounts of information. Good network design should be self-explanatory and self-evident to all road users. All users should understand where they and other road users should be and what movements they might make.	14. Legible road markings and road layout		Faded, old, unclear, complex road markings/unclear or unfamiliar road layout	Generally legible road markings and road layout but some elements could be improved	Clear, understandable, simple road markings and road layout	2	Road markings were clear and visible, as were route signs. Sightlines were good.	
	Factor	Design Principle	Indictors	Critical	(0) Red	(1) Amber	(2) Green	Score	Comments	Supporting photos

Appendix F: Cycle Route Audit Outputs - CloS - Fordhouses to Heathtown

Design Feature			Indicators	Critical	(0) Red	(1) Amber	(2) Green	Score	Comments	Supporting photos
Comfort	Factor	Design Principle								
	Effective width without conflict	Cyclists should be able to comfortably cycle without risk of conflict with other users both on and off road.	19. Desirable minimum widths according to volume of cyclists and route type (where cyclists are separated from motor vehicles).		More than 25% of the route includes cycle provision with widths which are no more than 25% below desirable minimum values.	No more than 25% of the route includes cycle provision with widths which are no more than 25% below desirable minimum.	Recommended widths are maintained throughout whole route	1	See point 12. Shared use sections also widened once past Newbolds junction, these areas widened to an acceptable width.	
	Wayfinding	Non-local cyclists should be able to navigate the routes without the need to refer to maps.	20. Signing		Route signing is poor with signs missing at key decision points.	Gaps identified in route signing which could be improved	Route is well signed with signs located at all decision points and junctions	1	Little signage until Raynor Road, however after this there are numerous wayfinding signs, including at Showell Circus and into housing estates on Shelley Road. However, the latter has a clutter of signs and can be misleading.	
Attractiveness	Social safety and perceived vulnerability of user	Routes should be appealing and be perceived as safe and usable. Well used, well maintained, lit, overlooked routes are more attractive and therefore more likely to be used.	21. Lighting		Most or all of route is unlit	Short and infrequent unlit/poorly lit sections	Route is lit to highway standards throughout	2	Sufficient lighting provided along routes entirety.	
			22. Isolation		Route is generally away from activity	Route is mainly overlooked and is not far from activity throughout its length	Route is overlooked throughout its length	2	Route is overlooked throughout by houses or other establishments e.g. schools, pubs and shops.	
	Impact on pedestrians, including people with disabilities	Introduction of dedicated on-road cycle provision can enable people to cycle on-road rather than using footways which are not suitable for shared use. Introducing cycling onto well used footpaths may reduce the quality of provision for both users, particularly if the shared use path does not meet recommended widths.	23. Impact on pedestrians, Pedestrians Comfort Level based on Pedestrian Comfort guide for London (Section 6.1)		Route impacts negatively on pedestrian provision, Pedestrian Comfort is at Level C or below.	No impact on pedestrian provision or Pedestrian Comfort Level remains at B or above.	Pedestrian provision enhanced by cycling provision, or Pedestrian Comfort Level remains at A.	1	PCL would remain at level B or above throughout route even if shared use pathways created, as footfall was generally low.	

Appendix F: Cycle Route Audit Outputs - CloS - Fordhouses to Heathtown

Design Feature	Factor	Design Principle	Indictors	Critical	(0) Red	(1) Amber	(2) Green	Score	Comments	Supporting photos
Attractiveness	Minimise street clutter	Signing required to support scheme layout	24. Signs informative and consistent but not overbearing or of inappropriate size		Large number of signs needed, difficult to follow and/or leading to clutter.	Moderate amount of signing particularly around junctions.	Signing for wayfinding purposes only and not causing additional obstruction.	1	Minimal street clutter along the route, apart from around Shelley Road estate, where there is a large number of unnecessary cycle lane signage.	
	Secure cycle parking	Ease of access to secure cycle parking within businesses and on-street	25. Evidence of bicycles parked to street furniture or cycle stands		No additional cycle parking provided or inadequate provision in insecure non overlooked areas.	Some secure cycle parking provided but not enough to meet demand.	Secure cycle parking provided, sufficient to meet demand.	0	TfWM Bike Station located opposite New Cross Hospital - suitable provision for current demand. But limited secure cycle parking along the route – should be focused around schools.	

Maximum Score	**50**
Achieved Score	**31**
Percentage	**62**
Critical	**0**
N/A	**0**

Appendix F: Cycle Route Audit Outputs - CloS - Pleck to Arboretum

Design Feature				Critical	(0) Red	(1) Amber	(2) Green	Score	Comments	Supporting photos
Cohesion	Connections	Cyclists should be able to easily and safely join and navigate along different sections of the same route and between different routes in the network	1. Ability to join/leave route safely and easily; consider left and right turns		Cyclists cannot connect to other routes without dismounting	Cyclists can connect to other routes with minimal disruption to their journey	Cyclists have dedicated connections to other routes provided, with no interruption to their journey	1	Cyclists can connect to other routes (e.g. Arboretum, NCN5) but connections could be improved.	
	Continuing and Wayfinding	Routes should be complete with no gaps in provision. 'End of route' signs should not be installed – cyclists should be shown how the route continues. Cyclists should not be 'abandoned' particularly at junctions where provision may be required to ensure safe crossing movements.	2. Provision for cyclists throughout the whole length of the route		Cyclists are 'abandoned' at points along the route with no clear indication of how to continue their journey.	The route is made up of discrete sections, but cyclists can clearly understand how to navigate between them, including through junctions.	Cyclists are provided with a continuous route, including through junctions	0	Cyclists are often abandoned, with the frequent use of the "cyclists dismount" sign.	
	Density of network	Cycle networks should provide a mesh (or grid) of routes across the town or city. The density of the network is the distance between the routes which makes up the grid pattern. The ultimate aim should be a network with a mesh width of 250m.	3. Density of routes based on mesh width i.e. distances between primary and secondary routes within the network		Route contributes to a network density mesh width > 1000m	Route contributes to a network density mesh width 250 – 1000m.	Routes contributes to a network density mesh width <250m	1	Connections are available to NCN 5, the Arboretum and the canal.	
Directness	Distance	Routes should follow the shortest option available and be as near to the 'as-the-crow-flies' distance as possible.	4. Deviation of route Deviation Factor is calculated by dividing the actual distance along the route by the straight line (crow-fly) distance, or shortest road alternative		Deviation factor against straight line or shortest road alternative >1.4	Deviation factor against straight line or shortest road alternative 1.2 – 1.4	Deviation factor against straight line or shortest road alternative <1.2	1	Cyclists must deviate around junctions and cross the road at certain points on the route.	

Appendix F: Cycle Route Audit Outputs - ClOS - Pleck to Arboretum

Safety					Design Feature
Risk of collision		Avoid high motor traffic volumes where cyclists are sharing the carriageway	Reduce/remove speed differences where cyclists are sharing the carriageway.		Factor
A high proportion of collisions involving cyclists occur at junctions. Junctions therefore need particular attention to reduce the risk of collision. Junction treatments include: Minor/side roads – cyclists priority and/or speed reduction across side roads Major roads – separation of cyclists from motor traffic through junctions	Where speed differences and high motor vehicle flows cannot be reduced cyclists should be separated from traffic – see Figure 4.1. This separation can be achieved at varying degrees through on-road cycle lanes, hybrid tracks and off-road provision. Such segregation should reduce the risk of collision from beside or behind the cyclist.	Cyclists should not be required to share the carriageway with high volumes of motor vehicles. This is particularly important at points where risk of collision is greater, such as at junctions.	Where cyclists and motor vehicles are sharing the carriageway, the key to reducing severity of collisions is reducing the speeds of motor vehicles so that they more closely match that of cyclists. This is particularly important at points where risk of collision is greater, such as at junctions.		Design Principle
13. Conflicting movements at junctions	12. Segregation to reduce risk of collision alongside or from behind	11. Motor traffic volume on sections of shared carriageway, expressed as vehicles per peak hour	10. Motor traffic speed on sections of shared carriageway	9. Motor traffic speed on approach and through junctions where cyclists are sharing the carriageway through the junction	Indictors
	Cyclists sharing carriageway – nearside lane in critical range between 3.2m and 3.9m wide and traffic volumes prevent motor vehicles moving easily into opposite lane to pass cyclists.	>10000 AADT, or >5% HGV	85th percentile > 37mph (60kph)	85th percentile > 37mph (60kph)	Critical
Side road junctions frequent and/or untreated. Major junctions conflicting cycle/motor traffic movements not separated	Cyclists in unrestricted traffic lanes outside critical range (3.2 to 3.9m) or in cycle lanes less than 1.8m wide	50000-10000 AADT and 2-5% HGV	85th percentile .>30mph	85th percentile . >30mph	(0) Red
Side road junctions infrequent and with effective entry treatments. Major junctions, principal conflicting cycle/motor traffic movements separated	Cyclists in cycle lanes at least 1.8m wide on-carriageway; 85th percentile motor traffic speed max 30mph.	25000-5000 and <2% HGV	85th percentile 20mph-30mph	85th percentile 20mph-30mph	(1) Amber
Side roads closed or treated to blend in with footway. Major junctions, all conflicting cycle/motor traffic streams separated	Cyclists on route away from motor traffic (off road provision) or in off-carriageway cycle track. Cyclists in hybrid/light segregated track; 85th percentile motor traffic speed max 30mph	0-2500 AADT	85th percentile <20mph	85th percentile <20mph	(2) Green
0	1	Critical	1	1	Score
No provision for cyclists at side roads – frequent use of “cyclists dismount” sign.	More data required to determine widths where cyclists share carriageway.	Cyclists must share the carriageway where AADT volumes are above 10,000, which would represent a critical fail or the whole scheme.	On shared sections of carriageway,, speed is between 20-30 mph.	Cyclists must share the carriageway at the junction with Rollingmill Street/Ida Road.	Comments
					Supporting photos

Appendix F: Cycle Route Audit Outputs - ClOS - Pleck to Arboretum

Comfort	Safety			Design Feature
Surface quality	Reduce severity of collisions where they do occur	Consider and reduce risk from kerbside activity	Avoid complex design	Factor
Density of defects including non cycle friendly ironworks, raised/sunken covers/gullies, potholes, poor quality carriageway paint (e.g. from previous cycle lane)	Wherever possible routes should include “evasion room” (such as grass verges) and avoid any unnecessary physical hazards such as guardrail, build outs, etc. to reduce the severity of a collision should it occur.	Routes should be assessed in terms of all multi-functional uses of a street including car parking, bus stops, parking, including collision with opened door.	Avoid complex designs which require users to process large amounts of information. Good network design should be self explanatory and self-evident to all road users. All users should understand where they and other road users should be and what movements they might make.	Design Principle
17. Major and minor defects	16. Evasion room and unnecessary hazards	15. Conflict with kerbside activity	14. Legible road markings and road layout.	Indictors
				Critical
Numerous minor defects or any number of major defects	Cyclists at risk of being trapped by physical hazards along more than half of the route.	Significant conflict with kerbside activity (e.g. nearside cycle lane <2m (including buffer) wide alongside kerbside parking)	Faded, old, unclear complex road markings/unclear or unfamiliar road layout	(0) Red
Minor and occasional defects.	The number of physical hazards could be further reduced.	Some conflict with kerbside activity – e.g. less frequent activity on nearside of cyclists, min 2m cycle lanes including buffer.	Generally legible road markings and road layout but some elements could be improved	(1) Amber
Smooth high grip surface.	The route includes evasion room and avoids any physical hazards	No/very limited conflict with kerbside activity or width of cycle lane including buffer exceeds 3m.	Clear, understandable, simple road markings and road layout	(2) Green
1	0	0	1	Score
Defects observed on the carriageway and cycleway.	Evasion room not provided, pedestrian guardrail is used frequently on the scheme.	Parking on Pleck Road increases collision risk.	Road markings could be better.	Comments
				Supporting photos

Appendix F: Cycle Route Audit Outputs - CloS - Pleck to Arboretum

Design Feature	Factor	Design Principle	Indictors	Critical	(0) Red	(1) Amber	(2) Green	Score	Comments	Supporting photos
Comfort	Surface quality	Pavement or carriageway construction providing smooth and level surface	18. Surface type		Any bumpy, unbound, slippery and potentially hazardous surface.	Hand-laid materials, concrete paviours with frequent joints	Machine laid smooth and non-slip surface – e.g. Thin Surfacing, or firm and closely joints blocks undisturbed by turning heavy vehicles	0	Cycleway and carriageway should be resurfaced.	
	Effective width without conflict	Cyclists should be able to comfortably cycle without risk of conflict with other users both on and off road.	19. Desirable minimum widths according to volume of cyclists and route type (where cyclists are separated from motor vehicles).		More than 25% of the route includes cycle provision with widths which are no more than 25% below desirable minimum values.	No more than 25% of the route includes cycle provision with widths which are no more than 25% below desirable minimum.	Recommended widths are maintained throughout whole route	1	Two-way cycleway could be increased.	
	Wayfinding	Non-local cyclists should be able to navigate the routes without the need to refer to maps.	20. Signing		Route signing is poor with signs missing at key decision points.	Gaps identified in route signing which could be improved	Route is well signed with signs located at all decision points and junctions	1	Cycling route at junctions should be improved.	
Attractiveness	Social safety and perceived vulnerability of user	Routes should be appealing and be perceived as safe and usable. Well used, well maintained, lit, overlooked routes are more attractive and therefore more likely to be used.	21. Lighting		Most or all of route is unlit	Short and infrequent unlit/poorly lit sections	Route is lit to highway standards throughout	2	Route is lit throughout.	
			22. Isolation		Route is generally away from activity	Route is mainly overlooked and is not far from activity throughout its length	Route is overlooked throughout its length	2	Route is overlooked throughout.	

Appendix F: Cycle Route Audit Outputs - CloS - Pleck to Arboretum

Design Feature	Factor	Design Principle	Indictors	Critical	(0) Red	(1) Amber	(2) Green	Score	Comments	Supporting photos
Attractiveness	Impact on pedestrians, including people with disabilities	Introduction of dedicated on-road cycle provision can enable people to cycle on-road rather than using footways which are not suitable for shared use. Introducing cycling onto well used footpaths may reduce the quality of provision for both users, particularly if the shared use path does not meet recommended widths.	23. Impact on pedestrians, Pedestrians Comfort Level based on Pedestrian Comfort guide for London (Section 6.1)		Route impacts negatively on pedestrian provision, Pedestrian Comfort is at Level C or below.	No impact on pedestrian provision or Pedestrian Comfort Level remains at B or above.	Pedestrian provision enhanced by cycling provision, or Pedestrian Comfort Level remains at A.	1	Shared routes reduce pedestrian comfort level.	
	Minimise street clutter	Signing required to support scheme layout	24. Signs informative and consistent but not overbearing or of inappropriate size		Large number of signs needed, difficult to follow and/or leading to clutter.	Moderate amount of signing particularly around junctions.	Signing for wayfinding purposes only and not causing additional obstruction.	2	Signs for route do not cause additional street clutter.	
	Secure cycle parking	Ease of access to secure cycle parking within businesses and on-street	25. Evidence of bicycles parking to street furniture or cycle stands		No additional cycle parking provided or inadequate provision in insecure non overlooked areas.	Some secure cycle parking provided but not enough to meet demand.	Secure cycle parking provided, sufficient to meet demand.	0	Cycle parking required along route.	

Maximum Score	**50**
Achieved Score	**19**
Percentage	**38**
Critical	**1**
N/A	**0**

Appendix F: Cycle Route Audit Outputs - ClOS - Smestow Valley Leisure Route

Directness		Cohesion			Design Feature
Time: Frequency of required stops or give ways	Distance	Density of network	Continuity and Wayfinding	Connections	Factor
The number of times a cyclist has to stop or loses right of way on a route should be minimised. This includes stopping and give ways at junctions or crossings, motorcycle barriers, pedestrian-only zones etc.	Routes should follow the shortest option available and be as near to the 'as-the-crow flies' distance as possible.	Cycle networks should provide a mesh (or grid) of routes across the town or city. The density of the network is the distance between the routes which make up the grid pattern. The ultimate aim should be a network with a mesh width of 250m.	Routes should be complete with no gaps in provision. 'End of route' signs should not be installed – cyclists should be shown how the route continues. Cyclists should not be 'abandoned', particularly at junctions where provision may be required to ensure safe crossing movements.	Cyclists should be able to easily and safely join and navigate along different sections of the same route and between different routes in the network.	Design Principle
5. Stopping and give way frequency	4. Deviation of route Deviation Factor is calculated by dividing the actual distance along the route by the straight line (crow-fly) distance, or shortest road alternative.	3. Density of routes based on mesh width i.e. distances between primary and secondary routes within the network	2. Provision for cyclists throughout the whole length of the route	1. Ability to join/leave route safely and easily: consider left and right turns	Indictors
					Critical
The number of stops or give ways on the route is more than 4 per km	Deviation factor against straight line or shortest road alternative >1.4	Route contributes to a network density mesh width >1000m	Cyclists are 'abandoned' at points along the route with no clear indication of how to continue their journey.	Cyclists cannot connect to other routes without dismounting	(0) Red
The number of stops or give ways on the route is between 2 and 4 per km	Deviation factor against straight line or shortest road alternative 1.2 - 1.4	Route contributes to a network density mesh width 250 – 1000m	The route is made up of discrete sections, but cyclists can clearly understand how to navigate between them, including through junctions.	Cyclists can connect to other routes with minimal disruption to their journey	(1) Amber
The number of stops or give ways on the route is less than 2 per km	Deviation factor against straight line or shortest road alternative <1.2	Route contributes to a network density mesh width <250m	Cyclists are provided with a continuous route, including through junctions	Cyclists have dedicated connections to other routes provided, with no interruption to their journey	(2) Green
2	2	1	1	0	Score
Number of stops is less than 2 per kilometre.	Off road route is more direct than the comparable road route.	The NCN 54 is close by, and other off - road routes through Buckpool and Fens Pool Local Nature Reserve and Dudley Canal.	The route is mostly continuous. At Queen Street cyclists must dismount and cross the road, but it is clear where the route goes.	Cyclists must dismount to connect to other routes.	Comments
					Supporting photos

Appendix F: Cycle Route Audit Outputs - CloS - Smestow Valley Leisure Route

Design Feature									
Safety	Directness								
Factor	Gradients	Time: Delay on links	Time: Delay at junctions						
Design Principle	Routes should avoid steep gradients where possible. Uphill sections increase time, effort and discomfort. Where these are encountered, routes should be planned to minimise climbing gradient and allow users to retain momentum gained on the descent.	The length of delay caused by not being able to bypass slow moving traffic.	The length of delay caused by junctions should be minimised. This includes assessing impact of multiple or single stage crossings, signal timings, toucan crossings etc.						
Indictors	8. Gradient	7. Ability tomaintain ownspeed on links	6. Delay atjunctions						
Critical	85th percentile > 37mph (60kph)								
(0) Red	85th percentile >30mph	Cyclists travelat speed ofslowest vehicle(including acycle) ahead	Delay forcyclists atjunctions isgreater than formotor vehicles						
(1) Amber	85th percentile 20mph-30mph	Cyclists can usuallypass slow trafficand other cyclists	Delay for cyclists at junctions is similar to delay for motor vehicles						
(2) Green	85th percentile <20mph	Cyclists can always choose an appropriate speed.	Telay is shorter than for motor vehicles or cyclists are not required to stop at junctions (eg bypass at signals)						
Score	2	1	1						
Comments	Route is mostly traffic free.	Delay at Queen Street is similar to motor vehicles as they do not have priority in this location.	Route is mostly flat. There is a sharp incline just behind The Tack Shop.	Number of stops is less than 2 per kilometre.					
Supporting photos									

Appendix F: Cycle Route Audit Outputs - ClOS - Smestow Valley Leisure Route

Safety				Design Feature
Risk of collision		Avoid high motor traffic volumes where cyclists are sharing the carriageway	Reduce/remove speed differences where cyclists are sharing the carriageway	Factor
A high proportion of collisions involving cyclists occur at junctions. Junctions therefore need particular attention to reduce the risk of collision. Junction treatments include: Minor/side roads – cyclist priority and/or speed reduction across side roads Major roads – separation of cyclists from motor traffic through junctions.	Where speed differences and high motor vehicle flows cannot be reduced cyclists should be separated from traffic – see Figure 4.1. This separation can be achieved at varying degrees through on-road cycle lanes, hybrid tracks and off-road provision. Such segregation should reduce the risk of collision from beside or behind the cyclist.	Cyclists should not be required to share the carriageway with high volumes of motor vehicles. This is particularly important at points where risk of collision is greater, such as at junctions.	Where cyclists and motor vehicles are sharing the carriageway, the key to reducing severity of collisions is reducing the speeds of motor vehicles so that they more closely match thatof cyclists. This is particularly important at points where risk of collision is greater, such as at junctions.	Design Principle
13. Conflicting movements at junctions	12. Segregation to reduce risk of collision alongside or from behind	11. Motor traffic volume on sections of shared carriageway, expressed as vehicles per peak hour	10. Motor traffic speed on sections of shared carriageway	Indictors
	Cyclists sharing carriageway – nearside lane in critical range between 3.2m and 3.9m wide and traffic volumes prevent motor vehicles moving easily into opposite lane to pass cyclists	>10000 AADT, or >5% HGV	85th percentile > 37mph (60kph)	Critical
Side road junctions frequent and/ or untreated. Major junctions, conflicting cycle/motor traffic movements not separated	Cyclists in unrestricted traffic lanes outside critical range (3.2m to 3.9m) or in cycle lanes less than 1.8m wide.	5000-10000 AADT and 2-5%HGV	85th percentile >30mph	(0) Red
Side road junctions infrequent and with effective entry treatments. Major junctions, principal conflicting cycle/ motor traffic movements separated.	Cyclists in cycle lanes at least 1.8m wide on-carriageway; 85th percentile motor traffic speed max 30mph.	2500-5000 and <2% HGV	85th percentile 20mph-30mph	(1) Amber
Side roads closed or treated to blend in with footway. Major junctions, al conflicting cycle/motor traffic streams separated.	Cyclists on route away from motor traffic (off road provision) or in off carriageway cycle track. Cyclists in hybrid/light segregated track; 85th percentile motor traffic speed max 30mph	0-2500 AADT	85th percentile <20mph	(2) Green
2	2	2	2	Score
Cyclists must cross road at Queens Road, but no conflicting movements aside from that.	Route is mostly traffic free.	Route is mostly traffic free.	Route is mostly traffic free.	Comments
				Supporting photos

Appendix F: Cycle Route Audit Outputs - CloS - Smestow Valley Leisure Route

Design Feature									
Safety	Factor	Design Principle	Indictors	Critical	(0) Red	(1) Amber	(2) Green	Score	Comments	Supporting photos
	Avoid complex design	Avoid complex designs which require users to process large amounts of information. Good network design should be self-explanatory and self-evident to all road users. All users should understand where they and other road users should be and what movements they might make.	14. Legible road markings and road layout		Faded, old, unclear, complex road markings/unclear or unfamiliar road layout	Generally legible road markings and road layout but some elements could be improved	Clear, understandable, simple road markings and road layout	2	No road markings, but clear where route goes.	
	Consider and reduce risk from kerbside activity	Routes should be assessed in terms of all multi-functional uses of a street including car parking, bus stops, parking, including collision with opened door.	15. Conflict with kerbside activity		Significant conflict with kerbside activity (eg nearside cycle lane < 2m (including buffer) wide alongside kerbside parking)	Some conflict with kerbside activity – eg less frequent activity on nearside of cyclists, min 2m cycle lanes including buffer.	No/very limited conflict with kerbside activity or width of cycle lane including buffer exceeds 3m.	2	No kerbside activity.	
	Reduce severity of collisions where they do occur	Wherever possible routes should include "evasion room" (such as grass verges) and avoid any unnecessary physical hazards such as guardrail, build outs, etc. to reduce the severity of a collision should it occur.	16. Evasion room and unnecessary hazards		Cyclists at risk of being trapped by physical hazards along more than half of the route.	The number of physical hazards could be further reduced.	The route includes evasion room and avoids any physical hazards.	1	There are physical hazards along the route, and there are barriers at the Queens Road junction.	
Comfort										
Surface quality			17. Major and minor defects		Numerous minor defects or any number of major defects	Minor and occasional defects.	Smooth high grip surface.	1	Defects along the route.	
Density of defects including non cycle friendly ironworks, raised/sunken covers/gullies, potholes, poor quality carriageway paint (eg from previous cycle lane)										

Appendix F: Cycle Route Audit Outputs - CloS - Smestow Valley Leisure Route

Design Feature	Factor	Design Principle	Indictors	Critical	(0) Red	(1) Amber	(2) Green	Score	Comments	Supporting photos
Comfort	Surface quality	Pavement or carriageway construction providing smooth and level surface	18. Surface type		Any bumpy, unbound, slippery, and potential y hazardous surface.	Hand-laid materials, concrete paviours with frequent joints.	Machine laid smooth and non-slip surface – eg Thin Surfacing, or firm and closely jointed blocks undisturbed by turning heavy vehicles.	0	Loose pebbles along majority of route is difficult to cycle on with a road bike. Muddy sections necessitated dismounting bikes.	
	Effective width without conflict	Cyclists should be able to comfortably cycle without risk of conflict with other users both on and of road.	19. Desirable minimum widths according to volume of cyclists and route type (where cyclists are separated from motor vehicles).		More than 25% of the route includes cycle provision with widths which are no more than 25% below desirable minimum values.	No more than 25% of the route includes cycle provision with widths which are no more than 25% below desirable minimum	Recommended widths are maintained throughout whole route	0	Widths are below the recommendations for majority of route.	
	Wayfinding	Non-local cyclists should be able to navigate the routes without the need to refer to maps.	20. Signing		Route signing is poor with signs missing at key decision points.	Gaps identified in route signing which could be improved	Route is well signed with signs located at all decision points and junctions.	2	Little signage but route is clear throughout.	
Attractiveness	Social safety and perceived vulnerability of user	Routes should be appealing and be perceived as safe and usable. Well used, well maintained, lit, overlooked routes are more attractive and therefore more likely to be used.	21. Lighting		Most or all of route is unlit	Short and infrequent unlit/ poorly lit sections	Route is lit to highway standards throughout	0	Route is unlit throughout.	

Appendix F: Cycle Route Audit Outputs - CloS - Smestow Valley Leisure Route

Design Feature	Factor	Design Principle	Indictors	Critical	(0) Red	(1) Amber	(2) Green	Score	Comments	Supporting photos
Attractiveness	Social safety and perceived vulnerability of user	Routes should be appealing and be perceived as safe and usable. Well used, well maintained, lit, overlooked routes are more attractive and therefore more likely to be used.	22. Isolation		Route is generally away from activity	Route is mainly overlooked and is not far from activity throughout its length	Route is overlooked throughout its length	0	Route is not overlooked.	
	Impact on pedestrians, including people with disabilities	Introduction of dedicated on-road cycle provision can enable people to cycle on-road rather than using footways which are not suitable for shared use. Introducing cycling onto well used footpaths may reduce the quality of provision for both users, particularly if the shared use path does not meet recommended widths.	23. Impact on pedestrians, Pedestrian Comfort Level based on Pedestrian Comfort guide for London (Section 6.1)		Route impacts negatively on pedestrian provision, Pedestrian Comfort is at Level C or below.	No impact on pedestrian provision or Pedestrian Comfort Level remains at B or above.	Pedestrian provision enhanced by cycling provision, or Pedestrian Comfort Level remains at A.	1	Narow widths reduce the pedestrian comfort level.	
	Minimise street clutter	Signing required to support scheme layout	24. Signs informative and consistent but not overbearing or of inappropriate size		Large number of signs needed, difficult to follow and/ or leading to clutter.	Moderate amount of signing particularly around junctions.	Signing for wayfinding purposes only and not causing additional obstruction.	2	Signage does not cause street clutter.	
	Secure cycle parking	Ease of access to secure cycle parking within businesses and on-street	25. Evidence of bicycles parked to street furniture or cycle stands		No additional cycle parking provided or inadequate provision in insecure non overlooked areas.	Some secure cycle parking provided but not enough to meet demand.	Secure cycle Parking provided, sufficient to meet demand.	0	No cycle parking observed at any point on route	

Maximum Score	**50**
Achieved Score	**31**
Percentage	**62**
Critical	**0**
N/A	**0**

Appendix F: Cycle Route Audit Outputs - CloS - Stone Cross to West Bromwich

Design Feature	Factor	Design Principle	Indictors	Critical	(0) Red	(1) Amber	(2) Green	Score	Comments	Supporting photos
Cohesion	Connections	Cyclists should be able to easily and safely join and navigate along different sections of the same route and between different routes in the network	1. Ability to join/leave route safely and easily; consider left and right turns		Cyclists cannot connect to other routes without dismounting	Cyclists can connect to other routes with minimal disruption to their journey	Cyclists have dedicated connections to other routes provided, with no interruption to their journey	1	The route was relatively continuous to cycle, however at the All Saints Way crossing the current fencing constriction requires cyclists to dismount in order to traverse the crossing.	
	Continuing and Wayfinding	Routes should be complete with no gaps in provision. 'End of route' signs should not be installed – cyclists should be shown how the route continues. Cyclists should not be 'abandoned' particularly at junctions where provision may be required to ensure safe crossing movements.	2. Provision for cyclists throughout the whole length of the route		Cyclists are 'abandoned' at points along the route with no clear indication of how to continue their journey.	The route is made up of discrete sections, but cyclists can clearly understand how to navigate between them, including through junctions.	Cyclists are provided with a continuous route, including through junctions	0	Lack of signage near major junctions, therefore cyclists were unsure of which direction to take. Share use sections were disjointed in signage, meaning there was ambiguity over where these regions began and ended.	
	Density of network	Cycle networks should provide a mesh (or grid) of routes across the town or city. The density of the network is the distance between the routes which makes up the grid pattern. The ultimate aim should be a network with a mesh width of 250m.	3. Density of routes based on mesh width i.e. distances between primary and secondary routes within the network		Route contributes to a network density mesh width > 1000m	Route contributes to a network density mesh width 250 – 1000m.	Routes contributes to a network density mesh width <250m	2	Plenty of alternates routes for the majority of the network. Already established cycle routes in the area such as through the residential area along Hallam Street.	
Directness	Distance	Routes should follow the shortest option available and be as near to the 'as-the-crow-flies' distance as possible.	4. Deviation of route Deviation Factor is calculated by dividing the actual distance along the route by the straight line (crow-fly) distance, or shortest road alternative		Deviation factor against straight line or shortest road alternative >1.4	Deviation factor against straight line or shortest road alternative 1.2 – 1.4	Deviation factor against straight line or shortest road alternative <1.2	2	Route followed parallel to main dual carriageway, therefore following the shortest practical route for cyclists.	

Appendix F: Cycle Route Audit Outputs - CloS - Stone Cross to West Bromwich

Design Feature	Factor	Design Principle	Indictors	Critical	(0) Red	(1) Amber	(2) Green	Score	Comments	Supporting photos
Directness	Time: Frequency of required stops or give ways	The number of times a cyclist has to stop or loses right of way on a route should be minimised. This includes stopping and give ways at junctions or crossings, motorcycle barriers, pedestrian-only zones etc.	5. Stopping and give way frequency		The number of stops or give ways on the route is more than 4 per km	The number of stops or give ways on the route is between 2 and 4 per km	The number of stops or give ways on the route is less than 2 per km	1	Route near Bull Street has several signal stops (4 within 500m), however the rest of route has minimum signal stops. Once passed All Saints Way junction, there are no more signalised stops until the end of the route.	
	Time: Delay at junctions	The length of delay caused by junctions should be minimised. This includes assessing impact of multiple or single stage crossings, signal timings, toucan crossings etc.	6. Delay at junctions		Delay for cyclists at junctions is greater than for motor vehicles	Delay for cyclists at junctions is similar to delay for motor vehicles	Delay is shorter than for motor vehicles or cyclists are not required to stop at junctions (e.g. bypass at signals)	1	There are multiple ASL for cycles along the signalised stops near Bull Street, meaning cyclists can move off at the same time as motor vehicles. However, at All Saints Way/ Parsonage Street junction, the requirement for cycles to cross at multiple signalised lights mean the delay is more longer for cyclists crossing this junction than motor vehicles.	
	Time: Delay on links	The length of delay caused by not being able to bypass slow moving traffic.	7. Ability to maintain own speed on links		Cyclists travel at speed of slowest vehicle (including a cycle) ahead	Cyclists can usually pass slow traffic and other cyclists	Cyclists can always choose an appropriate speed.	2	Cyclists either use on-carriageway facilities that are wide enough to pass stationary cars and use ASL, or are on shared use areas where they can pick an appropriate speed.	
	Gradients	Routes should avoid steep gradients where possible. Uphill sections increase time, effort and discomfort. Where these are encountered, routes should be planned to minimise climbing gradient and allow users to retain momentum gained on the descent	8. Gradient		Route includes sections steeper than the gradients recommended in Chapter 5	There are no sections of route steeper than the gradients recommended in Chapter 5	There are no sections of route which steeper than 2%	0	Only one section does not meet recommended gradients, New Street N/Seager St junction to A41 bridge (SB) gradient is 4.6% and length of the corridor is 130m.	

Appendix F: Cycle Route Audit Outputs - ClоS - Stone Cross to West Bromwich

Safety				Design Feature
Risk of collision	Avoid high motor traffic volumes where cyclists are sharing the carriageway	Reduce/remove speed differences where cyclists are sharing the carriageway.		Factor
Where speed differences and high motor vehicle flows cannot be reduced cyclists should be separated from traffic – see Figure 4.1. This separation can be achieved at varying degrees through on-road cycle lanes, hybrid tracks and off-road provision. Such segregation should reduce the risk of collision from beside or behind the cyclist.	Cyclists should not be required to share the carriageway with high volumes of motor vehicles. This is particularly important at points where risk of collision is greater, such as at junctions.	Where cyclists and motor vehicles are sharing the carriageway, the key to reducing severity of collisions is reducing the speeds of motor vehicles so that they more closely match that of cyclists. This is particularly important at points where risk of collision is greater, such as at junctions.		Design Principle
12. Segregation to reduce risk of collision alongside or from behind	11. Motor traffic volume on sections of shared carriageway, expressed as vehicles per peak hour	10. Motor traffic speed on sections of shared carriageway	9. Motor traffic speed on approach and through junctions where cyclists are sharing the carriageway through the junction	Indictors
Cyclists sharing carriageway – nearside lane in critical range between 3.2m and 3.9m wide and traffic volumes prevent motor vehicles moving easily into opposite lane to pass cyclists.	>10000 AADT, or >5% HGV	85th percentile > 37mph (60kph)	85th percentile > 37mph (60kph)	Critical
Cyclists in unrestricted traffic lanes outside critical range (3.2 to 3.9m) or in cycle lanes less than 1.8m wide	50000-10000 AADT and 2-5% HGV	85th percentile .>30mph	85th percentile . >30mph	(0) Red
Cyclists in cycle lanes at least 1.8m wide on-carriageway; 85th percentile motor traffic speed max 30mph.	25000-5000 and <2% HGV	85th percentile 20mph-30mph	85th percentile 20mph-30mph	(1) Amber
Cyclists on route away from motor traffic (off road provision) or in off-carriageway cycle track. Cyclists in hybrid/light segregated track; 85th percentile motor traffic speed max 30mph	0-2500 AADT	85th percentile <20mph	85th percentile <20mph	(2) Green
1	1	1	1	Score
Roads where cyclists share the carriageway tend to have a speed limit of 30mph. Carriageway widths are over 3.5m which should allow cars to pass whilst providing cyclists with 1.8m of space. Due to multiple signalised stops, motor vehicles do not exceed this.	Note: Check the traffic on Bull Street section as this seemed to be quite heavy and with the presence of HGVs.	Roads where cyclists share the carriageway tend to have a speed limit of 30mph. Due to multiple signalised stops, motor vehicles do not exceed this.	Roads where cyclists share the carriageway tend to have a speed limit of 30mph. Due to multiple signalised stops, motor vehicles do not exceed this.	Comments
				Supporting photos

Appendix F: Cycle Route Audit Outputs - CloS - Stone Cross to West Bromwich

Design Feature	Factor	Design Principle	Indictors	Critical	(0) Red	(1) Amber	(2) Green	Score	Comments	Supporting photos
Safety	Risk of collision	A high proportion of collisions involving cyclists occur at junctions. Junctions therefore need particular attention to reduce the risk of collision. Junction treatments include: Minor/side roads – cyclists priority and/or speed reduction across side roads Major roads – separation of cyclists from motor traffic through junctions	13. Conflicting movements at junctions		Side road junctions frequent and/or untreated. Major junctions conflicting cycle/motor traffic movements not separated	Side road junctions infrequent and with effective entry treatments. Major junctions, principal conflicting cycle/motor traffic movements separated	Side roads closed or treated to blend in with footway. Major junctions, all conflicting cycle/motor traffic streams separated	1	Side roads were frequent and did not have raised table treatments to ensure vehicles slowed as they approached the junction, however major junctions had separated movements of traffic.	
	Avoid complex design	Avoid complex designs which require users to process large amounts of information. Good network design should be self explanatory and self-evident to all road users. All users should understand where they and other road users should be and what movements they might make.	14. Legible road markings and road layout.		Faded, old, unclear complex road markings/unclear or unfamiliar road layout	Generally legible road markings and road layout but some elements could be improved	Clear, understandable, simple road markings and road layout	2		
	Consider and reduce risk from kerbside activity	Routes should be assessed in terms of all multi-functional uses of a street including car parking, bus stops, parking, including collision with opened door.	15. Conflict with kerbside activity		Significant conflict with kerbside activity (e.g. nearside cycle lane <2m (including buffer) wide alongside kerbside parking)	Some conflict with kerbside activity – e.g. less frequent activity on nearside of cyclists, min 2m cycle lanes including buffer.	No/very limited conflict with kerbside activity or width of cycle lane including buffer exceeds 3m.	0	Lots of on street parking, especially along St Clements Lane, where there was a large number of residential vehicles parked up, which often meant cyclists had to give way to larger vehicles coming in the other direction.	
	Reduce severity of collisions where they do occur	Wherever possible routes should include “evasion room” (such as grass verges) and avoid any unnecessary physical hazards such as guardrail, build outs, etc. to reduce the severity of a collision should it occur.	16. Evasion room and unnecessary hazards		Cyclists at risk of being trapped by physical hazards along more than half of the route.	The number of physical hazards could be further reduced.	The route includes evasion room and avoids any physical hazards	0	Where on street parking is present, cyclists do not have any evasion room. This was an issue along St Clements Lane as well are more Northern sections of the route.	

Appendix F: Cycle Route Audit Outputs - ClоS - Stone Cross to West Bromwich

Comfort				Design Feature
Wayfinding	Effective width without conflict		Surface quality	Factor
Non-local cyclists should be able to navigate the routes without the need to refer to maps.	Cyclists should be able to comfortably cycle without risk of conflict with other users both on and off road.	Pavement or carriageway construction providing smooth and level surface	Density of defects including non cycle friendly ironworks, raised/sunken covers/gullies, potholes, poor quality carriageway paint (e.g. from previous cycle lane)	Design Principle
20. Signing	19. Desirable minimum widths according to volume of cyclists and route type (where cyclists are separated from motor vehicles).	18. Surface type	17. Major and minor defects	Indictors
				Critical
Route signing is poor with signs missing at key decision points.	More than 25% of the route includes cycle provision with widths which are no more than 25% below desirable minimum values.	Any bumpy, unbound, slippery and potentially hazardous surface.	Numerous minor defects or any number of major defects	(0) Red
Gaps identified in route signing which could be improved	No more than 25% of the route includes cycle provision with widths which are no more than 25% below desirable minimum.	Hand-laid materials, concrete paviours with frequent joints	Minor and occasional defects.	(1) Amber
Route is well signed with signs located at all decision points and junctions	Recommended widths are maintained throughout whole route	Machine laid smooth and non-slip surface – e.g. Thin Surfacing, or firm and closely joints blocks undisturbed by turning heavy vehicles	Smooth high grip surface.	(2) Green
0	1	1	1	Score
Smooth high grip surface.	There are regions of shared use cycle facilities including alongside All Saints Way, however these had pinch points which narrowed to widths below the desirable minimum, especially where road signs were present.		Occasional pothole and rutting along edge of carriageway.	Comments
				Supporting photos

Appendix F: Cycle Route Audit Outputs - CloS - Stone Cross to West Bromwich

Design Feature	Factor	Design Principle	Indictors	Critical	(0) Red	(1) Amber	(2) Green	Score	Comments	Supporting photos
Attractiveness	Social safety and perceived vulnerability of user	Routes should be appealing and be perceived as safe and usable. Well used, well maintained, lit, overlooked routes are more attractive and therefore more likely to be used.	21. Lighting		Most or all of route is unlit	Short and infrequent unlit/poorly lit sections	Route is lit to highway standards throughout	2	Frequent street lighting across the whole scheme	
			22. Isolation		Route is generally away from activity	Route is mainly overlooked and is not far from activity throughout its length	Route is overlooked throughout its length	2	Almost entire route is in residential areas.	
	Impact on pedestrians, including people with disabilities	Introduction of dedicated on-road cycle provision can enable people to cycle on-road rather than using footways which are not suitable for shared use. Introducing cycling onto well used footpaths may reduce the quality of provision for both users, particularly if the shared use path does not meet recommended widths.	23. Impact on pedestrians, Pedestrians Comfort Level based on Pedestrian Comfort guide for London (Section 6.1)		Route impacts negatively on pedestrian provision, Pedestrian Comfort is at Level C or below.	No impact on pedestrian provision or Pedestrian Comfort Level remains at B or above.	Pedestrian provision enhanced by cycling provision, or Pedestrian Comfort Level remains at A.	1	Cycle provision would reduce the possibility of cyclists using footway, especially along Walsall Road, however it would have little improvement along the rest of the route.	

Appendix F: Cycle Route Audit Outputs - CloS - Stone Cross to West Bromwich

Design Feature	Factor	Design Principle	Indictors	Critical	(0) Red	(1) Amber	(2) Green	Score	Comments	Supporting photos
Attractiveness	Minimise street clutter	Signing required to support scheme layout	24. Signs informative and consistent but not overbearing or of inappropriate size		Large number of signs needed, difficult to follow and/or leading to clutter.	Moderate amount of signing particularly around junctions.	Signing for wayfinding purposes only and not causing additional obstruction.	2		
	Secure cycle parking	Ease of access to secure cycle parking within businesses and on-street	25. Evidence of bicycles parking to street furniture or cycle stands		No additional cycle parking provided or inadequate provision in insecure non overlooked areas.	Some secure cycle parking provided but not enough to meet demand.	Secure cycle parking provided, sufficient to meet demand.	2	There was the presence of the local TfWM cycle hire bikes along he route as well as on street cycle stands at the Northern end of the route.	

Maximum Score	**50**
Achieved Score	**28**
Percentage	**56**
Critical	**0**
N/A	**0**

Appendix F: Cycle Route Audit Outputs - CloS - Walsall Town Centre to Sandwell Valley Park

Design Feature	Factor	Design Principle	Indictors	Critical	(0) Red	(1) Amber	(2) Green	Score	Comments	Supporting photos
Cohesion	Connections	Cyclists should be able to easily and safely join and navigate along different sections of the same route and between different routes in the network	1. Ability to join/leave route safely and easily; consider left and right turns		Cyclists cannot connect to other routes without dismounting	Cyclists can connect to other routes with minimal disruption to their journey	Cyclists have dedicated connections to other routes provided, with no interruption to their journey	1	Access to other routes on the canal, and the continuation of NCN 5 north of Walsall.	
	Density of network	Cycle networks should provide a mesh (or grid) of routes across the town or city. The density of the network is the distance between the routes which makes up the grid pattern. The ultimate aim should be a network with a mesh width of 250m.	3. Density of routes based on mesh width i.e. distances between primary and secondary routes within the network		Route contributes to a network density mesh width > 1000m	Route contributes to a network density mesh width 250 – 1000m.	Routes contributes to a network density mesh width <250m	2	Connections to the other canal routes and the continuation of NCN 5 north of Walsall.	
Directness	Distance	Routes should follow the shortest option available and be as near to the 'as-the-crow-flies' distance as possible.	4. Deviation of route Deviation Factor is calculated by dividing the actual distance along the route by the straight line (crow-fly) distance, or shortest road alternative		Deviation factor against straight line or shortest road alternative >1.4	Deviation factor against straight line or shortest road alternative 1.2 – 1.4	Deviation factor against straight line or shortest road alternative <1.2	2	Route does deviate slightly from shortest road alternative	

Appendix F: Cycle Route Audit Outputs - CloS - Walsall Town Centre to Sandwell Valley Park

Design Feature	Factor	Design Principle	Indictors	Critical	(0) Red	(1) Amber	(2) Green	Score	Comments	Supporting photos
Directness	Time: Frequency of required stops or give ways	The number of times a cyclist has to stop or loses right of way on a route should be minimised. This includes stopping and give ways at junctions or crossings, motorcycle barriers, pedestrian-only zones etc.	5. Stopping and give way frequency		The number of stops or give ways on the route is more than 4 per km	The number of stops or give ways on the route is between 2 and 4 per km	The number of stops or give ways on the route is less than 2 per km	1	Stopping and give way frequency is roughly 2.5 per km, mostly situated within Walsall Town Centre.	
	Time: Delay at junctions	The length of delay caused by junctions should be minimised. This includes assessing impact of multiple or single stage crossings, signal timings, toucan crossings etc.	6. Delay at junctions		Delay for cyclists at junctions is greater than for motor vehicles	Delay for cyclists at junctions is similar to delay for motor vehicles	Delay is shorter than for motor vehicles or cyclists are not required to stop at junctions (e.g. bypass at signals)	1	Delay for cyclists is similar to that for motor vehicles.	
	Time: Delay on links	The length of delay caused by not being able to bypass slow moving traffic.	7. Ability to maintain own speed on links		Cyclists travel at speed of slowest vehicle (including a cycle) ahead	Cyclists can usually pass slow traffic and other cyclists	Cyclists can always choose an appropriate speed.	1	Overtaking slower travelling bicycles is hard on the canal tow path and on other points of the route.	
	Gradients	Routes should avoid steep gradients where possible. Uphill sections increase time, effort and discomfort. Where these are encountered, routes should be planned to minimise climbing gradient and allow users to retain momentum gained on the descent	8. Gradient		Route includes sections steeper than the gradients recommended in Chapter 5	There are no sections of route steeper than the gradients recommended in Chapter 5	There are no sections of route which steeper than 2%	1	There are some steeper sections of the route.	

Appendix F: Cycle Route Audit Outputs - ClOS - Walsall Town Centre to Sandwell Valley Park

Safety				Design Feature
Risk of collision	Avoid high motor traffic volumes where cyclists are sharing the carriageway	Reduce/remove speed differences where cyclists are sharing the carriageway.		Factor
Where speed differences and high motor vehicle flows cannot be reduced cyclists should be separated from traffic – see Figure 4.1. This separation can be achieved at varying degrees through on-road cycle lanes, hybrid tracks and off-road provision. Such segregation should reduce the risk of collision from beside or behind the cyclist.	Cyclists should not be required to share the carriageway with high volumes of motor vehicles. This is particularly important at points where risk of collision is greater, such as at junctions.	Where cyclists and motor vehicles are sharing the carriageway, the key to reducing severity of collisions is reducing the speeds of motor vehicles so that they more closely match that of cyclists. This is particularly important at points where risk of collision is greater, such as at junctions.		Design Principle
12. Segregation to reduce risk of collision alongside or from behind	11. Motor traffic volume on sections of shared carriageway, expressed as vehicles per peak hour	10. Motor traffic speed on sections of shared carriageway	9. Motor traffic speed on approach and through junctions where cyclists are sharing the carriageway through the junction	Indictors
Cyclists sharing carriageway – nearside lane in critical range between 3.2m and 3.9m wide and traffic volumes prevent motor vehicles moving easily into opposite lane to pass cyclists.	>10000 AADT, or >5% HGV	85th percentile > 37mph (60kph)	85th percentile > 37mph (60kph)	Critical
Cyclists in unrestricted traffic lanes outside critical range (3.2 to 3.9m) or in cycle lanes less than 1.8m wide	50000-10000 AADT and 2-5% HGV	85th percentile .>30mph	85th percentile . >30mph	(0) Red
Cyclists in cycle lanes at least 1.8m wide on-carriageway; 85th percentile motor traffic speed max 30mph.	25000-5000 and <2% HGV	85th percentile 20mph-30mph	85th percentile 20mph-30mph	(1) Amber
Cyclists on route away from motor traffic (off road provision) or in off-carriageway cycle track. Cyclists in hybrid/light segregated track; 85th percentile motor traffic speed max 30mph	0-2500 AADT	85th percentile <20mph	85th percentile <20mph	(2) Green
Critical	1	1	1	Score
Sections of Highgate Road are within the critical range of cycling traffic, which would score an immediate fail for the whole scheme.	There are some sections where cyclists have to share the carriageway where traffic volumes are higher.	Cyclists share the carriageway on roads that are a range of speeds. Generally on busier roads with higher road speeds they are segregated, but this is not always the case.	Junctions on busier sections of road are mostly segregated, but this is not always the case.	Comments
				Supporting photos

Appendix F: Cycle Route Audit Outputs - CloS - Walsall Town Centre to Sandwell Valley Park

Design Feature	Factor	Design Principle	Indictors	Critical	(0) Red	(1) Amber	(2) Green	Score	Comments	Supporting photos
Safety	Risk of collision	A high proportion of collisions involving cyclists occur at junctions. Junctions therefore need particular attention to reduce the risk of collision. Junction treatments include: Minor/side roads – cyclists priority and/or speed reduction across side roads Major roads – separation of cyclists from motor traffic through junctions	13. Conflicting movements at junctions		Side road junctions frequent and/or untreated. Major junctions conflicting cycle/motor traffic movements not separated	Side road junctions infrequent and with effective entry treatments. Major junctions, principal conflicting cycle/motor traffic movements separated	Side roads closed or treated to blend in with footway. Major junctions, all conflicting cycle/motor traffic streams separated	1	Conflicting movements at some junctions of the route.	
	Avoid complex design	Avoid complex designs which require users to process large amounts of information. Good network design should be self explanatory and self-evident to all road users. All users should understand where they and other road users should be and what movements they might make.	14. Legible road markings and road layout.		Faded, old, unclear complex road markings/unclear or unfamiliar road layout	Generally legible road markings and road layout but some elements could be improved	Clear, understandable, simple road markings and road layout	1	The route is generally well-marked, but road markings could be better used to improve this. Some times on the canal need to be located in more conspicuous locations.	
	Consider and reduce risk from kerbside activity	Routes should be assessed in terms of all multi-functional uses of a street including car parking, bus stops, parking, including collision with opened door.	15. Conflict with kerbside activity		Significant conflict with kerbside activity (e.g. nearside cycle lane <2m (including buffer) wide alongside kerbside parking)	Some conflict with kerbside activity – e.g. less frequent activity on nearside of cyclists, min 2m cycle lanes including buffer.	No/very limited conflict with kerbside activity or width of cycle lane including buffer exceeds 3m.	1	On road parking on Delves Rod and Redwood Road, increasing collision risk for cyclists.	
	Reduce severity of collisions where they do occur	Wherever possible routes should include "evasion room" (such as grass verges) and avoid any unnecessary physical hazards such as guardrail, build outs, etc. to reduce the severity of a collision should it occur.	16. Evasion room and unnecessary hazards		Cyclists at risk of being trapped by physical hazards along more than half of the route.	The number of physical hazards could be further reduced.	The route includes evasion room and avoids any physical hazards	1	Evasion room not provided within Town Centre and evidence of hazards (e.g. guard rail) on route.	

Appendix F: Cycle Route Audit Outputs - CloS - Walsall Town Centre to Sandwell Valley Park

Design Feature	Factor	Design Principle	Indictors	Critical	(0) Red	(1) Amber	(2) Green	Score	Comments	Supporting photos
Comfort	Surface quality	Density of defects including non cycle friendly ironworks, raised/sunken covers/gullies, potholes, poor quality carriageway paint (e.g. from previous cycle lane)	17. Major and minor defects		Numerous minor defects or any number of major defects	Minor and occasional defects.	Smooth high grip surface.	2	Defects observed on route.	
		Pavement or carriageway construction providing smooth and level surface	18. Surface type		Any bumpy, unbound, slippery and potentially hazardous surface.	Hand-laid materials, concrete paviours with frequent joints	Machine laid smooth and non-slip surface – e.g. Thin Surfacing, or firm and closely joints blocks undisturbed by turning heavy vehicles	0	Cobbled stone path near to St Matthew's Church.	
	Effective width without conflict	Cyclists should be able to comfortably cycle without risk of conflict with other users both on and off road.	19. Desirable minimum widths according to volume of cyclists and route type (where cyclists are separated from motor vehicles).		More than 25% of the route includes cycle provision with widths which are no more than 25% below desirable minimum values.	No more than 25% of the route includes cycle provision with widths which are no more than 25% below desirable minimum.	Recommended widths are maintained throughout whole route	1	Canal & off-road paths do not meet desirable minimums for majority of lengths	
	Wayfinding	Non-local cyclists should be able to navigate the routes without the need to refer to maps.	20. Signing		Route signing is poor with signs missing at key decision points.	Gaps identified in route signing which could be improved	Route is well signed with signs located at all decision points and junctions	1	Some gaps in signage, particularly on canal.	

Appendix F: Cycle Route Audit Outputs - CloS - Walsall Town Centre to Sandwell Valley Park

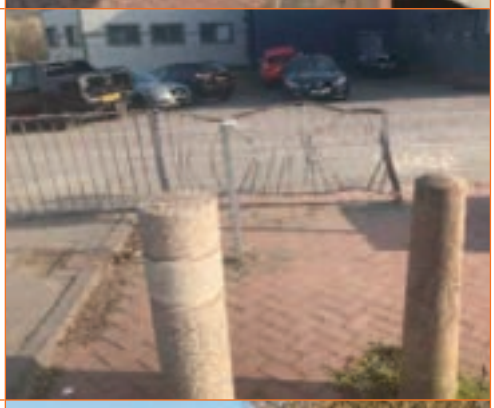
Design Feature	Factor	Design Principle	Indictors	Critical	(0) Red	(1) Amber	(2) Green	Score	Comments	Supporting photos
Attractiveness	Social safety and perceived vulnerability of user	Routes should be appealing and be perceived as safe and usable. Well used, well maintained, lit, overlooked routes are more attractive and therefore more likely to be used.	21. Lighting		Most or all of route is unlit	Short and infrequent unlit/poorly lit sections	Route is lit to highway standards throughout	0	Off-road sections on canal and through Sandwell Valley Park are not lit.	
			22. Isolation		Route is generally away from activity	Route is mainly overlooked and is not far from activity throughout its length	Route is overlooked throughout its length	0	Off-road sections on canal and through Sandwell Valley Park are not overlooked.	
	Impact on pedestrians, including people with disabilities	Introduction of dedicated on-road cycle provision can enable people to cycle on-road rather than using footways which are not suitable for shared use. Introducing cycling onto well used footpaths may reduce the quality of provision for both users, particularly if the shared use path does not meet recommended widths.	23. Impact on pedestrians, Pedestrians Comfort Level based on Pedestrian Comfort guide for London (Section 6.1)		Route impacts negatively on pedestrian provision, Pedestrian Comfort is at Level C or below.	No impact on pedestrian provision or Pedestrian Comfort Level remains at B or above.	Pedestrian provision enhanced by cycling provision, or Pedestrian Comfort Level remains at A.	1	Narrow widths on shared surface will reduce pedestrian comfort.	

Appendix F: Cycle Route Audit Outputs - CloS - Walsall Town Centre to Sandwell Valley Park

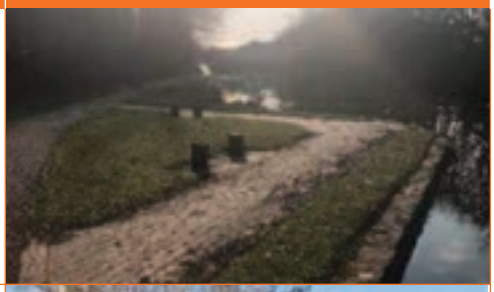
Design Feature	Factor	Design Principle	Indictors	Critical	(0) Red	(1) Amber	(2) Green	Score	Comments	Supporting photos
Attractiveness	Minimise street clutter	Signing required to support scheme layout	24. Signs informative and consistent but not overbearing or of inappropriate size		Large number of signs needed, difficult to follow and/or leading to clutter.	Moderate amount of signing particularly around junctions.	Signing for wayfinding purposes only and not causing additional obstruction.	2	Street clutter is generally minimised, as NCN signage is with stickers, utilizing existing street furniture.	
	Secure cycle parking	Ease of access to secure cycle parking within businesses and on-street	25. Evidence of bicycles parking to street furniture or cycle stands		No additional cycle parking provided or inadequate provision in insecure non overlooked areas.	Some secure cycle parking provided but not enough to meet demand.	Secure cycle parking provided, sufficient to meet demand.	0	More cycle parking should be provided, particularly near to the off-road routes.	

Maximum Score	**50**
Achieved Score	**23**
Percentage	**46**
Critical	**1**
N/A	**0**

Appendix G: Walking Zone Audit Outputs

Location	Comments	Supporting Photos
Blackbrook Road, Holly Hall, Dudley	Clear route signage along the canal.	
Blackbrook Road, Holly Hall, Dudley	Bridge for pedestrian and cyclists only provides easy access onto canal..	
Blackbrook Road, Holly Hall, Dudley	Severely damaged pedestrian guard rail may indicate a potential collision hotspot.	
Blackbrook Road, Holly Hall, Dudley	Canal towpath is well maintained and has a good quality surface. However, if it unlit and quite narrow therefore may be deemed unsafe by some pedestrians..	

Appendix G: Walking Zone Audit Outputs

Location	Comments	Supporting Photos
Blackbrook Road, Holly Hall, Dudley	Opportunity to provide seating alongside canal where there is space available.	
Pedmore Road, Brierley Hill	Route signs to canal, however area is not well lit or overlooked so may deter pedestrians from using the footpath.	
Pedmore Road, Brierley Hill	Steep inclines in certain areas may prevent pedestrians using the footpaths.	
Pedmore Road, Brierley Hill	Fast entry road with low visibility and large crossing distance increases the risk of a collision between vehicles and pedestrians.	

Appendix G: Walking Zone Audit Outputs

Location	Comments	Supporting Photos
Narrowboat Way, Hurst Business Park, Brierley Hill	Hostile environment for a pedestrian crossing. There is no dropped kerb or tactile paving and the crossing distance is large. The large radius at the junction also encourages faster speeds from vehicles turning in.	
The Embankment, Brierley Hill	Only pedestrian connection from the town centre to Brierley Hill.	
Pedmore Road, Brierley Hill	Some footpaths in the zone are degraded and require resurfacing. There is a disused bus stop which could be reallocated into footway space.	
Pedmore Road, Brierley Hill	Degraded and narrow footpath alongside a busy road is not an attractive route for pedestrians.	

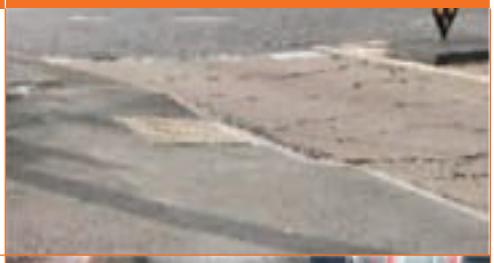
Appendix G: Walking Zone Audit Outputs

Location	Comments	Supporting Photos
Merry Hill, Brierley Hill	Narrow and overgrown footpath with oncoming 40 mph traffic creates an unpleasant walking environment for pedestrians.	
3-11 Nottingham Way, Brierley Hill	Good connection between residential area and Saltwells Local Nature Reserve.	
Merry Hill, Brierley Hill	Footway next to busy road (A4036) is very narrow.	
Merry Hill, Brierley Hill	Pedestrians must cross the carriageway in multiple stages which is not ideal, as it increases the journey time.	

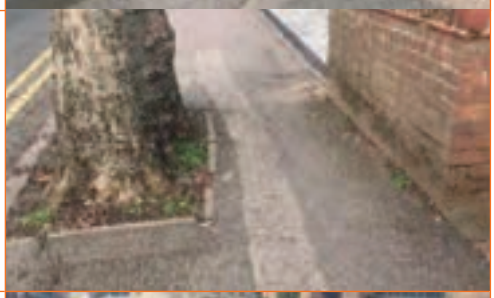
Appendix G: Walking Zone Audit Outputs

Location	Comments	Supporting Photos
The Boulevard, Brierley Hill	Bus stop without a shelter or seating will deter people from using public transport. This could be easily implimented to improve pedestrian experience.	
The Boulevard, Brierley Hill	Clear pedestrian desire line from footpath to car park.	

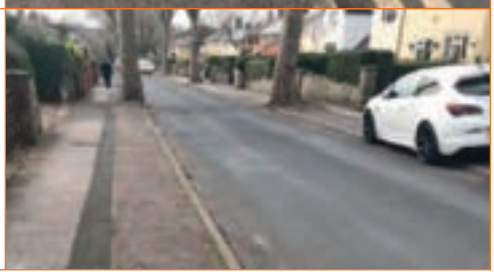
Appendix G: Walking Zone Audit Outputs

Location	Comments	Supporting Photos
Croxdene Avenue, Bloxwich, Walsall	Crossing point is missing some tactile paving, therefore posing a safety hazard to visually impaired pedestrians. The carriageway next to the crossing point is also severely degraded.	
Bloxwich Hospital Bus Stop, Walsall	Narrow pedestrian footpath alongside bus shelter. Difficult for pedestrians and wheelchair users to use this footpath if bus stop is busy.	
98-114 Somerfield Road, Leamore, Walsall	Route signage to other pedestrian and cycle routes is provided.	
Somerfield Road, Leamore, Walsall	Some pedestrian footways in the walking zone have uneven surfaces, increasing the likelihood of pedestrians tripping over.	
2-44 Somerfield Road, Leamore, Walsall	Narrow footways prevent two pedestrians from being able to pass each other side by side. Also some footways had issues with litter.	

Appendix G: Walking Zone Audit Outputs

Location	Comments	Supporting Photos
26-38 Leamore Lane, Leamore, Walsall	Potential kerbside conflict with numerous vehicles parked on the pavement, narrowing the pedestrian footway.	
ESSO Petrol Station, Leamore, Walsall	Barriers located along edge of carriageway to stop vehicles parking along pavements. They also help form a pedestrian crossing point, however, this crossing point is slightly off the desire line.	
Somerfield Garage, Blakenall Lane, Walsall	Very narrow pedestrian footway c.1.1 metre.	
6-54 Blakenall Lane, Walsall	Narrow pedestrian footway inhibits the movement of pedestrians and wheelchair users.	

Appendix G: Walking Zone Audit Outputs

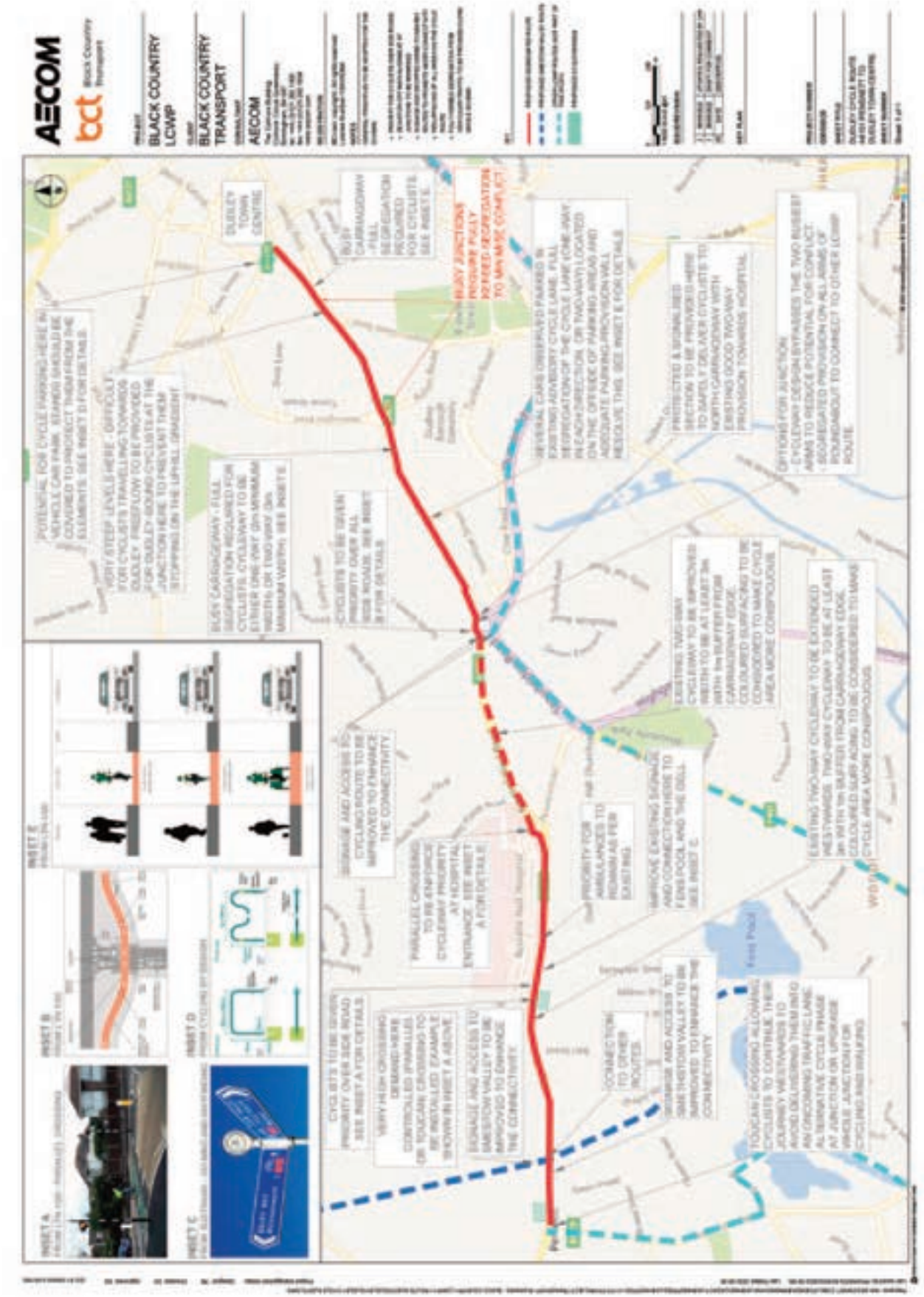
Location	Comments	Supporting Photos
1-13 St Clement's Avenue, Walsall	Cars parked on the footway restrict the access of pedestrians. This kerbside conflict may also cause challenges for wheelchair users. The narrow footway may encourage pedestrians to walk onto the road in order to pass the parked vehicles and rejoin the pavement. This presents a safety hazard.	
101-143 Chantry Avenue, Walsall	Trees and parked vehicles could obstruct pedestrian movements but footpath is wider than in other areas of the walking zone.	

Appendix G: Walking Zone Audit Outputs

Location	Comments	Supporting Photos
Moor Lane, Rowley Regis	Upper Moor Lane is a narrow country road with a blind bend that would require further narrowing to accommodate walking/cycling facilities (probably not possible to narrow further, lane widths already <3m).	
Moor Lane, Rowley Regis	Hospital requires emergency access road which may be difficult to build walking facilities across.	
Moor Lane, Rowley Regis	Moor Lane has a steep gradient which will provide issues for wheelchair users and may also deter pedestrians from using the footpaths.	
Moor Lane, Rowley Regis	No existing footway on western side of Moor Lane. However, there is space available for a footpath and benches to be implemented.	
Moor Lane, Rowley Regis	Hospital has existing boundary fence which would make reclaming land - from Upper Moor Lane - for a footway quite difficult.	

Appendix G: Walking Zone Audit Outputs

Appendix H: Cycle Route Scheme Plans



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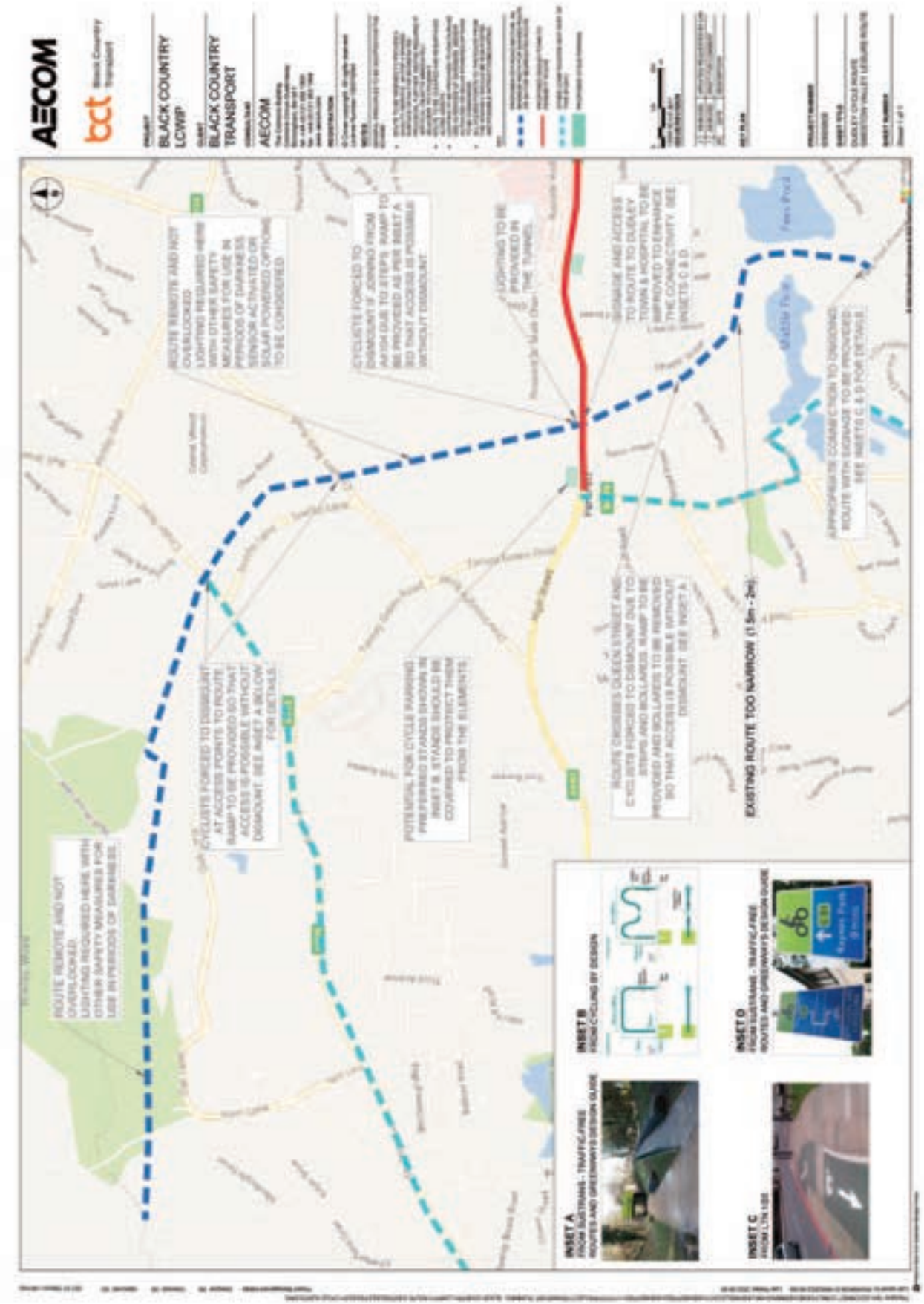

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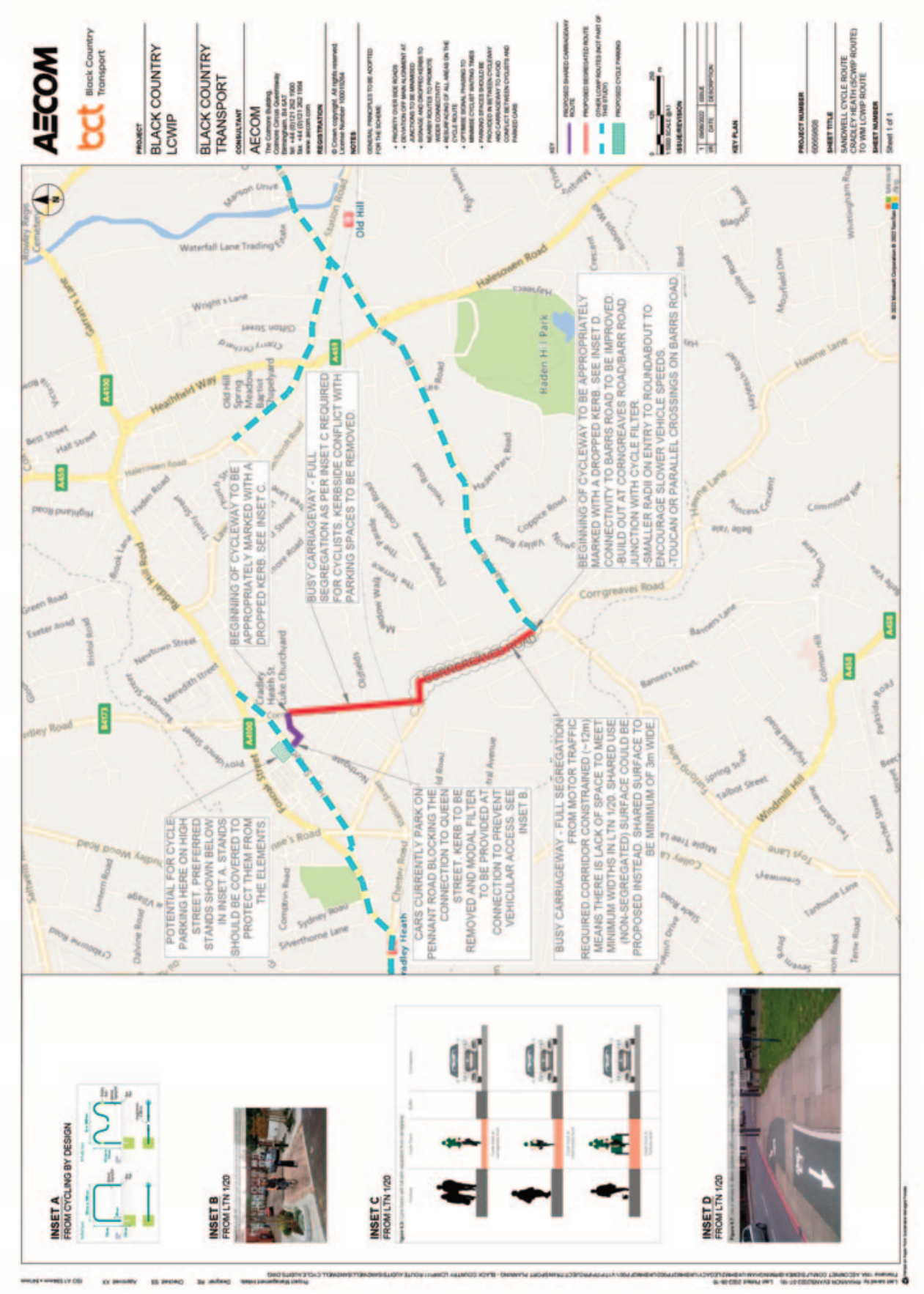

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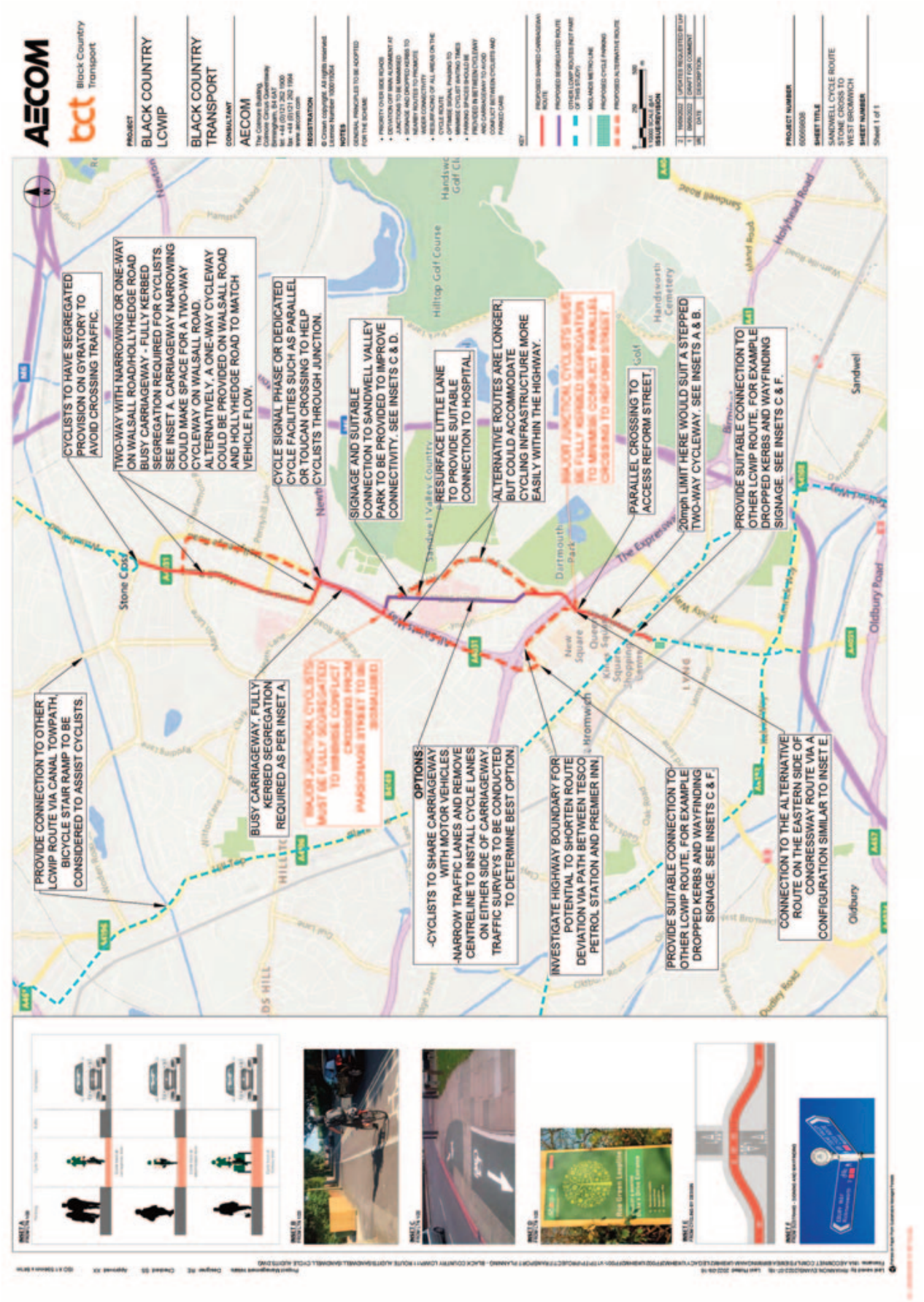

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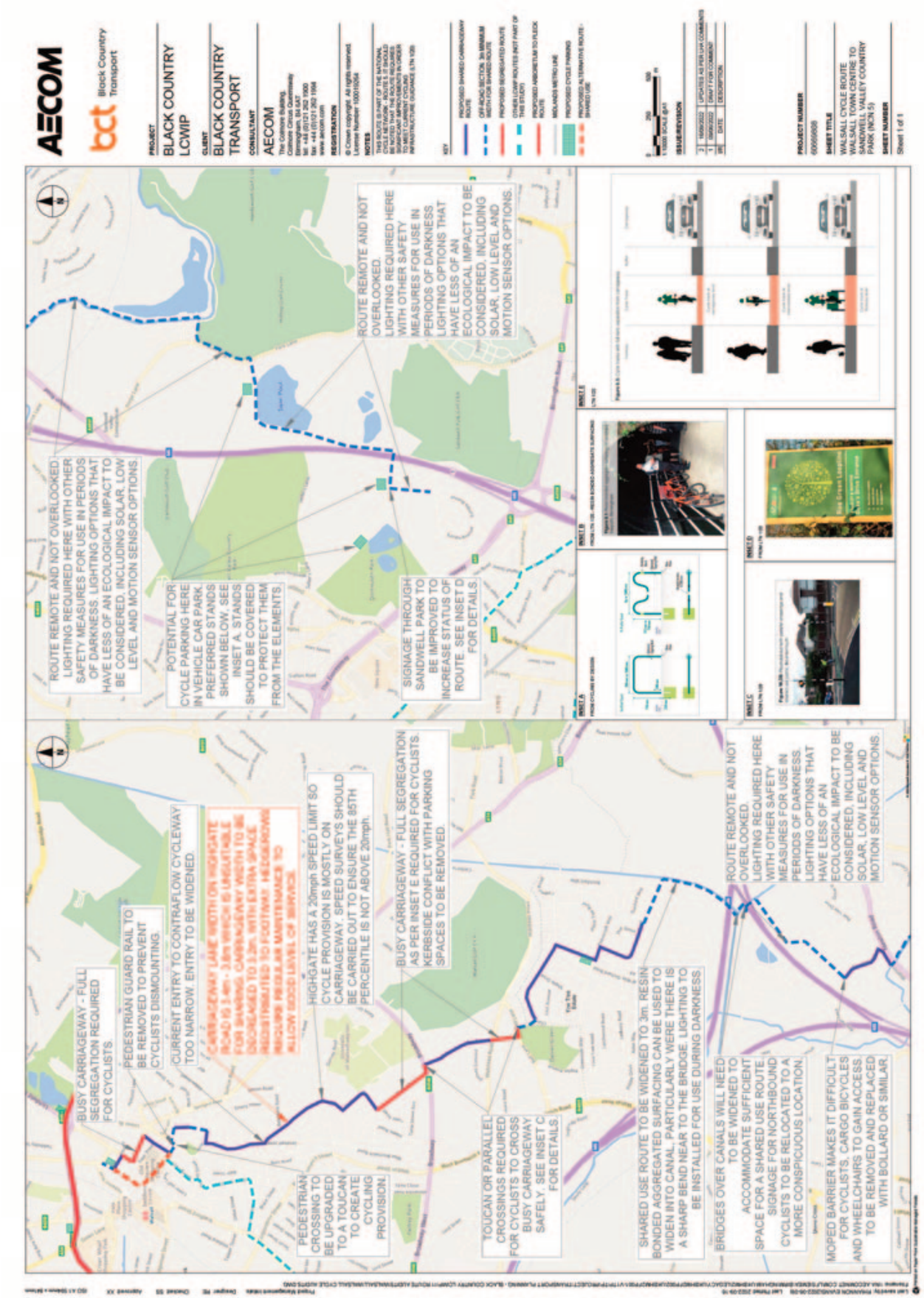

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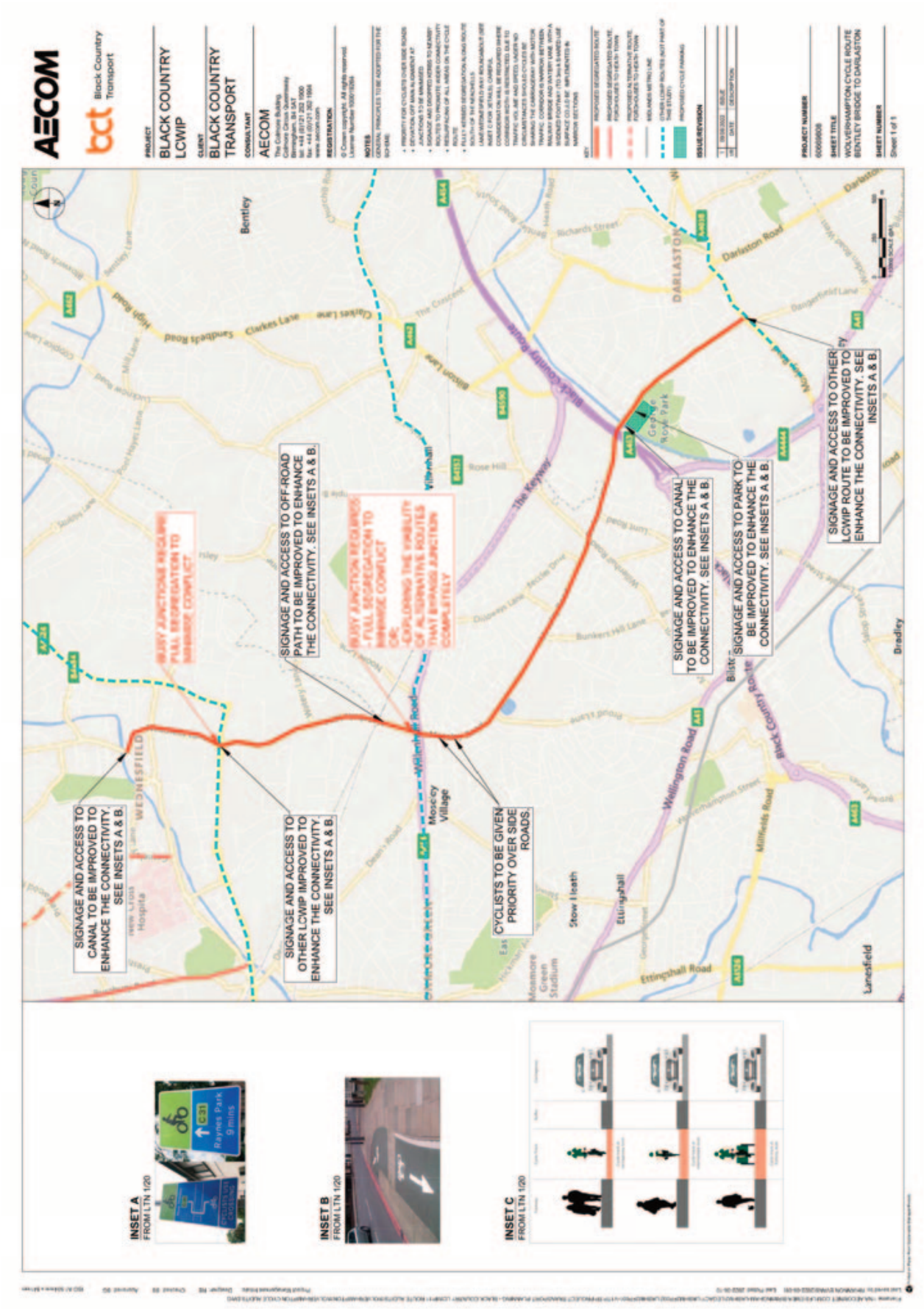

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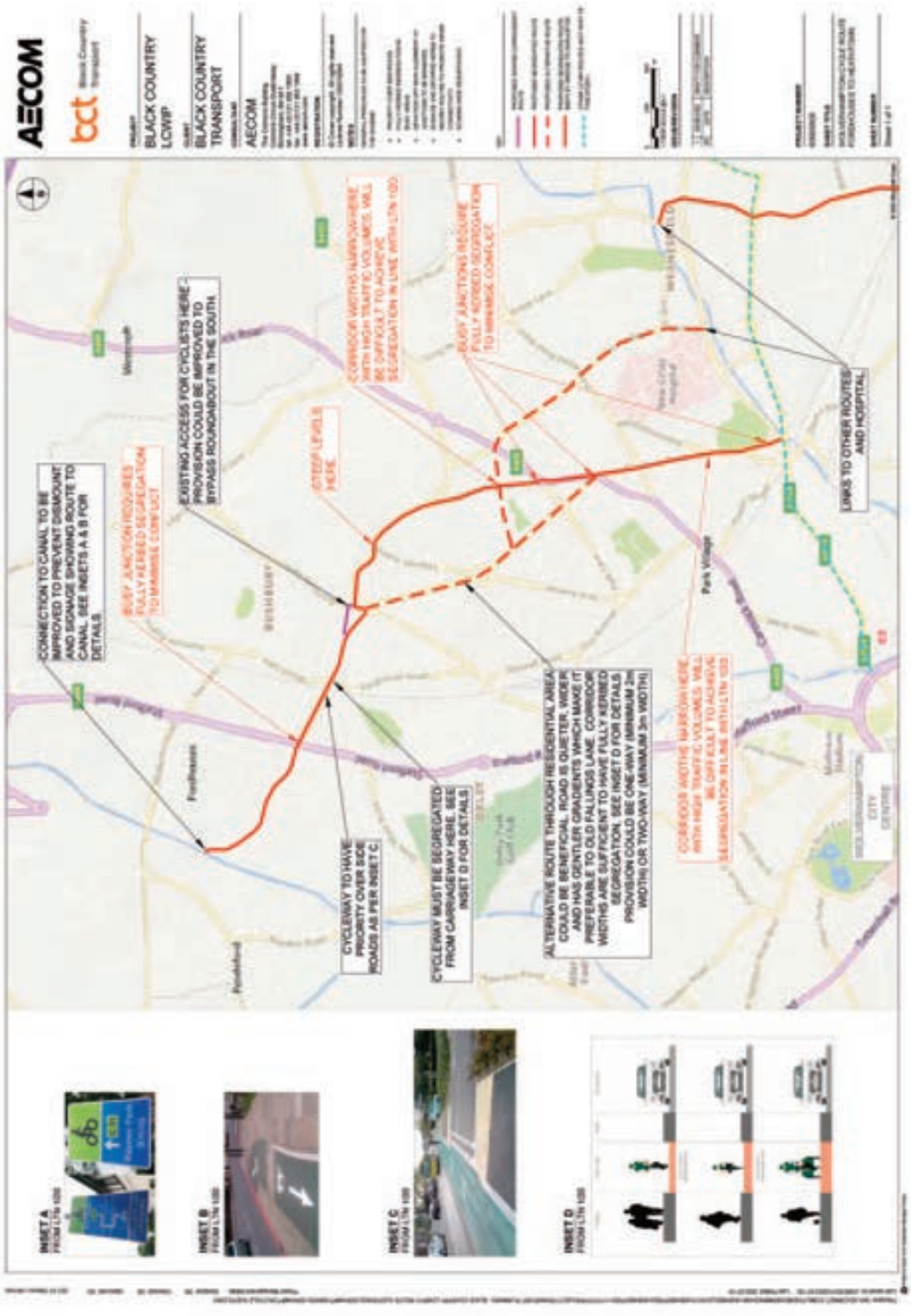
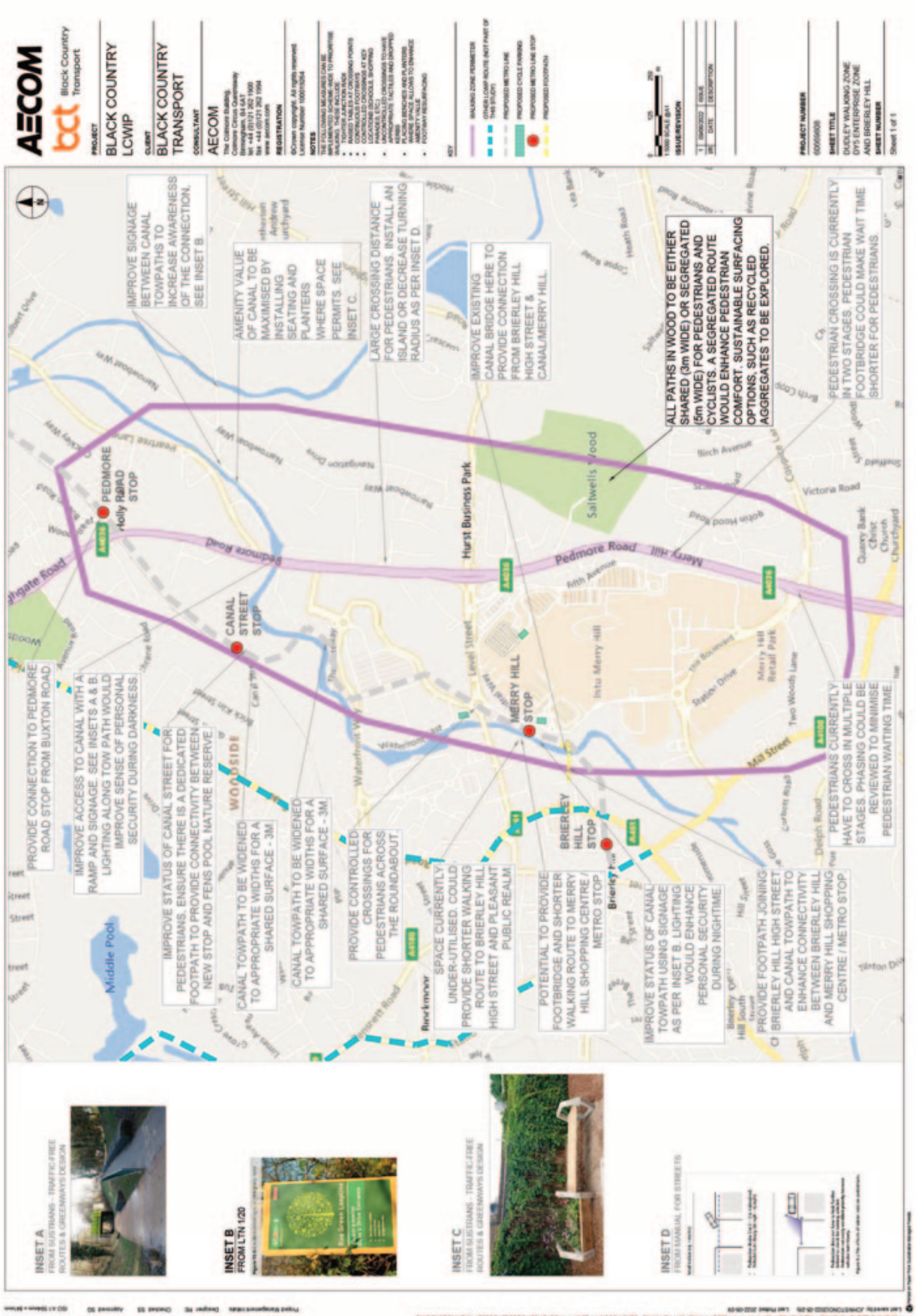


Appendix I: Walking Zone Scheme Plans



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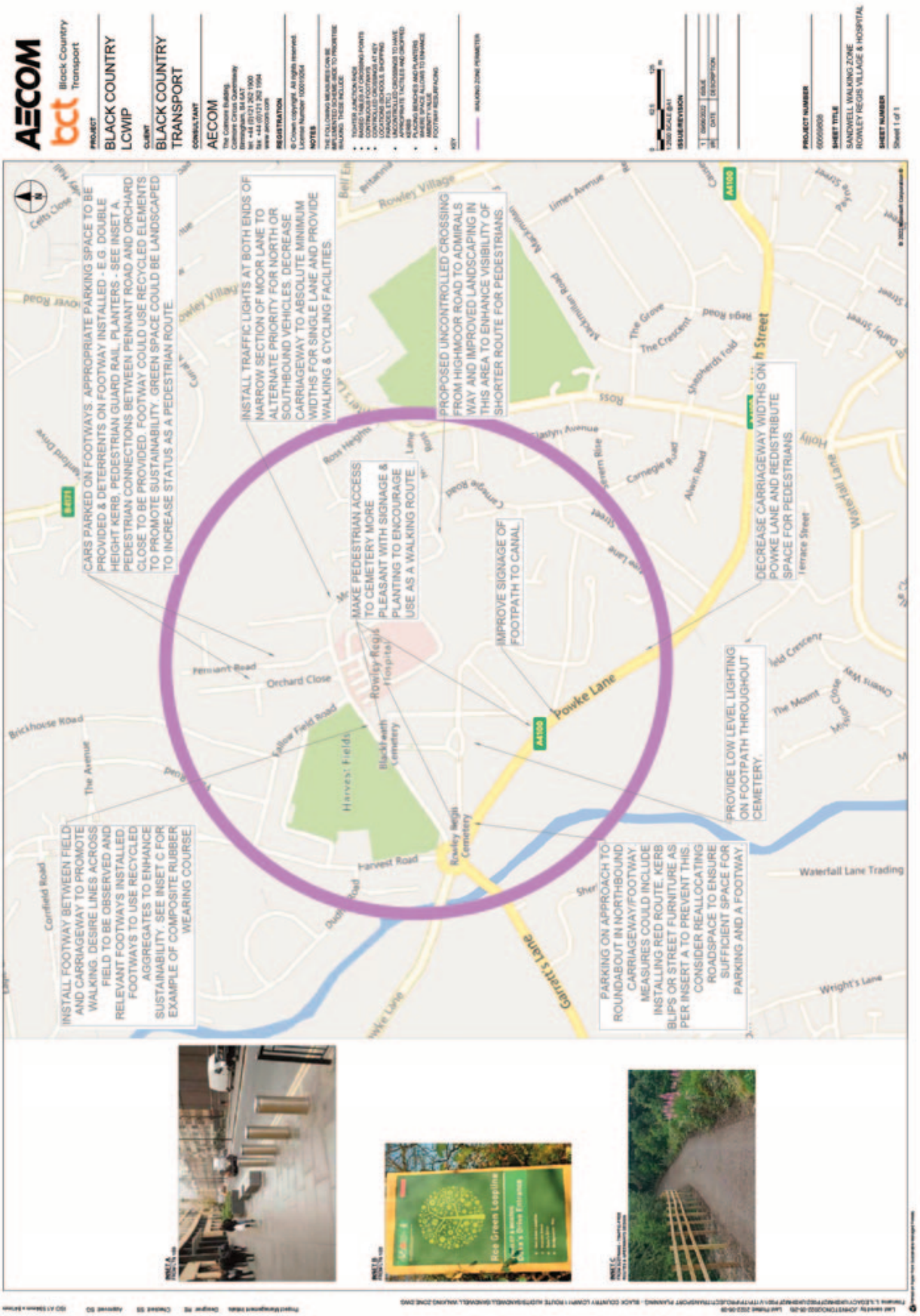

Appendix I: Walking Zone Scheme Plans

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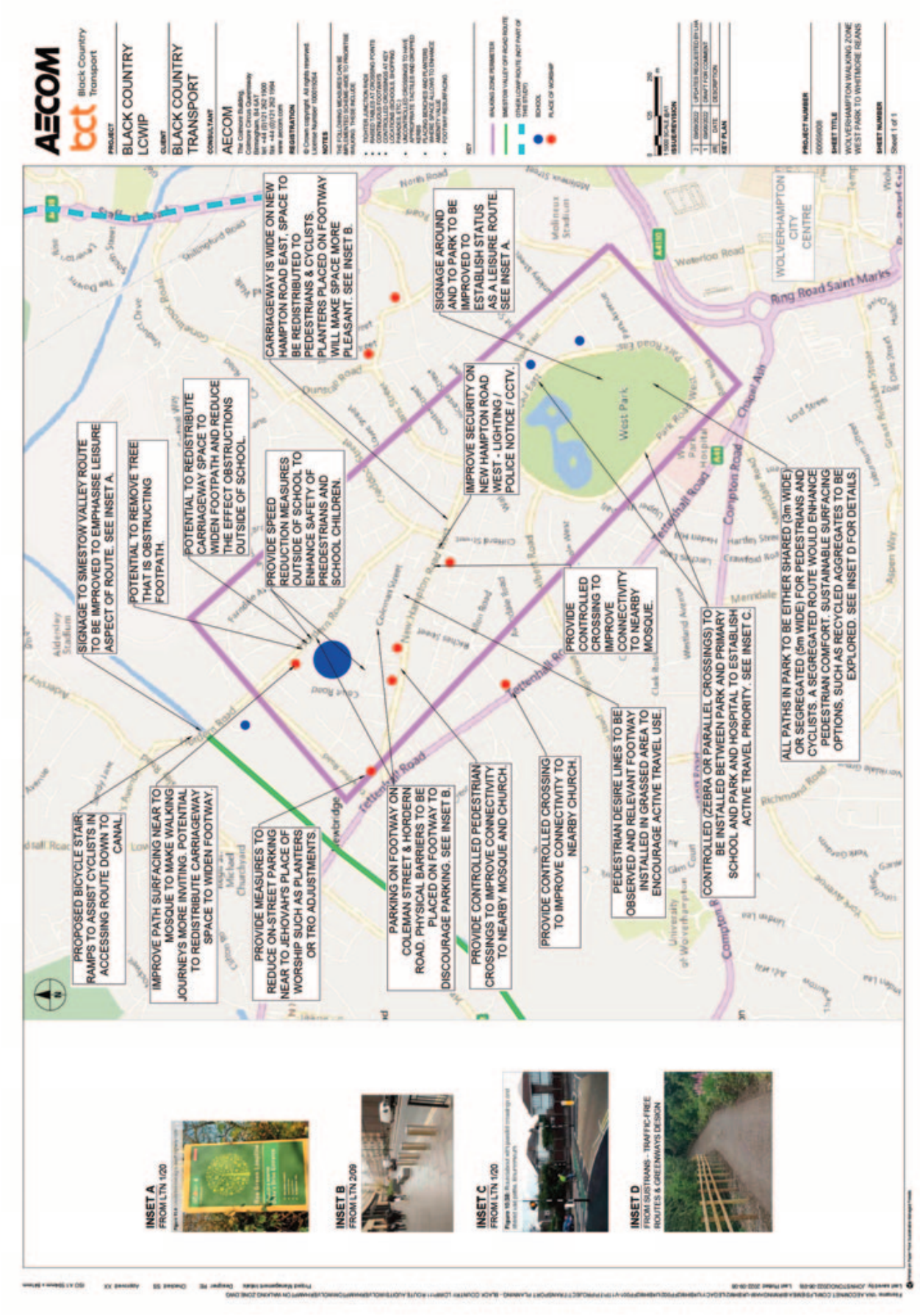

Appendix J: Cycle Routes / Walking Zones Cost Assumptions

Cycle Scheme Cost Assumptions

1. Costings have been derived from Typical Costs for Cycling Interventions in the first instance. Little detail is given about how these costings are built up - assumptions about this are shown below and excluded costs shown as additional items. Cycle storage has been added as extra onto each scheme.
2. Where appropriate costs are not available in TCCI, SPONS 2022 has been used to determine costs.
3. Inflation is derived from ONS - Construction Output Price Indices (OPIs) for New Works https://www.ons.gov.uk/businessindustryandtrade/constructionindustry/datasets/interimconstructionoutputpriceindices. Mar 2017 was 104.3, Mar 2022 was 125.2, with percentage increase of 20%.
4. No land take is anticipated in the project, so the costs do not include CPO costs. Land take will incur additional costs.
5. The optimism bias is 44% due to uplift for local roads - https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/576976/dft-optimism-bias-study.pdf.
6. The upper limit of the range has been used to estimate costs as a default.
7. Major drainage works (e.g., new pipes) have not been included. Installing new connections or changing levels for drainage levels are assumed to be in the main scheme type costs.
8. Major utility works have not been included (e.g., relocating major assets).
9. Works do not account for full carriageway construction. Any rebuild included in the works will incur extra costs.
10. Cycle parking hubs include security and changing facilities - provided in transport hubs or main commercial/transport centres.
11. Bridge widening is estimated at a value between new bridges and bridge improvements (New bridge: £1 - 5 million as per page 9, Bridge upgrades: £0.10 - £0.50 million per metre).
12. Site clearance and resurfacing costs are included within the cycle route type cost.
13. Cycle Stand - cost is from SPONS External Works and Landscape - page 142.
14. Bench - cost is from SPONS External Works and Landscape - page 142.
15. Planters used are street planters - cost is from SPONS 2022 External Works and Landscape - page 116 "Street Planter".
16. Cost for signage on cycling routes is total route length. Signage on walking routes is less comprehensive - provided as appropriate.

Appendix J: Cycle Routes / Walking Zones Cost Assumptions

17. Decrease side road radii - Cost used is Civic Town centre area of paved open space as it will turn carriageway into footway with amenities. Area represents the expected carriageway converted into footway. Diamond sawn Yorkshire paved. Page 48: £31,000 per 100m^2.
18. Only CAPEX costs have been included - revenue costs to encourage the population to use new measures will cost extra.
19. Some Traffic Management has been included, but if it occurs for an extended period of time and includes overnight working the cost will be inflated.
20. 20 mph zone works include signage, raised tables and other traffic calming measures.
21. Routes with lighting £460,000 per kilometre. This is added as extra, value from page 7 of TCCI.
22. Ramp access = £250,000 as per page 8 of TCCI. These are added as extra.

Appendix K: Prioritisation Spreadsheet

Cycle Routes

Description					Timescales	Effectiveness					Policy		Economic		Deliverability			Prioritisation
Scheme Name / Route	Scheme Description	Local Authority	Length (km)	Cost	Length of delivery	Increased trips	Directly benefits key target groups	Supports integration of the network	Improves Air Quality	KSI corridor	Delivers towards Local Plan policies	Delivers to improve public health objectives	Potential to attract funding	Cost Effectiveness	Environmental Constraints	Dependency on other schemesal Support	Stakeholder / Political Support	Total Score
A4101 Pensnett to Dudley Town Centre	Cycle superhighway and a mixed cycle route, remodel of major junctions and provision of cycle crossing facilities, cycle parking areas and comprehensive cycle route signage and A491 in to Himley.	Dudley	3.365	£18,887,962	2	3	3	3	0	1	1	1	1	2	3	3	2	25
Cradley Heath (SCWIP Route) to WM LCWIP Route	Whole length cycle superhighway and mixed strategic cycle route with remodelled major junction, cycle crossing at major road, cycle parking and route signage.	Sandwell	1.025	£5,462,736	3	2	3	1	0	1	1	1	1	2	1	3	2	22
Pleck to Arboretum	Whole length cycle superhighway and mixed strategic cycle route, remodelled major junctions, cycle crossing at major roads, cycle parking facilities, comprehensive cycle route signage.	Walsall	3.277	£15,609,619	2	2	3	3	0	1	1	1	1	2	1	3	2	22

Appendix K: Prioritisation Spreadsheet

Cycle Routes

Description					Timescales	Effectiveness					Policy		Economic		Deliverability			Prioritisation
Scheme Name / Route	Scheme Description	Local Authority	Length (km)	Cost	Length of delivery	Increased trips	Directly benefits key target groups	Supports integration of the network	Improves Air Quality	KSI corridor	Delivers towards Local Plan policies	Delivers to improve public health objectives	Potential to attract funding	Cost Effectiveness	Environmental Constraints	Dependency on other schemesal Support	Stakeholder / Political Support	Total Score
Smestow Valley Leisure Route	Whole length mixed strategic cycle route and whole low level lighting, widening of existing bridge, ramp access at three locations and comprehensive route signage.	Dudley	4.654	£9,864,461	2	2	2	3	0	0	1	1	0	3	2	3	2	21
Bentley Bridge to Darlaston	Whole length cycle superhighway, remodelled major junctions, comprehensive route signage, cycle parking facilities at various locations.	Wolverhampton	5.664	£20,250,317	1	3	3	1	1	0	1	1	1	1	1	3	2	21
Fordhouses to Heathtown	Entire length cycle superhighway and mixed strategic cycle route, remodelled major junctions and comprehensive route signage.	Wolverhampton	5.181	£24,761,366	1	2	2	2	0	0	1	1	1	1	2	3	2	18
Stone Cross to West Bromwich	Cycle superhighway and mixed strategic cycle route, remodelled major junction, re-surfaced cycle route, cycle crossing at major road, ramp access, parking facility and comprehensive cycle route signage	Sandwell	3.696	£18,376,027	1	2	2	2	0	1	1	1	1	1	2	1	2	17

Appendix K: Prioritisation Spreadsheet

Cycle Routes

Description					Timescales	Effectiveness						Policy		Economic		Deliverability			Prioritisation
Scheme Name / Route	Scheme Description	Local Authority	Length (km)	Cost	Length of delivery	Increased trips	Directly benefits key target groups	Supports integration of the network	Improves Air Quality	KSI corridor	Delivers towards Local Plan policies	Delivers to improve public health objectives	Potential to attract funding	Cost Effectiveness	Environmental Constraints	Dependency on other schemesal Support	Stakeholder / Political Support	Total Score
Walsall Town Centre to Sandwell Valley Park (NCN5)	Whole length cycle superhighway and mixed strategic cycle route, cycle crossing at major roads, various cycle parking facilities, widening of two existing bridges, low level lighting at two locations, comprehensive cycle route signage.	Walsall	11.396	£18,403,183	1	1	2	3	1	1	1	1	0	1	1	2	2	17
DY5 Enterprise Zone and Brierley Hill	Three mixed strategic cycle routes with benches, a new bridge and improvement of existing bridge, two cycle crossings at major roads, decrease side roads radii, ramp access, cycle parking facilities and comprehensive route signage	Dudley	2,049,705	£10,069,401	2	3	3	2	0	0	1	1	1	3	3	3	2	24
West Park to Whitmore Reans	Mixed strategic cycle routes, ramp access, resurfaced cycle route, benches and planters at various locations, controlled crossings, decrease side road radii at various locations, 20 mph zone, CCTV, comprehensive route signage, bollards and removal of trees	Wolverhampton	1,240,969	£5,722,908	2	3	3	1	0	1	1	1	1	3	3	3	2	24

Appendix K: Prioritisation Spreadsheet

Cycle Routes

Description					Timescales	Effectiveness					Policy		Economic		Deliverability			Prioritisation
Scheme Name / Route	Scheme Description	Local Authority	Length (km)	Cost	Length of delivery	Increased trips	Directly benefits key target groups	Supports integration of the network	Improves Air Quality	KSI corridor	Delivers towards Local Plan policies	Delivers to improve public health objectives	Potential to attract funding	Cost Effectiveness	Environmental Constraints	Dependency on other schemesal Support	Stakeholder / Political Support	Total Score
Leamore / Bloxwich / Blakenall Heath	Mixed strategic cycle route, resurfaced cycle route, planters, benches, controlled and uncontrolled crossings at various locations, one playground, removal of trees, various decreases to side road radii, CCTV at skateboard park, comprehensive route signage and cycle parking facilities.	Walsall	971,673	£1,165,518	2	2	3	1	0	1	1	1	1	3	1	3	2	21
Rowley Regis Village and Hospital	Four mixed strategic cycle routes, benches, planters, zebra crossing, decrease side road radii at various locations, low level lighting and comprehensive route signage.	Sandwell	478,281	£1,906,526	2	2	2	1	0	0	1	1	1	3	2	3	2	20