



Newark and Sherwood District Council

Newark and Sherwood District Active Travel Study

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Foreword

Newark and Sherwood District Council is happy to present its Active Travel Feasibility Report, adopted by Cabinet in November 2024 as a key piece of evidence when developing future planning policy, regeneration and active travel opportunities.

The report presents our local analysis of key data sources including: the “Propensity to cycle tool”; ‘Everyday Trip’ analysis; ‘Place’ analysis including proposed housing developments, air quality, severance and topography; and ‘People’ analysis including deprivation levels, car ownership rates, usage of public transport and walking/cycling, to identify an initial local list of 23 routes across the district.

The 23 routes have emerged from the data as those routes where physical infrastructure improvements are most likely to have a significant positive impact on the active travel network. They do not preclude other routes coming forward should these be identified for delivery.

Priorities have been presented along with their alignment the D2N2 Local Cycling and Walking Infrastructure Plan (including consideration of the priority walking zones and cycle network plan) and Nottinghamshire’s Delivery Plan, recognising Nottinghamshire County Council’s role as Highways Authority. For any route to be brought forward successfully, further work will be needed at a local level to examine the routes in detail, garner local insights and develop local support.

Physical infrastructure improvements identified within this report to improve the accessibility and safety of active travel routes, compliment the work undertaken by the council and partners to drive changes in attitudes and behaviours towards active travel including for example, its ‘Anti-Idling Campaign’, ‘Move More Newark and Sherwood’ and raising the profile of walking, wheeling and cycling.

We hope this report demonstrates our ambition to forward the active travel agenda in Newark and Sherwood and look forward to working with key partners in bringing forward an improved active travel infrastructure and embedding active travel in all future developments.

Cllr Susan Crosby

**Portfolio Holder for Health,
Wellbeing and Leisure**

Cllr Claire Penny

**Portfolio Holder for Sustainable Economic
Development**

I Executive Summary

PJA has produced this Active Travel Study on behalf of Newark and Sherwood District Council (NSDC). The Active Travel Study aims to inform future investments in active travel in the district, with the aim of increasing active travel mode share for shorter journeys to work, school and other everyday trips, improving access to leisure and recreational activity, and improving public health.

The study methodology is based on the Local Cycling and Walking Infrastructure Plan (LCWIP) approach, and includes analysis of background data, including existing travel patterns, and socio-economic indicators to identify areas where improvements to active travel may be most impactful. The study has also considered future population changes and taken into consideration the changes occurring in the District, including;

- The residential-led Middlebeck urban extension, which will consist of up to 3,150 homes and 49 hectares of commercial land in the south of Newark
- The construction of the Newark Southern Link Road (SLR) between the A1 and A46, serving the Middlebeck urban extension.
- The ongoing redevelopment of the former Thoresby Colliery in Edwinstowe, creating a primarily residential neighbourhood of up to 800 homes, significantly expanding the footprint of the village.
- The proposed regeneration of Ollerton Town Centre
- Redevelopment of the Clipstone Colliery site including residential and recreational facilities.

The study also considers connections beyond the district boundary towards Mansfield.

The Propensity to Cycle Tool (PCT) and a bespoke 'Everyday Trips' Analysis has provided an indication of the likely desire lines for active travel, based on population origins and destinations.

Together with stakeholder engagement through a Project Team including NSDC Officers, Nottinghamshire County Council, Sustrans, Active Notts, Active4Today, NHS Notts, Nottingham Disabled People's Movement, and the Canal and River Trust, an indicative network of active travel improvement was developed.

The focus areas for improvement are centred on;

- The Sherwood towns of Ollerton and Edwinstowe, and the connections between these areas and the employment opportunities in Mansfield, and leisure facilities in Sherwood Forest and Sherwood Pines.

- The areas to the south of Newark town centre that are currently undergoing significant development.

In agreement with NSDC, the study does not consider active travel in Newark town centre itself, as this is being progressed as part of the Newark Town Centre Masterplan work.

The draft network was audited by the PJA team using the DfT Walking Route Assessment Tool and Cycling Route Selection Tool, and with reference to LTN 1/20 guidance, a number of improvements have been proposed, including;

- Stronger east-west links between Ollerton and Edwinstowe – especially for school travel and links to retail and employment opportunities.
- Greenway links especially around the Sherwood area aim to provide improved active travel connections for leisure activities, particularly linking Ollerton and Edwinstowe to the Sherwood Pines area – reducing the need for people to drive to the forest.
- Improved connections to the popular Southwell Trail, especially from Newark, via a new bridge connection over the River Trent at Farndon. This link would also significantly benefit access to the Staythorpe Power Station from Newark, allowing workers to use a much more direct route from residential areas south of Newark.
- Improved orbital connections around the south of Newark, linking key amenities, schools and providing for short local journeys.
- Improvements of radial routes to the south of Newark, particularly Farndon Road and London Road, bringing cycle infrastructure up to a higher standard. A new bridge over the A1 to link to the Fernwood development would reduce severance and bring the local amenities of Balderton within easier reach of Fernwood residents.

Further public engagement was undertaken on the key priorities for active travel in Newark and Sherwood through a public survey undertaken in February 2024. The outcomes of this survey were used to validate the study proposals.

Prioritisation of the proposed improvements has been considered, considering a number of criteria that will influence the effectiveness, policy alignment and deliverability of the proposals.

2 Introduction

2.1 Introduction to the study

PJA has produced this Active Travel Study for Newark and Sherwood on behalf of Newark and Sherwood District Council (NSDC). The Active Travel Study seeks to inform future development of a cycling and walking network in the district, to improve key links to schools, employment areas and leisure/recreational areas. The study provides an evidence-based network plan that takes into account existing desire lines as well as future travel demand arising from residential developments, such as Thoresby Vale in Edwinstowe, and Middlebeck in Newark. The network plan also aims to complement other works in the district, such as the Newark Town Centre Masterplan and regeneration works in Ollerton Town Centre and the former Clipstone Colliery.

With agreement from NSDC, this study has been developed using a methodology based on the LCWIP (Local Cycling and Walking Infrastructure Plan) approach. This is an established Department for Transport and Active Travel England methodology that ensures there is a robust evidence base to ultimately inform the future walking and cycling network. The LCWIP process involves:

- Scoping
- Data collection and analysis, including the use of:
 - Propensity to cycle tool (PCT)
 - ‘Everyday Trip’ analysis
 - ‘Place’ analysis, e.g. proposed development, severance, topography
 - ‘People’ analysis, e.g. deprivation levels, car ownership rates, usage of public transport and walking/cycling
- Network development and site auditing, including:
 - Identifying key walking routes and core walking zones
 - Identifying opportunities for cycling links between residential and leisure areas, particularly Sherwood Forest and Sherwood Pines/Vicar Water Country Park (and the redevelopment of the area around Clipstone Headstocks)
 - Identifying routes primarily for utility cycling (e.g. commuting or school trips), particularly in Newark and Ollerton, with a focus on linking to schools and employment sites, such as the Dukeries Academy and Boughton Industrial Estate.
 - Route audits using the Route Selection Tool (RST) and Walking Route Assessment Tool (WRAT)
 - An outline of the proposed interventions to deliver the walking and cycling networks
 - High-level cost estimates

- Engagement with stakeholders during the project development to review the analysis and network proposals to ensure the plan is informed by local knowledge and aligns with local priorities

2.2 Report structure

The report reviews relevant local, regional and national policy, with the key points being summarised before the start of the LCWIP based section that provides the key evidence base and presents the proposed network. Following this, the report concludes with a recommended approach for the overall delivery of the walking and cycling networks. Proposals are included in a Design Recommendations booklet (Appendix C).

3 Study Context

3.1 National Policy Context

3.1.1 Cycling and Walking Investment Strategies

The Government's Cycling and Walking Investment Strategy (CWIS1) was published in 2017 and contained the following objectives:

- Increase the percentage of short journeys in towns and cities that are walked or cycled from 41% in 2018 to 2019 to 46% in 2025;
- Increase walking activity, where walking activity is measured as the total number of walking stages per person per year, to 365 stages per person per year in 2025;
- Double cycling, where cycling activity is measured as the estimated total number of cycling stages made each year, from 0.8 billion stages in 2013 to 1.6 billion stages in 2025
- Increase the percentage of children aged 5 to 10 who usually walk to school from 49% in 2014 to 55% in 2025

CWIS2 (2023) articulated this ambition by incorporating Gear Change, which outlines four themes developed by the Government that need to be taken into consideration in order to achieve a modal shift towards walking and cycling. These themes are:

- Better streets for cycling and people;
- Cycling at the heart of decision-making;
- Empowering and encouraging Local Authorities; and
- Enabling people to cycle and protecting them when they do.

The policy document sets out the vision for England being a walking and cycling nation and explores the important benefits of increasing cycling and walking such as; challenging societal issues including air quality, combating climate change, improving health and wellbeing, addressing inequalities, and tackling congestion.

The policy stresses the need for high quality cycle infrastructure in order to encourage mode shift towards cycling. It emphasises the need for a connected cycle network, and for it to be easy to use for people of all ages and abilities.

3.1.2 Gear Change and LTN 1/20 (2020)

The national policy context for active travel changed significantly in 2020 with the Department for Transport’s (DfT) publication of ‘Gear Change’ and the accompanying Local Transport Note 1/20 ‘Cycle Infrastructure Design’. These two documents outline significant changes for the future of transport planning and design in the UK and the prioritisation of measures that encourage increased levels of walking and cycling.



Gear Change

The Cycling and Walking Plan for England, ‘Gear Change: a bold vision for cycling and walking’, was published on 27 July 2020. The plan sets out the government’s shift in transport policy: to prioritise active travel over single-occupancy private vehicles.

The plan set the following vision:

“Places will be truly walkable. A travel revolution in our streets, towns and communities will have made cycling a mass form of transit. Cycling and walking will be the natural first choice for many journeys with half of all journeys in towns and cities being cycled or walked by 2030.”

The plan recognises the need to take action to tackle the barriers to active travel, providing better quality infrastructure to make sure people feel safe and confident cycling. To receive government funding for local highways investment where the main element is not cycling or walking improvements, there will be a presumption that all new schemes will deliver or improve cycling infrastructure to the new standards unless it can be shown that there is little or no need for cycling.

The plan also recognises the need to reduce rat-running on residential side streets through more low traffic neighbourhoods (LTNs) as well and creating cycle, bus and walking corridors by closing a limited number of main roads to through traffic except for buses and access.

LTN 1/20 – Cycle Infrastructure Design

The Cycle Infrastructure Design Guidance – Local Transport Note 1/20 – establishes much higher standards for cycling infrastructure, including geometric requirements.

Rather than a strict set of standards or a “one size fits all” approach, LTN 1/20 encourages designers to consider the context when designing cycling infrastructure. For example, it identifies what level of protection from motor traffic is appropriate based on the speed and volume of traffic, noting these are not fixed. For example, it makes specific reference to physical and legal measures to control access and motor vehicles’ speeds, and notes that such measures can bring wider environmental benefits by reducing noise, air pollution and traffic danger. It notes:

“Encouraging through-traffic to use main roads can provide benefits for pedestrians and residents, particularly children and vulnerable adults, as well as enabling cycling. This can be achieved through implementing measures such as turning bans, one-way streets, and by modal filtering ... These measures also have the benefit of making short journeys quicker on foot or cycle compared to driving, providing a disincentive to using a car for short trips.”

3.1.3 **Local Cycling and Walking Infrastructure Plans (LCWIP’s) (2017)**

LCWIPs were first set out in the government’s Cycling and Walking Investment Strategy (CWIS). LCWIPs are intended to provide local authorities with a long-term approach for developing walking and cycling networks, ideally over a ten-year period. The development of an LCWIP should include desktop analysis of existing and future behavioural trends, site auditing of existing conditions for walking and cycling, and prioritisation of recommended design measures. The key outputs from an LCWIP are:

Network Plan for Walking and Cycling identifying preferred cycling routes and walking zones for development;

- Programme of prioritised infrastructure improvements; and

- Report summarising the work undertaken to inform the LCWIP network development.

The DfT's LCWIP guidance provides a recommended approach to developing LCWIPs. However, their intention is that LCWIPs respond to local conditions and requirements to improve walking and cycling networks.

PJA have also been involved in the refresh of the LCWIP guidance which is yet to be published. Where applicable we have taken identified best practice on developing rural networks in order to identify routes that are not just centred on the key urban areas.

3.2 Local Policy Context

This section provides a summary of the local and regional policy context and the key points in relation to this Plan.

3.2.1 D2N2 LCWIP (2021)

Covering the D2N2 area of Derby, Derbyshire, Nottingham and Nottinghamshire, the Local Cycling and Walking Infrastructure Plan (LCWIP) builds on previous cycling and walking work to help improve conditions for active travel in the area, including through the provision of new routes.

The LCWIP found that many of the former pit towns in the study area - including those in Newark and Sherwood - are potential markets for utility walking and cycling, being compact urban areas with day-to-day facilities generally within easy reach on foot or cycle. Figure 3-1 shows the rural priority areas for the region, with leisure cycling opportunities around Sherwood highlighted as a priority.

Market towns like Southwell are also identified as markets for walking and cycling, with more leisure and tourism opportunities.

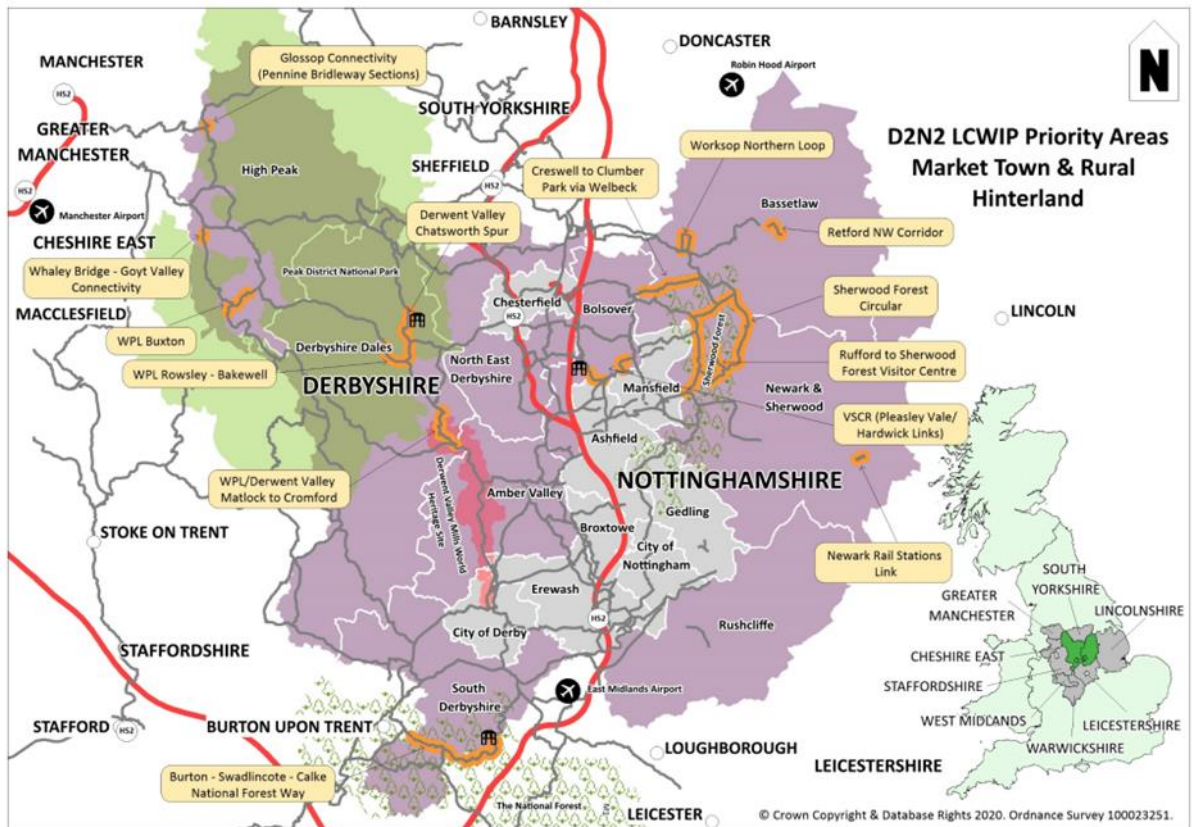


Figure 3-1: D2N2 LCWIP Priority Areas – Market Town and Rural Hinterland

The LCWIP identifies a network of strategic routes across the region, and a series of Core Walking Zones. These core walking zones – shown in Figure 3-2 - are identified in Newark, Balderton, Southwell, Edwinstowe, Ollerton and Boughton, but are not defined in detail. Short term priority corridors include Sherwood Forest Circular route, and Sherwood Forest Visitor Centre to Rufford Country Park are also identified.

Given its geographic scope, the D2N2 LCWIP has provided high level propositions, but an outline cycle network plan has been developed by Nottinghamshire - see Figure 3-3. This adds more detail on the proposed routes for Nottinghamshire, and gives an indication of potential funding opportunities. This active travel strategy refreshes and refines the analysis and provides a greater level of detail on network plans in Newark and the north-western area of the district that encompasses the various woodlands and country parks as well as several former mining settlements such as Ollerton, Edwinstowe and Clipstone.

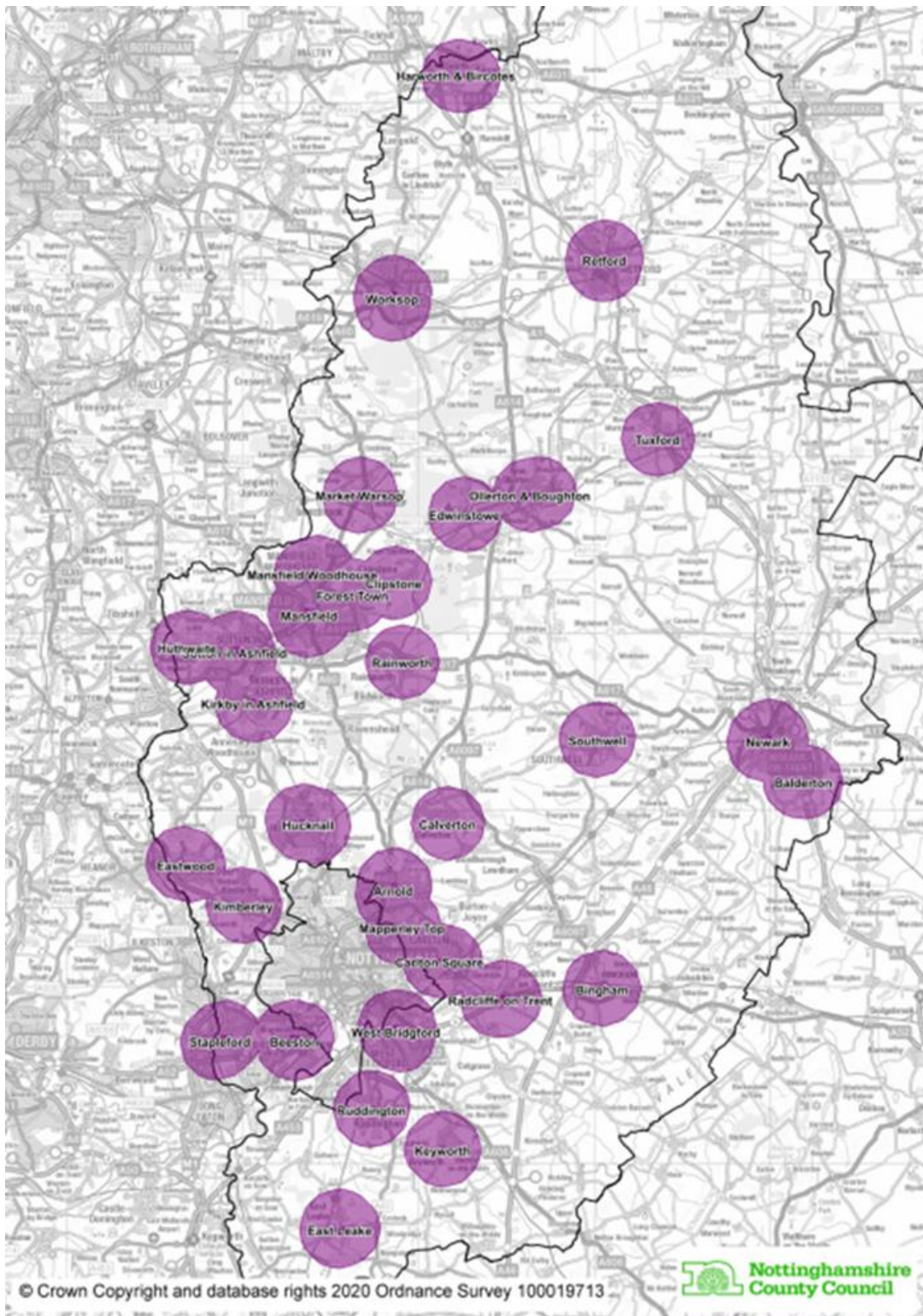


Figure 3-2: D2N2 LCWIP Nottinghamshire Priority Town Centre Walking Zones

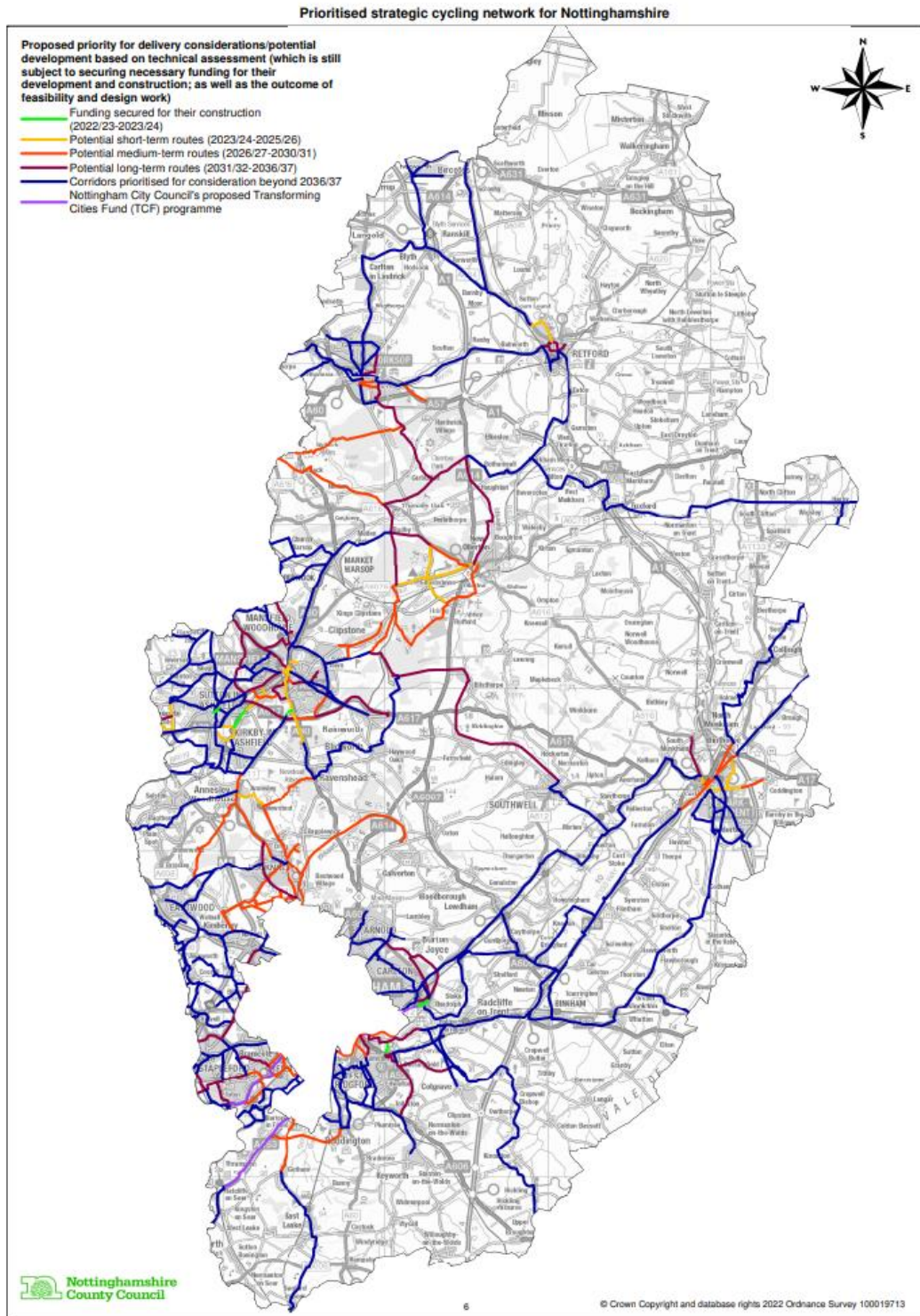


Figure 3-3: D2N2 cycle network plan (Nottinghamshire)

3.2.2 Nottinghamshire Local Transport Plan (2011-2026)

The aims of the Nottinghamshire Local Transport Plan (LTP) were to:

- Provide a reliable, resilient transport system which supports a thriving economy and growth whilst encouraging sustainable and healthy travel
- Improve access to key services, particularly enabling employment and training opportunities
- Minimise the impacts of transport on people's lives, maximise opportunities to improve the environment and help tackle carbon emissions.

The LTP outlined the role active travel can play in improving activity levels among the Nottinghamshire population, as well as contributing to modal shift and carbon emission reduction. The need to make more destinations accessible by active travel modes was highlighted as a key priority.

Measures to enable improvement in the levels of active travel included:

- Improvements to footway quality, footway and cycle route maintenance
- New and improved footways and cycleways and crossings, including reallocation of road space for active travel, integration with public transport and secure cycle parking.
- Travel planning to support other improvements, especially in new developments.

3.2.3 Nottinghamshire Cycling Strategy Delivery Plan (2016)

The Nottinghamshire Cycling Delivery Plan provides more detail on how the cycling aspects of the Local Transport Plan will be delivered. The plan outlines the approach across several themes;

- Raise awareness of all aspects of cycling throughout the Council
- Develop and provide a prioritised high quality, joined up, safe, well connected cycle network
- Encourage more people to cycle more often
- Cycling safety
- Ensure that the needs of cyclists are considered in all new and improved highway infrastructure schemes
- Provide for the integration of cycling with other longer distance passenger transport modes
- Maintenance, repair and upgrade of existing cycle routes and other cycling facilities
- Secure and allocate funding for cycling improvements within Nottinghamshire

These themes align with the wider LTP and sets a series of actions to improve infrastructure, along with ‘softer’ supporting measures to improve conditions for cycling.

3.2.4 Bus Service Improvement Plan for Nottinghamshire (2023)

The BSIP for Nottinghamshire outlines how Nottinghamshire will aim to deliver the ambitions set out in the National Bus Strategy. The BSIP sets the intention to pursue an Enhanced Partnership Scheme with bus operators, with the vision, aim and objectives below;

Vision:
Buses in Nottinghamshire to be a mode of choice for many travel needs, having a positive impact on people’s lives and the places they live.

Overall aim:
To build a sustainable, efficient, and growing bus network that meets peoples travel needs and expectations.

Objectives:

1. Customer-informed approach to bus service provision to provide a comprehensive, simple network that is easy to understand and use.
2. Provide robust measures and infrastructure to support bus efficiency, reliability and improve journey times by bus, making the bus an attractive proposition compared to the car.
3. Provide a network which is affordable and offers good value for money.
4. Develop a network which is integrated and offers more opportunities to travel for more residents of Nottinghamshire to access work, education, health, and leisure destinations.
5. Provide a network and associated infrastructure which is attractive, comfortable, safe, and accessible to all.
6. Work with partners to provide a coordinated approach to bus service delivery.
7. Grow patronage and improve passenger satisfaction
8. Contribute to the council and government’s ambitions for decarbonisation and improving local air quality.
9. Contribute towards the governments ‘Levelling up’ agenda.

Figure 3-4: Nottinghamshire BSIP vision, aim and objectives

The existing bus network in Newark and Sherwood is relatively sparse, with high frequency services confined to the south of Newark, and between Nottingham and Southwell (serving the NTU Brackenhurst Campus), with evening bus services largely confined to this student route.

The BSIP estimates that 64% of the Nottinghamshire wide population has access to an hourly or more frequent bus service in the AM peak.

The integration of the bus network with other modes is one of the objectives of the BSIP, with a focus on active travel connections for last mile journeys, cycle parking, and piloting of bus/bike services, with two bus vehicles adapted to carry bikes on routes serving Sherwood Forest.

The development of Rural Mobility Hubs, including one in Ollerton, will seek to provide integration with other modes in rural areas.

Demand Responsive Transport (DRT) services are utilised between Ollerton and Newark (serving the largely rural centre of the district) as the South Ollerton Zone. A North Ollerton Zone also provides links from Ollerton to Tuxford, Retford, Gainsborough, and the rural areas between.

3.2.5 Core Strategy – (March 2019)

The Newark and Sherwood Plan Review is the Adopted Development Plan for the District, setting out the spatial policy for the period to 2033.

The Core Strategy contains a vision for the area, which includes the encouragement of non-car travel, and for facilities in rural villages to be accessible. Safeguarding and enhancement of green spaces and woodland for the purposes of health and personal wellbeing is also included.

Core Strategy Objective 9 is;

To retain and improve accessibility for all, to employment, services, community, leisure and cultural activities, through:

- the integration of development and transport provision, ensuring that most new development will be located where it is accessible to use services and facilities by a range of means of transport;
- the retention and upgrading of existing infrastructure, services and facilities relating to transport and communications; and
- encouraging the increased use of public transport, walking and cycling.

Area based objectives cover a range of considerations, including promotion of sustainable growth in existing urban areas, and promotion of tourism in a way that safeguards the sensitive environmental and ecological areas and allows enjoyment of the district's celebrated historic built and natural environments.

Relevant policies:

- SP7 – Optimise the percentage of households within 40 minutes public transport time of a GP, Hospital, Primary School, Secondary School, Employment and Major Retail Centre.
- CP11 – Optimise accessibility to services in rural areas. Minimise loss of existing community facilities
- NAP1 – Increase the vitality and viability of Newark Town Centre through supporting the implementation of improved infrastructure – including for walking and cycling – and support the implementation of strategic highway schemes and local road junction improvements.
- ShAP1 – Production of a Regional Park Strategy and Action Plan (for Sherwood Forest). Increase tourism and recreation facilities in the Sherwood Area.
- ShAP2 – Highlights role of Ollerton and Boughton in providing new housing. Aims to decrease traffic congestion and improve public transport
- ShAP3 – Highlights the role of Edwinstowe in providing new housing. Aims to decrease traffic congestion and improve public transport.

Strategic Sites:

- NAP2A – Land South of Newark – 3,150 dwellings
- NAP2B – Land East of Newark – 1,000 dwellings
- NAP2C – Land around Fernwood – 3,200 dwellings
- ShAP4 – Land at Thoresby Colliery – 800 dwellings

The Infrastructure Delivery Plan sets out the strategic highway infrastructure improvements that are required to support development in the district.

The Amended Allocations and Development Management Plan (2023, currently submitted for inspection) outlines the importance of the Northgate Station Policy Area (Policy NUA/TR/1) including the role of the site north of the station as a gateway, the need for improved linkages between this area and the town centre, and the need for measures to improve walking and cycling to the station. The document also introduces a new policy DM13 Regeneration Programmes and Schemes, which would support regeneration proposals in Newark town centre and the wider district.

3.2.6 Newark and Sherwood Visitor Economy Strategy 2020-2023

3.2.7 The visitor economy is crucial to Newark and Sherwood, with the 2019 (pre-Covid) visitor spend amounting to £298.32 million, comprising:

- Domestic day visitors: £153.50 million (+4.7% on 2018)

- Overnight visitors: £144.83 million (+7.4% on 2018)

The number of visitors to the district totalled 4.5 million in 2019, with Sherwood Forest being a major draw. The visitor economy strategy found that perceptions of the district are broadly positive with strong perceptions that Newark and Sherwood is an easy place to get to.

3.2.8 Destination Management Plans (DMP's)

3.2.9 Destination Management Plans have been produced for Newark, Southwell and Sherwood Forest. Relevant points from the DMP's are outlined below.

3.2.10 Sherwood Forest DMP (2019):

- Develop the destination brand and profile
- Develop the area's narrative in the legend of Robin Hood and its setting
- Effect a Forest Corner master planning project to produce a range of options for the development of the visitor product offer, including NSDC-controlled assets and linkages with Edwinstowe
- Seek accommodation providers to invest in the area
- Disperse Sherwood Forest visitors to other visitor destinations in the area

Newark DMP (2017):

- Develop a broader visitor offer including the overnight offer
- Seek accommodation providers to invest in the town
- Improve infrastructure including visitor welcome and signage

Southwell DMP (2018):

- Develop the destination brand and profile
- Seek accommodation providers to invest in the town

Destination development:

Building on the DMP's, the Newark and Sherwood Visitor Economy Strategy outlines the proposals for 'destination development'. The aims of the proposals are listed below.

Southwell:

- Clear and consistent visitor signage and improved links with the NTU Brackenhurst Campus
- Improved visitor accommodation options and more night-time food and drink choices to complement the daytime uses.

Newark:

- Improved visitor accommodation options (particularly for group travel operators) and more night-time food and drink choices to complement the daytime uses.
- Better use of existing assets such as the Market Place and Riverside Park
- A clear visitor gateway to the town

Sherwood Forest:

- Improve the visitor offer and experience at Forest Corner
- To protect, manage and enhance national and international habitat and landscape designations
- To provide for better linkages, wayfinding and dispersal to Edwinstowe village and multiple tourism offers beyond.

In and around Sherwood Forest, several specific improvements include transport elements, listed below:

- Movements, access and linkages including vehicular, public transport, cycling, walking, bridleway routes and visitor orientation
- Pedestrianizing all, or parts, of Forest Corner and providing appropriate alternative vehicular access(es)
- Rationalising visitor/shopper/staff car parking facilities, restrictions and charges at Forest Corner
- Provision of visitor information, wayfinding and orientation services for Sherwood Forest at Forest Corner
- Designing in the need to minimise impacts of visitors on nature
- conservation designations immediately adjacent to Forest Corner including the
- necessary screening, discouragement of movements, and/or management of visitors
- Lobbying for improved public transport provision throughout the area including a Robin Hood railway line extension and increased Sherwood Arrow bus services
- Review of brown tourism signage across the area

There is a separate Masterplan under development for Forest Corner, which will seek to improve the sense of arrival and destination at Forest Corner, and provide better connectivity to High Street.

3.2.11 **Community Plan (2020-2023):**

The Newark and Sherwood District Council (NSDC) Community Plan covers a broad range of topics, and includes objectives to:

- Create vibrant and self-sufficient local communities where residents look out for each other and actively contribute to the local area
- Deliver inclusive and sustainable economic growth
- Create more and better quality homes through our roles as landlord, developer and planning authority
- Continue to maintain the high standard of cleanliness and appearance of the local environment
- Enhance and protect the district's natural environment Including reducing car usage and getting more people walking and cycling
- Reduce crime and anti-social behaviour, and increase feelings of safety in our communities
- Improve the health and wellbeing of local residents

3.2.12 **Economic Growth Strategy (2021-2026):**

The Economic Growth Strategy is largely focussed on COVID recovery, and supporting Town Centres, focussing especially on Newark. The strategy identifies key economic growth performance indicators such as increases in footfall, visitor spending, job density, brownfield land reclaimed, and training places created. These indicators will be monitor them to evaluate success moving forward.

3.2.13 **Green Infrastructure Strategy (2010):**

The strategy identifies the need for a network of Strategic Routes – shown in Figure 3-5, including multi-user routes (MUR). Priority routes between Newark to Southwell, Southwell to Rainworth and Southwell to Rufford/Ollerton and Boughton are identified as key links for transport and access to visitor areas. While the document is over 10 years old, the rationale for the key routes remains relevant.

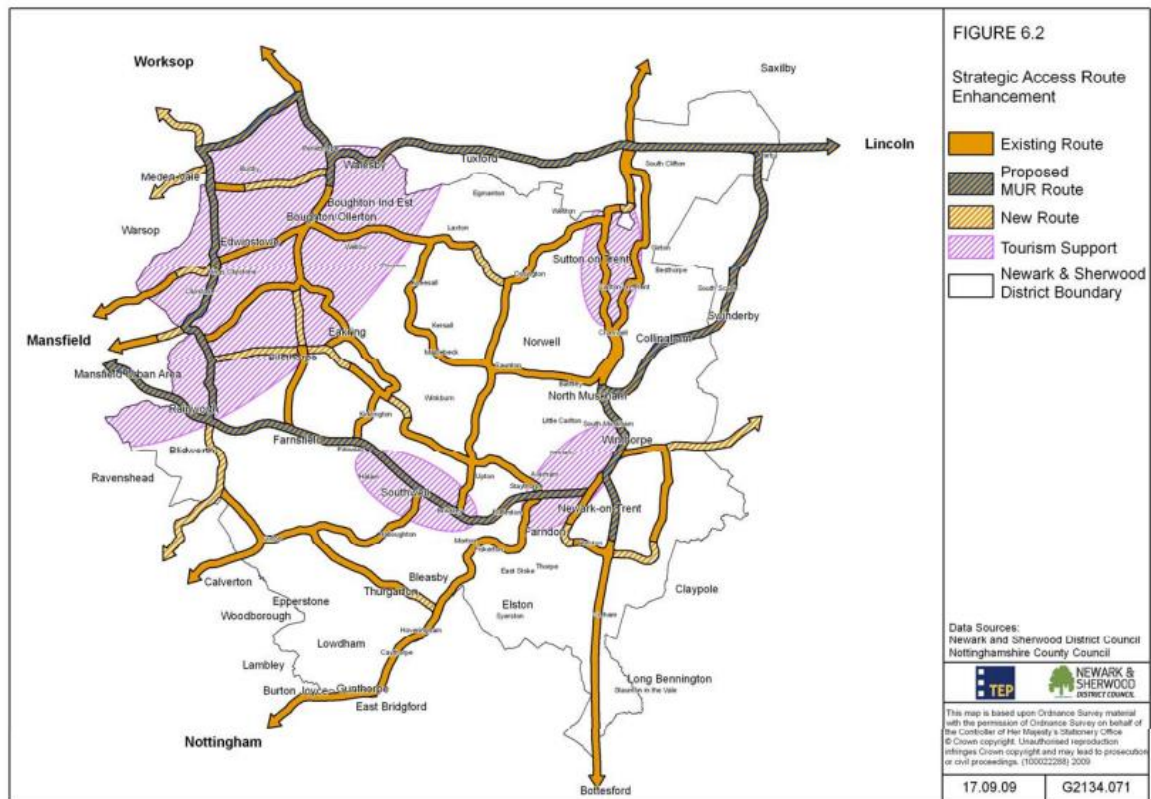


Figure 3-5: Green Infrastructure Strategy: Proposed Strategic Access Route Enhancements

3.2.14 Open Space Assessment and Strategy (2022)

The Strategy considers the availability and quality of open space in settlements across the district, and proximity to different types of green space, from local parks and gardens to larger natural spaces. The proximity of Sherwood Forest to many towns and villages in the district means that access to natural green space is generally very good in this area. Accessibility is only considered in terms of absolute distances, specific routes. However considerations relating to different modes of transportation are not made in the strategy.

3.2.15 Health and Wellbeing – Active Notts

Sport England define physical inactivity as having less than 30 minutes of moderate physical activity per week. Active Notts produce a report on physical activity/inactivity each year in Nottingham and Nottinghamshire, using Sport England data.

In Newark and Sherwood, 25.1% of people are physically inactive as of 2021/2022. Physical inactivity has slightly increased, from 24.6% to 25.1% since 2015/2016. This is largely in line with the national figure, which is 25.8%.

Nearly half of children and young people across Nottinghamshire do not meet the recommended levels of physical activity, though physical inactivity rates are lower in Newark and Sherwood than the Nottinghamshire average, and significantly lower than the English average.

Activity levels November 21-22

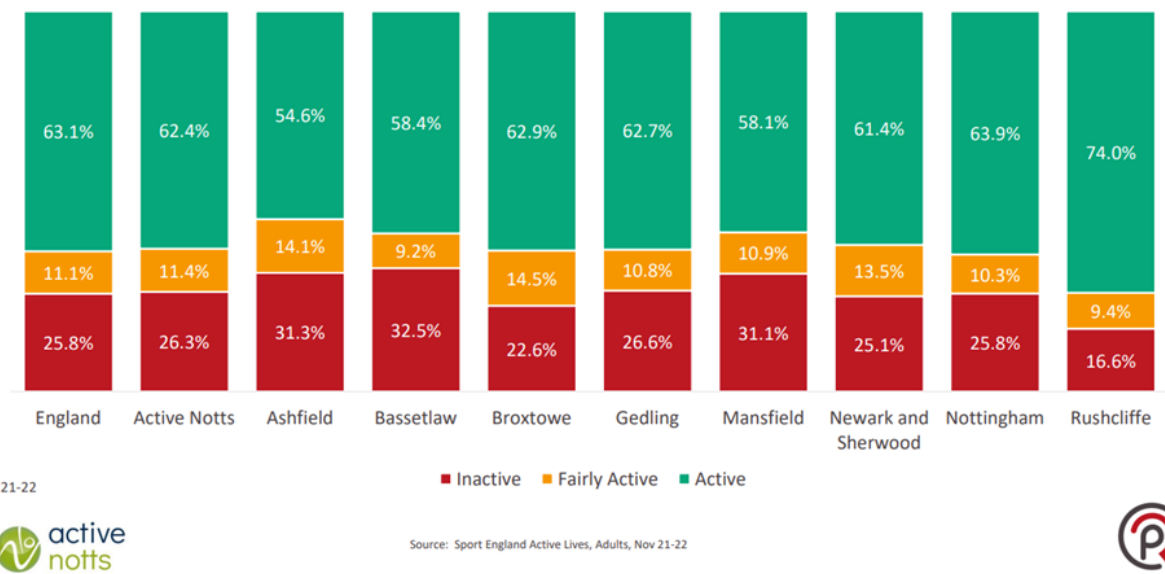


Figure 3-6: Active Notts: Physical activity levels by local authority

3.2.16 Making our move (2022)

The Making our Move strategy covers the Nottinghamshire and Derbyshire area, and highlights the problems caused by physical inactivity, and notes that significant and deep-rooted inequalities in physical activity levels exist. The document outlines five shared aims, shown below.



Figure 3-7: Making our move: Shared aims

The shared vision states that:

The creation of accessible, safe, inclusive places and environment for physical activity is where active travel can really help, with walking being the most common form of physical activity. Where the environment is not conducive to physical activity (e.g. poor conditions of the footway, inadequate lighting etc) walking is less likely to be considered an option. The principles of 20 minute neighbourhoods and Active Towns will be important in creating places that are walkable.

3.2.17 Midlands Connect: Nottingham - Lincoln Railway Strategic Outline Business Case (May 2023)

Midlands Connect recognise the high level of car ownership and longer distance journeys being made along the route between Nottingham and Lincoln (of which several train stations are located in Newark and Sherwood). The reports main suggestion is to increase railway line speed from predominantly 50mph to 75mph to make it more competitive with driving, with long term ambitions to double frequency between Nottingham and Lincoln from the current hourly service, bringing benefits to villages on the line such as Lowdham and Rolleston, as well as Newark itself via Newark Castle station. Improvements to the line may increase the demand for active travel access to Newark Castle Station, as well as intermediate stops at Fiskerton and Lowdham.

3.2.18 Robin Hood Line extension/Dukeries Line passenger reopening

The Nottinghamshire Local Transport Plan Implementation Plan (2018/19-2020/21) identifies the reopening of the Dukeries Line – currently freight only - as a passenger railway as a priority for further feasibility study where funding permits. Nottinghamshire County Council has had a long-term aspiration to reopen part of this line (from Shirebrook to Ollerton) and integrate it into the Robin Hood Line towards Nottingham. Currently, line is partially used as a test track for Network Rail, starting from Thoresby Junction and ending immediately east of the East Coast Main Line which it crosses on a bridge south of Tuxford. The western section was previously used for freight from Thoresby Colliery westwards to Shirebrook junction (where it joins the Robin Hood line). Following the closure of Thoresby Colliery and its subsequent (and ongoing) redevelopment into a housing and employment area, this section of line is no longer in regular use.

A report published by Nottinghamshire County Council in October 2015 provides an overview of the capital and revenue costs required to open the line for passengers between Shirebrook and Ollerton, with stations at Warsop, Edwinstowe and Ollerton.

Nottinghamshire County Council's Highways and Transport Committee has occasionally received updates, though it appears that no funding agreements have been made, and no bid was made to the 'Restoring your Railway Fund' of 2020. Neither the Integrated Rail Plan nor the Network North Plan include proposals to reopen the line (the former only mentions 'exploiting any linkages with other investment in Nottinghamshire, including the proposals for the Robin Hood Line Extension'). Despite this, there are no indications that Nottinghamshire County Council have abandoned the proposal as they continue to safeguard the scheme, estimating that it would cost £22 million to deliver, as of the 2017 scheme review.

4 Newark and Sherwood Active Travel Study

4.1 LCWIP Methodology

This Active Travel Study uses the well-established Local Cycling and Walking Infrastructure Plan methodology, which is outlined in this section.

The DfT technical guidance for authorities developing an LCWIP sets out a methodical approach to the planning and delivery of cycling and walking infrastructure. It breaks down the process into six steps. These are outlined below.

LCWIP stage	Name	Description
1	Determining Scope	Establish the geographical extent of the LCWIP, and arrangements for governing and preparing the plan.
2	Gathering Information	Identify existing patterns of walking and cycling and potential new journeys. Review existing conditions and identify barriers to cycling and walking. Review related transport and land use policies and programmes.
3	Network Planning for Cycling	Identify origin and destination points and cycle flows. Convert flows into a network of routes and determine the type of improvements required.
4	Network Planning for Walking	Identify key trip generators, core walking zones and routes, audit existing provision and determine the type of improvements required.
5	Prioritising Improvements	Prioritise improvements to develop a phased programme for future investment.
6	Integration and Application	Integrate outputs into local planning and transport policies, strategies, and delivery plans.

Table 4-1: LCWIP stages from DfT technical process guidance

LCWIPs should be evidence-led and comprehensive. An LCWIP should identify a pipeline of investment so that over time, a complete cycling network is delivered at an appropriate geography (see step 1 – determining scope) and that walking and cycling improvements are delivered coherently, within core walking zones. The goal of an LCWIP should be to grow the use of cycling and walking, which means looking at routes and areas where more active travel play a greater role, as an alternative to short car journeys, or improving access to public transport options. Walking can offer a quick and healthy means of travel for journeys up to 2km for many people, and cycling can be a good option for journeys of up to around 5km, or longer – especially where the increasing number of e-bikes can allow people to travel greater distances on a bike with ease.

Therefore, an LCWIP should consider travel demand regardless of mode, rather than looking just at existing walking and cycling trips.

4.2 Approach to stakeholder engagement

Stakeholder engagement throughout the strategy development is crucial for the development of a network that links effectively to local priorities and ongoing schemes. To achieve this a project team was established by NSDC, attended by representatives of;

- NSDC Regeneration
- NSDC Planning Policy and Infrastructure
- NSDC Town Programmes
- NSDC Community Facilities and Events
- Nottinghamshire County Council Transport Planning
- NHS Notts
- Active4Today
- Active Notts
- Canal and River Trust
- Sustrans
- Nottingham Disabled Peoples Movement

Active Travel England also attended some meetings of this group.

In addition to monthly meetings of the project team, a Member Briefing was held on 28th September 2023 to introduce the project to Councillors, and discuss analysis and emerging focus areas.

A stakeholder workshop was held on 12th December 2023 to review the analysis, site audit and emerging network. The workshop was attended by

- Sustrans
- Newark and Sherwood District Councillor
- Ollerton & Boughton Town Council
- Nottinghamshire Area Ramblers
- VIA East Midlands
- West Nottinghamshire College
- ATTFE College
- Notts County Council
- Ollerton & Boughton and Trent Villages

- Newark & Sherwood CVS
- Newark College and the Air & Space Institute
- Active4Today
- Newark Town Council
- Cycling UK Newark
- Sutton Community Academy
- Newark and Sherwood Active Travel Advisory Group

The stakeholder workshop highlighted alignments with other workstreams, and some aspects of the network where further consideration of the routes or proposed infrastructure were required. Newark and Sherwood Active Travel Advisory Group highlighted a network of routes that had been proposed locally.

4.2.1 Newark and Sherwood Active Travel Survey

A survey was conducted by Newark and Sherwood District Council to gather information on current travel habits and why people do/don't walk or cycle, as well as what improvements people would consider beneficial for walking and cycling.

A number of key themes arose, as well as several specific locations that many people mentioned as being problematic.



Figure 4-1: Commonly mentioned themes from the Active Travel Survey

Responses were broadly positive in their desire to see more active travel provision – particularly segregated infrastructure. Safety was a common reason people cited for not currently cycling at all/not cycling in certain locations – primarily related to cycling with traffic, though others mentioned a lack of lighting on greenways and the shared-use nature of much of the existing cycle network as other safety concerns.

“I would like to cycle more in the Ollerton area but just don't feel safe. There are no cycle lanes, lights or crossings.”

“Having dedicated cycle lanes would help with confidence particularly regarding town traffic.”

“More places for cycling. It's not always safe to cycle on the road when no bike path is provided and so many people are forced to cycle on the path causing issues for people walking on some of the very narrow paths.”

Several comments highlighted an aspiration to have better cycle access to open countryside/venues outside of towns (particularly from Newark) – of these many mentioned recreational cycling as a family activity that people would like to do with their children.

“Would love more rural cycling connections and routes avoiding roads which would enable me and my children to cycle places “

“More family friendly paths for cycling and walking. Encouraging people to use paths correctly “

“Cycling for leisure from all areas of Newark. There is nowhere safe to cycle to outside town”

The most frequently mentioned location was Ollerton Roundabout – it is generally considered unsafe, with some mentioning that it acts as a barrier, separating Ollerton and Edwinstowe, as well as making access to Sherwood Heath from Ollerton difficult.

“To get to anywhere you'd need to go to Ollerton roundabout. That is difficult to cross due to it being so busy.”

“It is hard to get across the roundabout to cycle or walk out of Ollerton to nearby attractions...”

“Ollerton roundabout is impossible to access to get to Edwinstowe/green hut. Ollerton roundabout is a massive blockade to the villages”

4.3 Baseline analysis – local context

This section of the report outlines the characteristics of the district in terms of the population, transport networks and movement patterns which have informed the development of the network.

4.3.1 Demographic analysis

Density

The district is largely rural, with a few key population centres. The primary settlement is Newark, which has the highest population concentration, with approximately 45,800 residents as of the 2021 census. Ollerton is the second largest settlement, with around 11,000 residents, followed by Southwell (6,900), Clipstone (6,100 – within Newark and Sherwood) and Edwinstowe (5,300).

Nottingham is the nearest major urban area. Generally, the population is situated along an arc from the north in Ollerton, heading south-west towards Clipstone, and then east/south-east from Rainworth to Newark. There are a few settlements outside of this area, notably Collingham and Lowdham, though most others are small villages and hamlets.

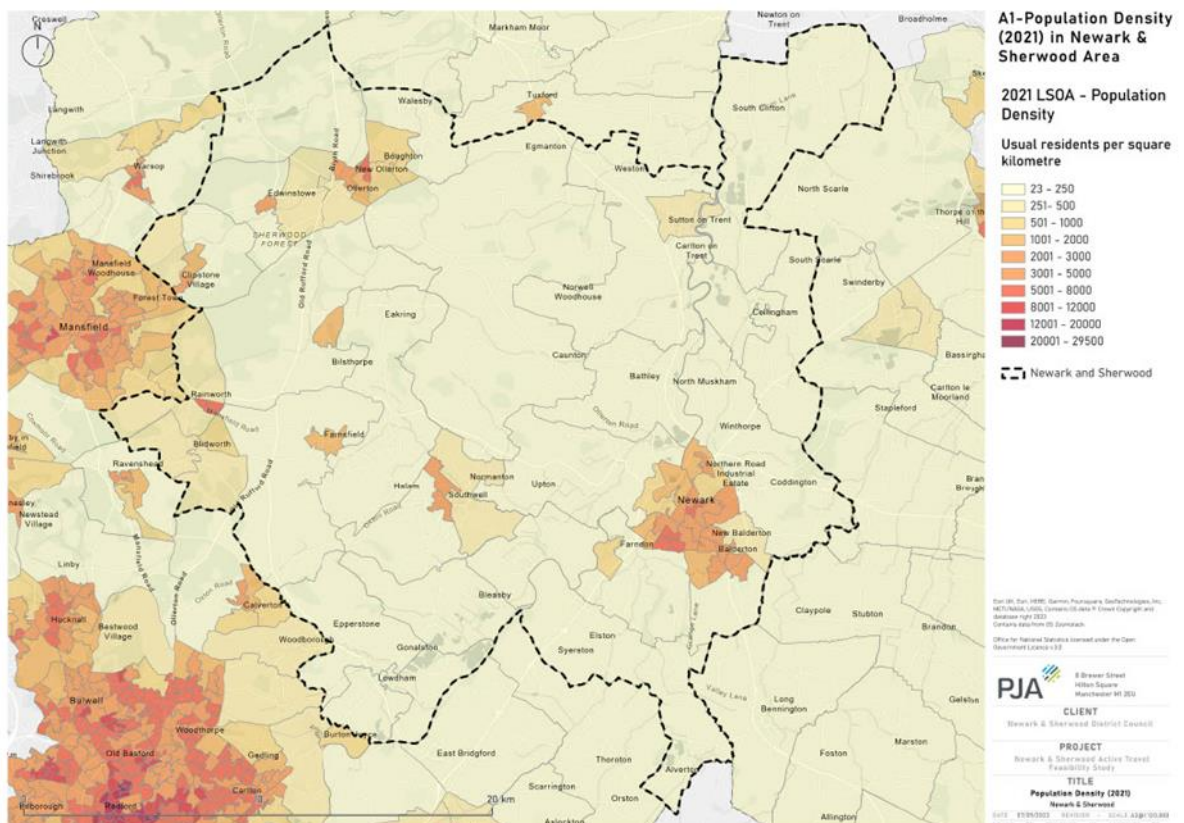


Figure 4-2: Population density of Newark and Sherwood (2021)

Indices of multiple deprivation.

Indices of multiple deprivation (IMD) measures deprivation according to 7 different domains. These are listed below:

- Income Deprivation
- Employment Deprivation
- Education, Skills and Training Deprivation
- Health Deprivation and Disability
- Crime
- Barriers to Housing and Services
- Living Environment Deprivation

These are combined to provide an overall ranking for each Lower Super Output Area (LSOA) in England. LSOA's are then classified by the decile in which they are ranked (e.g. the most deprived classification means the LSOA is in the top 10% of most deprived LSOA's).

The district is varied in terms of prosperity. Deprivation is generally higher in some of the more densely populated areas – however Southwell is a major exception, being in the least deprived decile despite its significant population. In comparison, Ollerton/Boughton and much of Newark are among the most deprived areas in the district, along with some of the settlements around Mansfield, such as Clipstone and Blidworth. Areas of higher deprivation may benefit most from improved access to employment, education and training, as well as physical activity.

Figure 4-3 shows the index of multiple deprivation for the district.

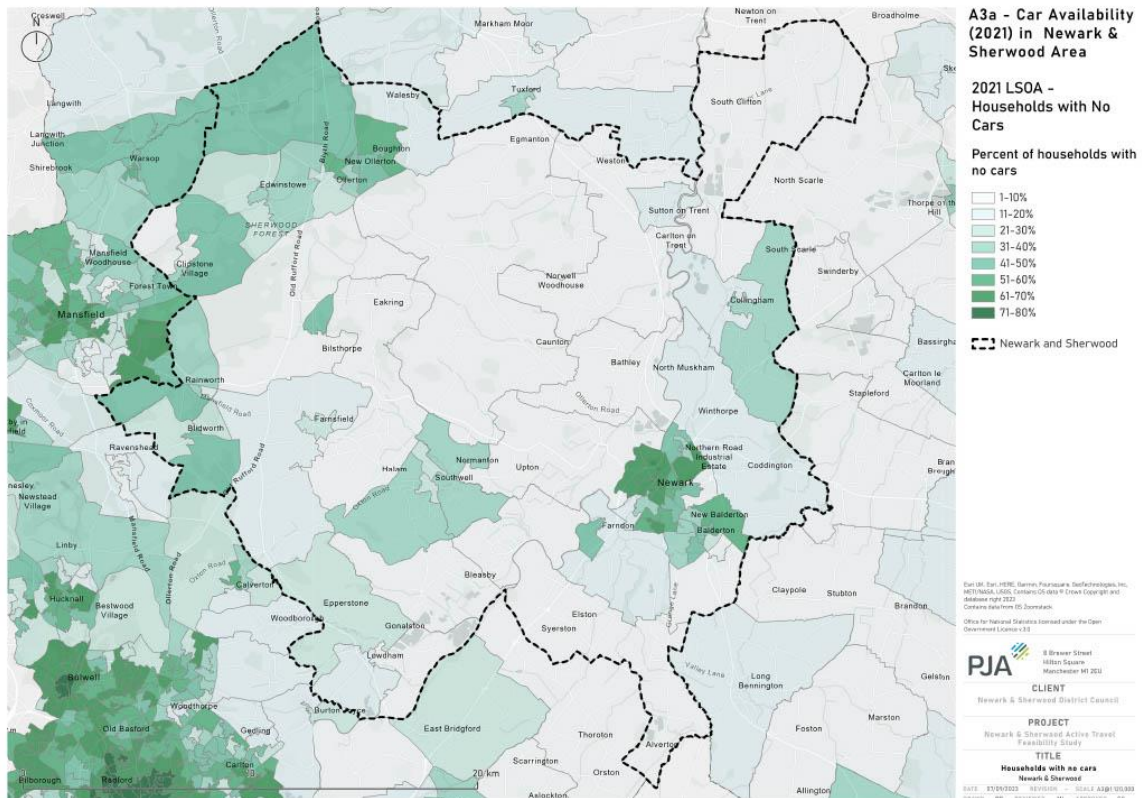


Figure 4-4: Percentage of car-free households (2021 Census)

Public Transport Commuting

Commuting data was taken from the 2011 census due to the significant changes to commuting patterns during the COVID-19 pandemic (when the 2021 census was taken).

Public transport usage is generally low across the district (particularly in comparison to Mansfield and the Nottingham urban area). No areas in the district have more than 14% of commutes being taken by public transport. Newark is a hub for local and inter-urban buses, with local routes that vary in frequency, but are generally between one and two buses per hour. In the rest of the district, the major bus routes are inter-urban services that link to destinations outside of the district, primarily Nottingham and Mansfield.

The highest concentrations of public transport commuting are in and around Newark (though not universally), and the villages to the north, the area south of Southwell (where Nottingham Trent University’s Brackenhurst Campus is located), and in Clipstone and Lowdham, which are in closer proximity to Mansfield and Nottingham respectively.

Within the District, Newark has the highest rates of walking and cycling to work, particularly in and around the town centre where it exceeds 40%. Southwell and Ollerton/Boughton have slightly lower rates of 25-35%. It is important to note that commuting trips only represented 15% of all trips in the 2011 census, therefore this does not represent the walking and cycling modal share for all trips.

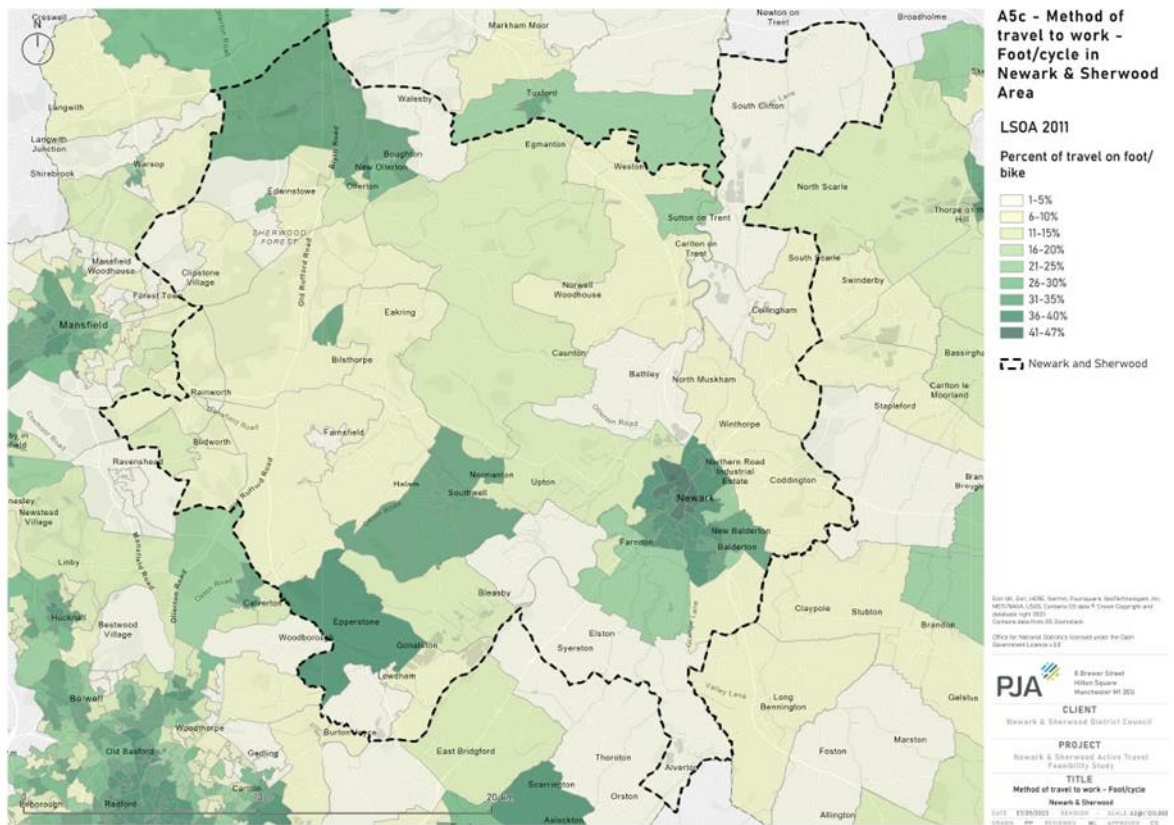


Figure 4-6: Method of travel to work: Foot/Cycle (2011 Census)

4.3.2 Physical geography

Development

Developments in Newark and Sherwood	
Middlebeck	Up to 3,150 dwellings and associated uses
Land at Fernwood	Up to 1,400 dwellings and associated uses
Bantymock Quarry	Restoration of the quarry site to become a natural wetland and woodland.
Thoresby Vale	Up to 800 dwellings and associated uses, up to 32,375sqm of employment uses, restoration of the coal spoil heap to become a country park.
Ollerton Town Centre Regeneration	A new public space linking Rufford Avenue with Forest Road, with a Town/District Council hub, retail, a library, cinema and residential dwellings.
Clipstone Colliery Regeneration	Residential and employment uses, as well as new sports facilities.

Figure 4-7 shows the proposed development in the district. In Newark, the Middlebeck urban extension will expand the town’s footprint southwards, with up to 3,150 new dwellings. Fernwood will also expand with the delivery of up to 1,400 dwellings. In both of these locations, the town centre is beyond an acceptable walking distance, however the greenway heading south through Newark along NCN64 provides a direct and traffic free route towards the centre and links in to the Middlebeck development area. The new Southern Relief Road will provide a parallel east-west walking and cycling route linking the new development to Balderton and the A46.

Fernwood is isolated due to the lack of crossings over the A1 into Balderton, with the underpass on Hollowdyke Lane and the B6326 bridge being around 1.4km apart, and representing considerable detours for residents in Fernwood.

In Edwinstowe, the Thoresby Vale development on the site of the former colliery will significantly increase the footprint and population of the town, with up to 800 dwellings. The site is within a comfortable walking distance of the centre for most people. However, given the small size of Edwinstowe (and limited amenities in the town centre), residents of Thoresby Vale will be reliant on Ollerton or places further afield for other facilities (such as the supermarket in Ollerton).

In addition to urban extensions, there are other key developments ongoing in the District. For example, the re-development of Bantymock Quarry into a park with a lake, wetlands and forested areas – which would be in close proximity to new housing development in Fernwood and Middlebeck.

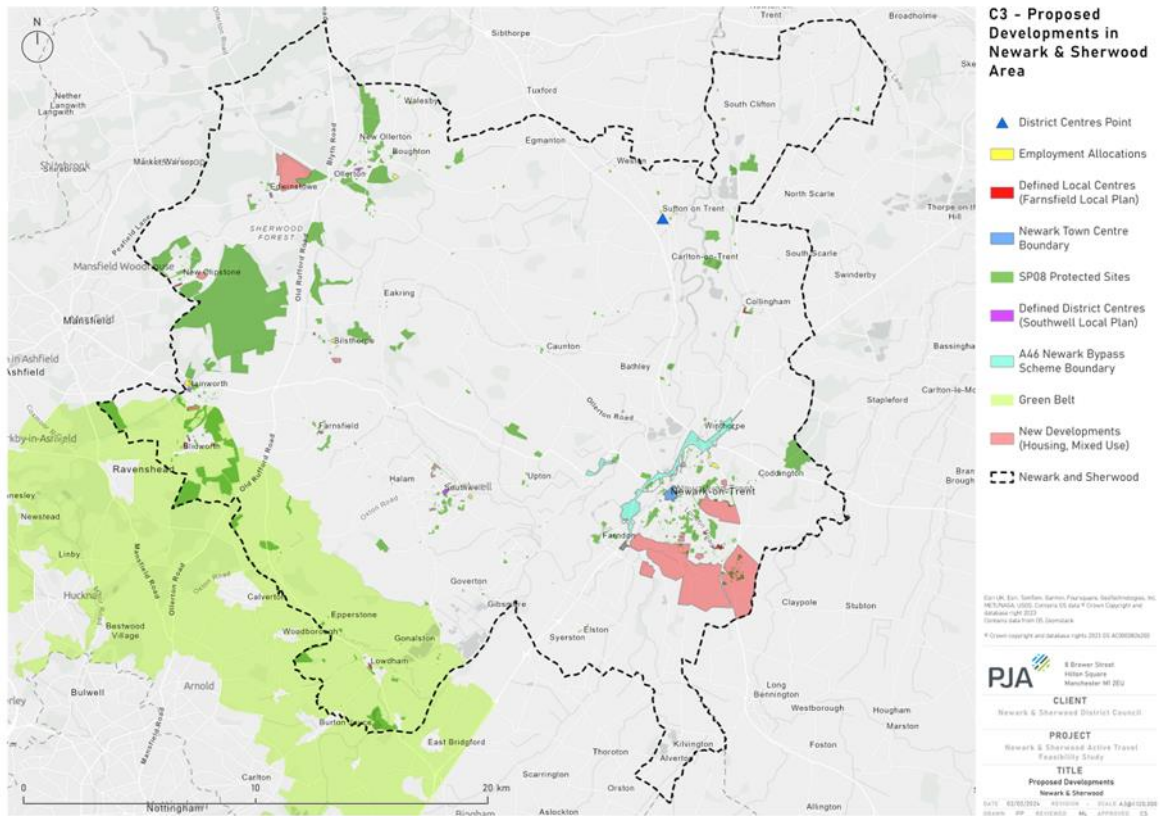


Figure 4-7: Proposed developments in Newark and Sherwood

Topography:

The eastern third of the district is dominated by the Trent flood plain, while the west has low-lying rolling hills topography – see Figure 4-8 The major settlements including Newark, Southwell, Ollerton/Boughton and Edwinstowe are generally flat, with some exceptions, such as Beacon Hill to the east of Newark. The generally benign topography in the more populated areas means that gradient is not likely to be a significant factor in mode and route choice for most people.

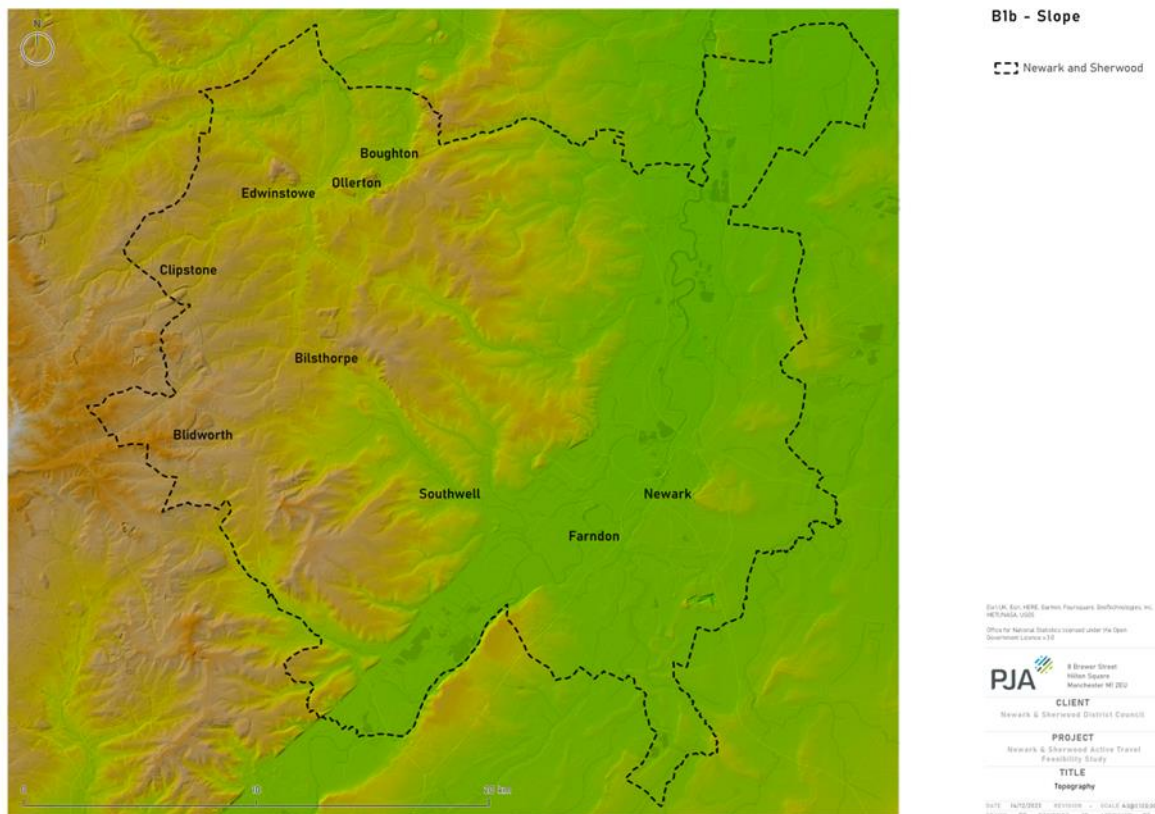


Figure 4-8: Topography

Air Quality - PM_{2.5}

PM_{2.5}, also known as fine particulate matter, are the smallest widely measured particles, and are strongly associated with domestic heating, industrial processing, and particularly with road transport, so concentrations are higher in areas with greater economic activity. Breathing in particulate matter is associated with respiratory problems, particularly amongst older and younger people. Although all areas within the District are within the UK limits and the lower 2040 target

maximums, there is no safe concentration of PM_{2.5}. Concentrations are highest in Newark and in areas near to Ollerton/Boughton, with other settlements such as Southwell and Edwinstowe having slightly lower levels of between 8.1 and 8.5 micrograms per cubic metre.

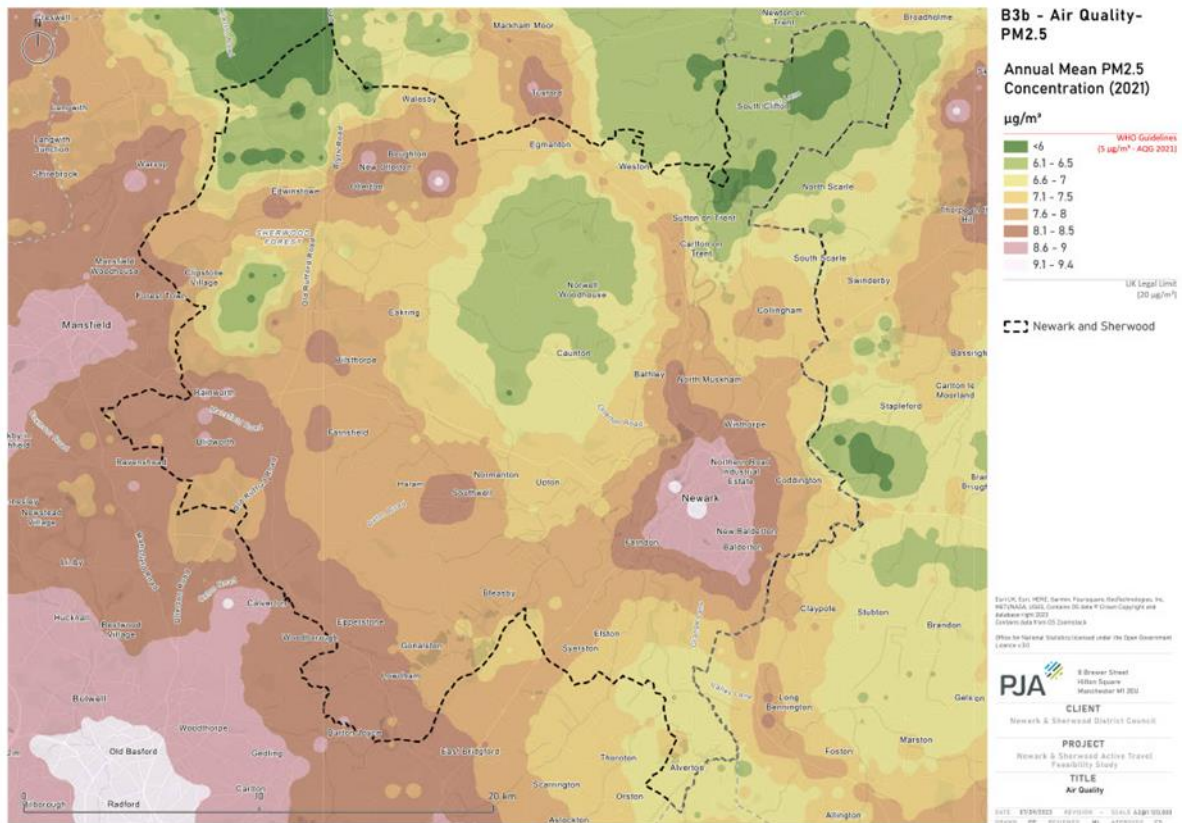


Figure 4-9: Air Quality – PM_{2.5}

Air Quality - PM₁₀

Similarly to PM_{2.5}, PM₁₀ are fine particulates that can cause health issues, though are larger, between 2.5 and 10 micrometres in diameter. The highest concentrations are situated along major roads, particularly the A1 and A46, as well as old Rufford Road. Industrial areas are also a major source of these particles, as can be seen by the concentration around Boughton industrial estate. Despite this, Ollerton and Boughton have relatively low levels of PM₁₀, being within the WHO guidelines. Newark has rates that exceed the WHO guidelines in much of the town, particularly along the A1 corridor, though some areas in the south/southwest of the town fall below the guidelines.

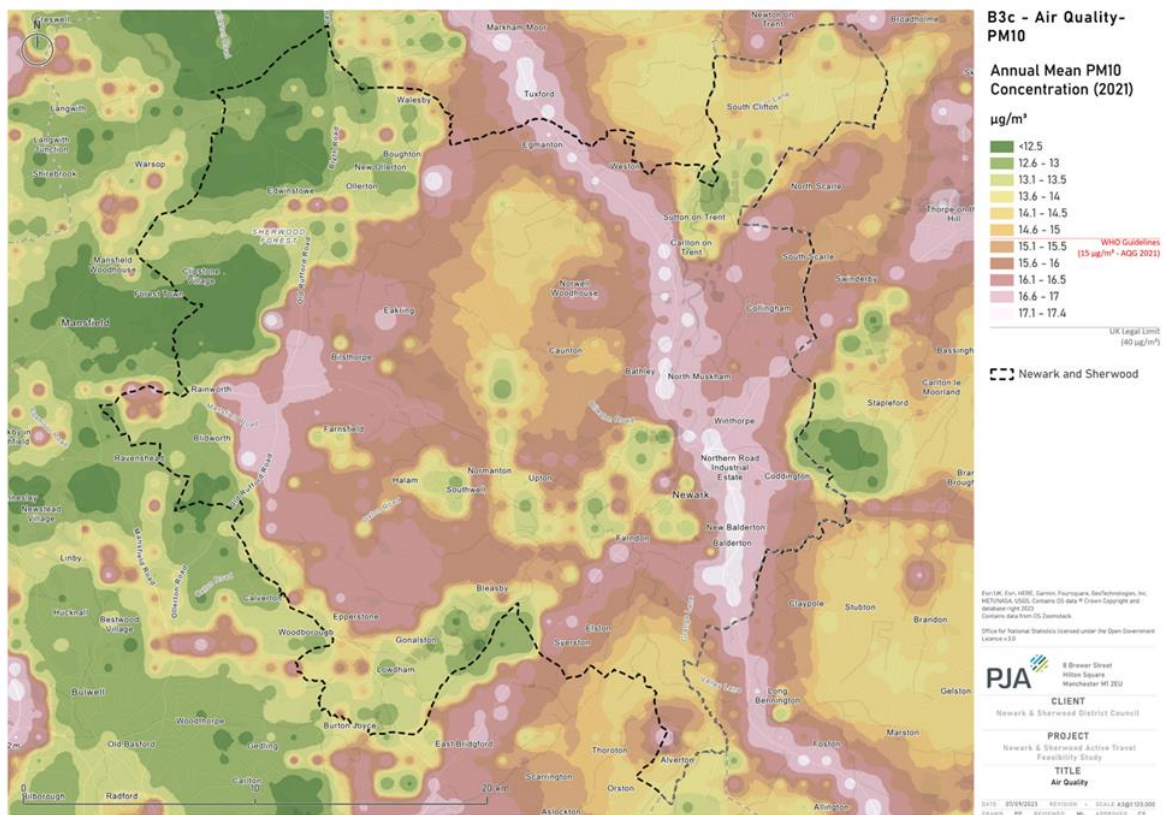


Figure 4-10: Air Quality – PM₁₀

Air Quality - NO₂

Nitrogen dioxide (NO₂) is primarily produced during the combustion of fossil fuel and can cause inflammation of the airways and increased susceptibility to respiratory infections and allergens. Whilst all areas are below the UK legal limit of 40 µg/m³, all of the main settlements are in excess of the WHO guidelines of 10 µg/m³. Only in very sparsely populated areas (and areas less trafficked) does the concentration of nitrogen dioxide fall below WHO guideline levels.

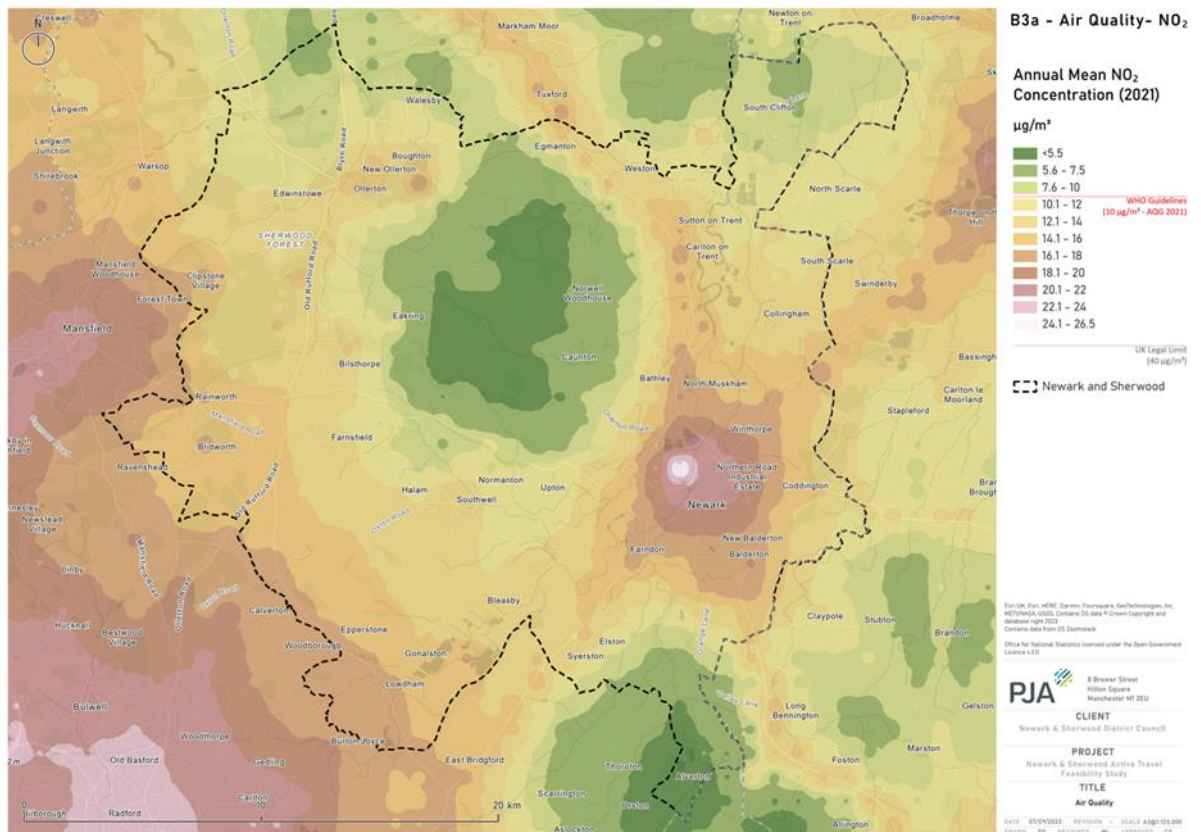


Figure 4-11: Air Quality NO2

4.3.3 Transport and Movement

Figure 4-12 and Figure 4-13 map the major transport infrastructure in Newark and Sherwood. The District has several major A roads, though there are no motorways. The A46 and A1 (as well as A617 and A17) converge north of Newark, providing links in all directions. The other major road is the A6097/A614, which traverses the District from north to south, passing between Ollerton and Edwinstowe before continuing north.

The district is traversed by two railway lines. The Castle Line between Nottingham and Lincoln runs in a north-eastern heading, stopping at several villages and Newark Castle station. The other station in the town is Newark Northgate, providing intercity connections along the East Coast Main Line to London, Yorkshire, the North-East and Scotland. Newark Northgate is the busier of the two stations, with 886,000 entries and exits in the 2022-2023 period, with the majority of these trips being to London Kings Cross. Newark Castle sees fewer entries and exits, at 508,000 over the same period, with Nottingham being the most popular origin/destination, though the

origins/destinations are more dispersed than for Newark Northgate – likely due to the nature of Newark Castle station as a local hub rather than an intercity hub.

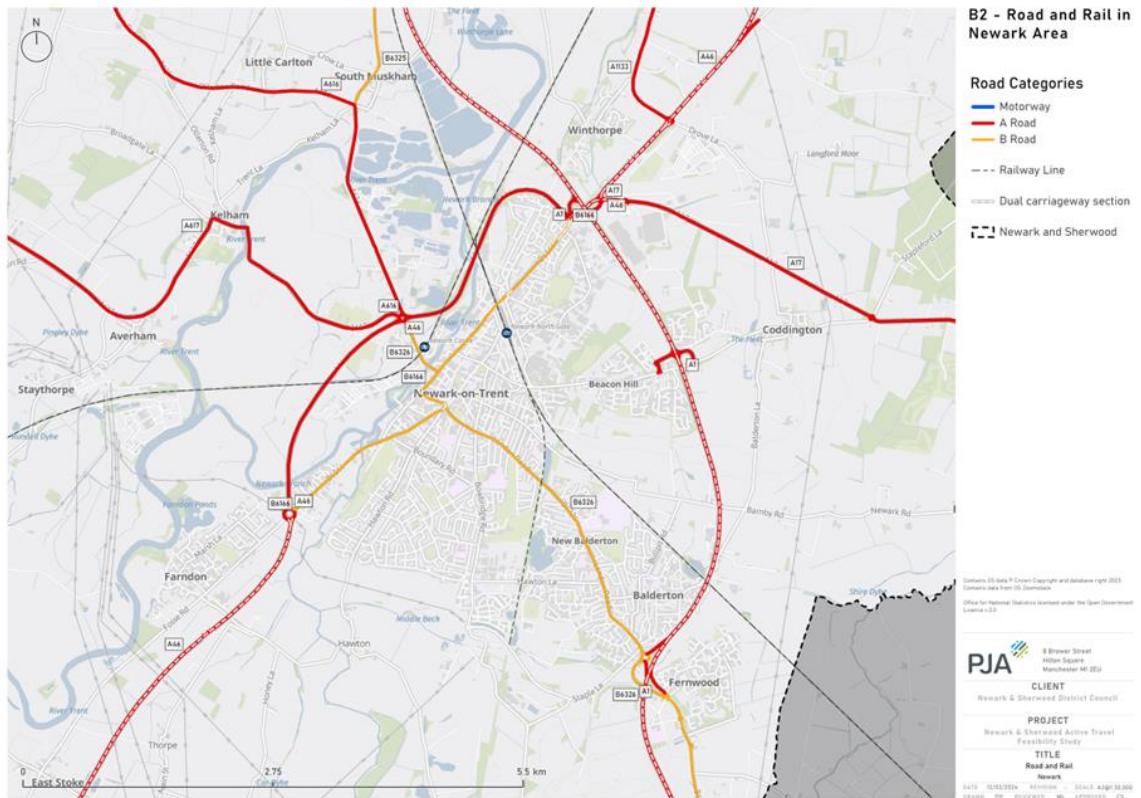


Figure 4-12: Roads and Railways in Newark

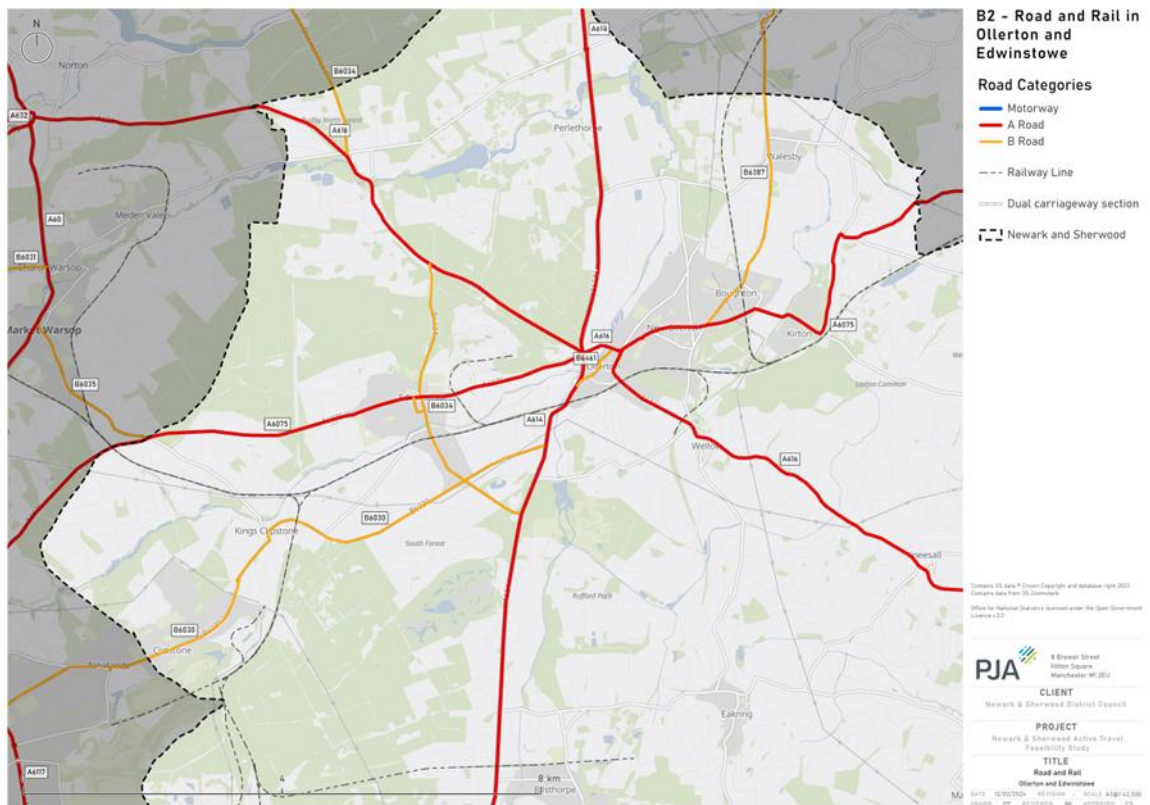


Figure 4-13: Road and railways in Ollerton and Edwinstowe

Existing cycle network

The existing cycle network is shown in Figure 4-14. There are several off-road active travel routes, several of which, such as the Southwell Trail, are former railway lines. These do not form a coherent network, and are primarily suited towards recreation. Recreational cycling is popular in Sherwood Pines, particularly mountain biking, while family cycling is a popular activity in Center Parcs. Similarly, Vicar Water Country Park caters well for recreational cycling.

There are some traffic-free routes that are also useful for utility cycling trips. For example, the NC64 heading south through Newark provides a link between residential areas (including the development sites at the southern edge of Newark) and Northgate Station/the Town Centre.

Newark has several radial throughfares with shared-use provision, and a few streets with advisory (on carriageway) cycle lanes. Elsewhere, the existing cycle network is largely off the highway network.

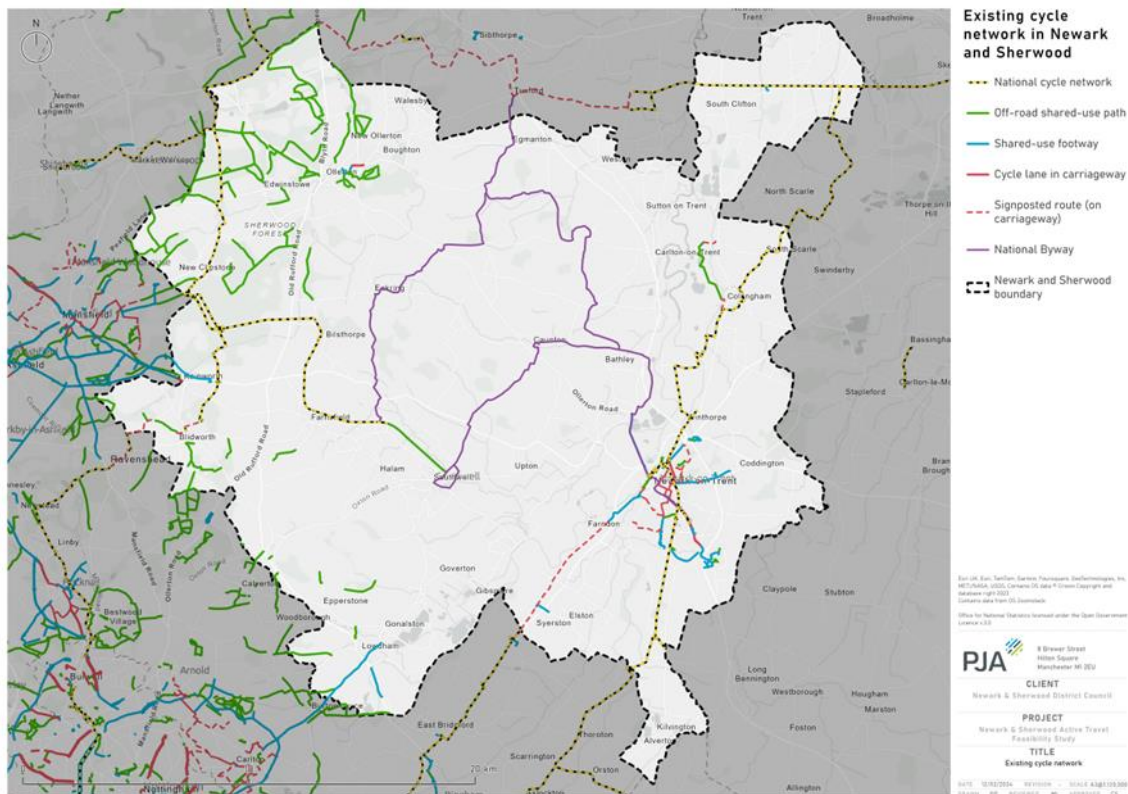


Figure 4-14: Existing cycle network in Newark and Sherwood

Parts of the network identified as important for this strategy have been audited for quality. The outcomes of the audit are shown in sections 4.5 and 4.6.

Severance

There are several lines of severance across Newark and Sherwood, particularly concentrated around the edge of Newark, though Ollerton and Edwinstowe also have severance lines. These are primarily major roads, though there are a number of railway lines that act as severances. Most of these are no longer in use and have had their track lifted, though the Dukeries line remains in use, but not for passenger operation. Ollerton Roundabout is a notable severance between Ollerton and Edwinstowe, due to the convergence of multiple A-roads, without adequate facilities for people walking or cycling to traverse the roundabout.

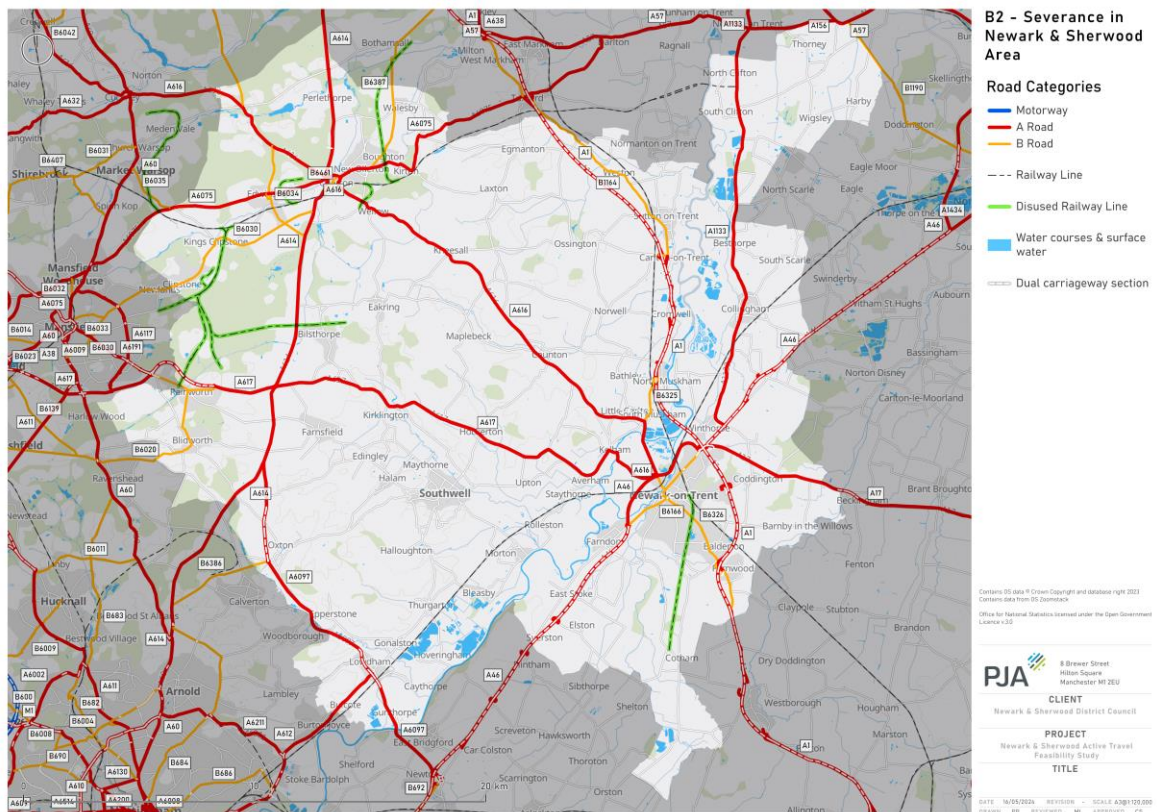


Figure 4-15: Severance in Newark and Sherwood

Most of Newark, including the town centre and most of the residential areas, are in the triangle between the River Trent and the A1. The East Coast Main Line is a major severance within Newark, creating a particular disconnect between Northern Road Industrial Estate and the rest of the town, due to the lack of intermediate crossings over the railway. The former railway line heading south through Newark does somewhat create severance between Balderton and Newark. While it is a traffic free route, there are relatively few entry and exit points, limiting east-west movement along the alignment.

Most severances are beyond the town. For example, the River Trent to the West of Newark creates a major severance – as the only crossings are the Muskam Bridge and the bridge at Kelham on the A617 – the latter being spatially constrained and suffers from congestion. Midlands Connect have granted funding to Nottinghamshire County Council to assist the feasibility study of a bypass road with a new bridge south of Kelham, and the proposal for a bypass is included in the Nottinghamshire Local Transport Plan 2017 scheme review.

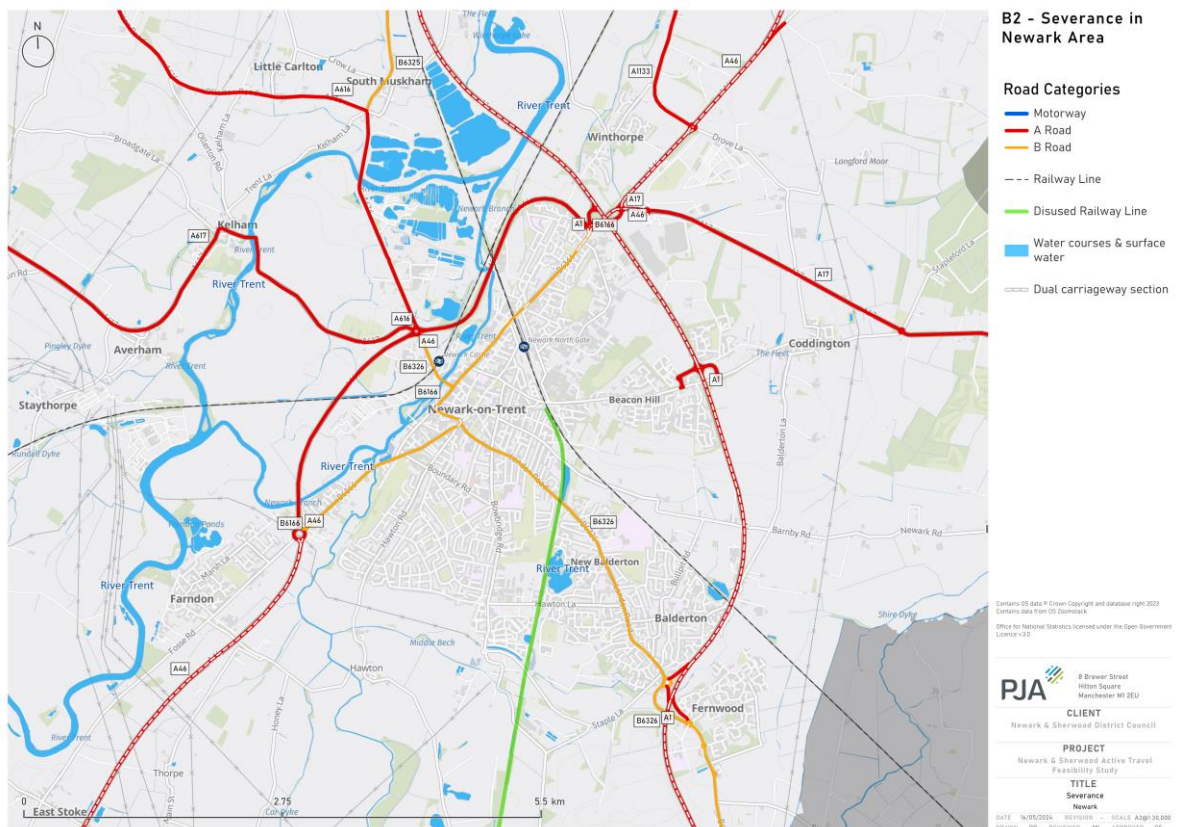


Figure 4-16: Severance in Newark

Settlement isochrones

The areas reachable by cycling (up to 30 minutes) from settlement centres were mapped to better understand the spatial relationship between settlements and the rural hinterlands (within which there are a number of amenities, particularly in terms of leisure and the visitor economy).

Most of the District is within a 30-minute cycle of a centre or principal village – and many settlements, particularly in the Sherwood area, are a relatively short cycle from each other, e.g. Ollerton - Edwinstowe and Clipstone – Edwinstowe, though despite their proximity, current cycling connections between these settlements (and key amenities around them) are limited.

Figure 4-17 shows the severance that the River Trent creates – with uncoloured areas (meaning they are not within a 30-minute cycle from a key settlement being present to the west of Newark and between Sutton and Collingham – despite the geographic proximity of these settlements).

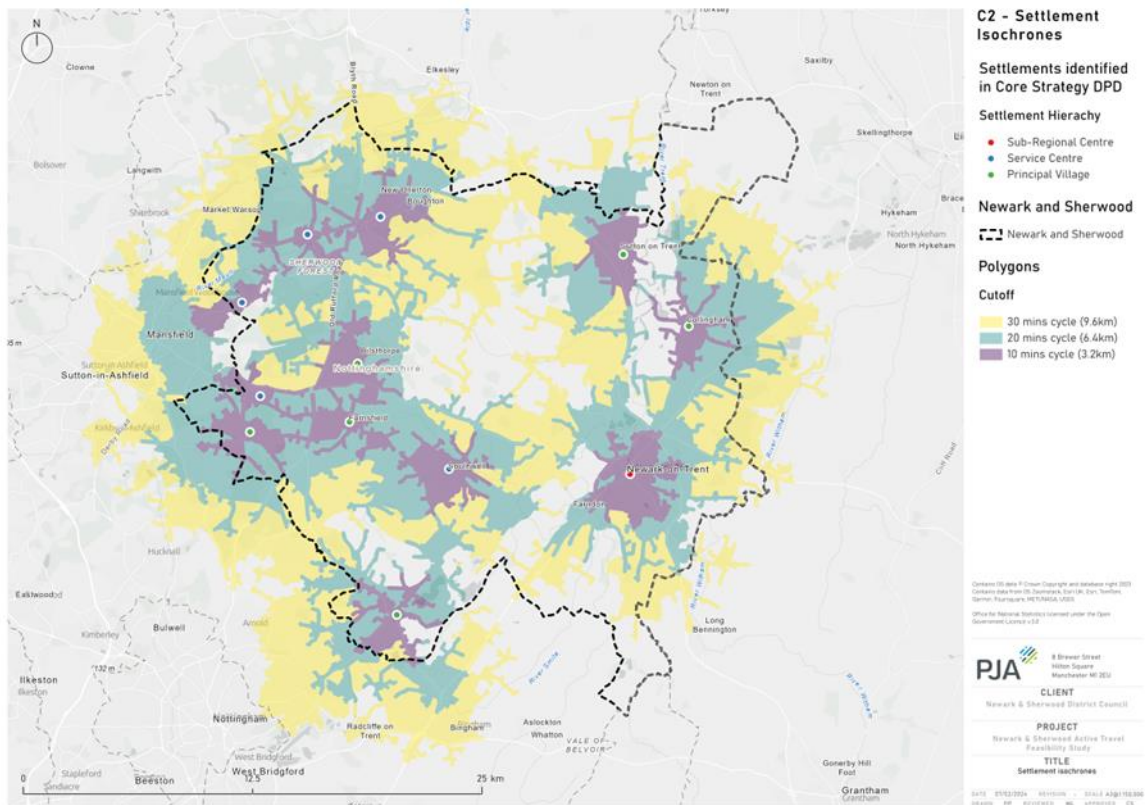


Figure 4-17: Cycling isochrones from key settlements

4.3.4 Propensity to cycle tool

The propensity to cycle (PCT) tool is an open-source tool sponsored by the Department for Transport (DfT). The PCT shows the potential for cycling commute trips based on census data and terrain. 2011 data has been used with population data uplifted to 2021 levels in order to avoid COVID-19 related inaccuracies given the changes to travel patterns during the pandemic. The map highlights straight desire lines that provide an indication of where demand is highest.

The E-bike factored scenario considers level of cycling if people in Newark and Sherwood had the same propensity to cycle as people living in the Netherlands (factoring in trip distance and hilliness), but with a scaling factor that considers the greater ease of longer and more hilly journeys when using an E-bike compared to an unmotorised bike. The scaling factors are based on Swiss and Dutch travel pattern data and have been weighted to be representative of English commuters. This scenario represents the most ambitious mode shift in the tool, and is appropriate for drawing out the likely corridors of demand over the longer term.

The results of the PCT analysis highlight the primary cycle desire lines are around Newark, as is to be expected given it is the main population centre in the district. The greatest concentration of demand is between the residential areas to the south of Newark (Hawtonville, Balderton) and the town centre. There are also strong desire lines heading towards outlying areas of the town such as Farndon, and nearby villages such as Collingham and North Muskham (as well as Claypole in Lincolnshire).

Staythorpe Power Station has several desire lines (see Figure 4-18) mostly in the direction of Newark – though also to Southwell. Given the severance caused by the River Trent (with the only current cycle crossing being the A617 at Kelham (a route busy with motor vehicles), this demand is currently suppressed. As the propensity to cycle tool uses LSOA population centroids as both origins and destinations, the desire lines appear to be heading to an area west of Averham – due to the low population in this area (and the fact that the power station does not have a resident population nearby), the size of the LSOA will skew the location of the centroid point.

Across the rest of the District, there is a broad arc of demand, starting in Newark and Staythorpe Power station, heading west towards Southwell and then north-west/north through Bilsthorpe and Farnsfield towards Edwinstowe and Ollerton. Although the population in these areas is lower, the tool indicates the general direction of demand.

There is also a secondary corridor of demand between Ollerton and Mansfield – this is not necessarily trips between these two settlements, rather the combination of multiple desire lines that overlap, including the settlements of Edwinstowe and Clipstone.



Figure 4-18: Propensity to cycle tool (e-bike scenario daily flows)

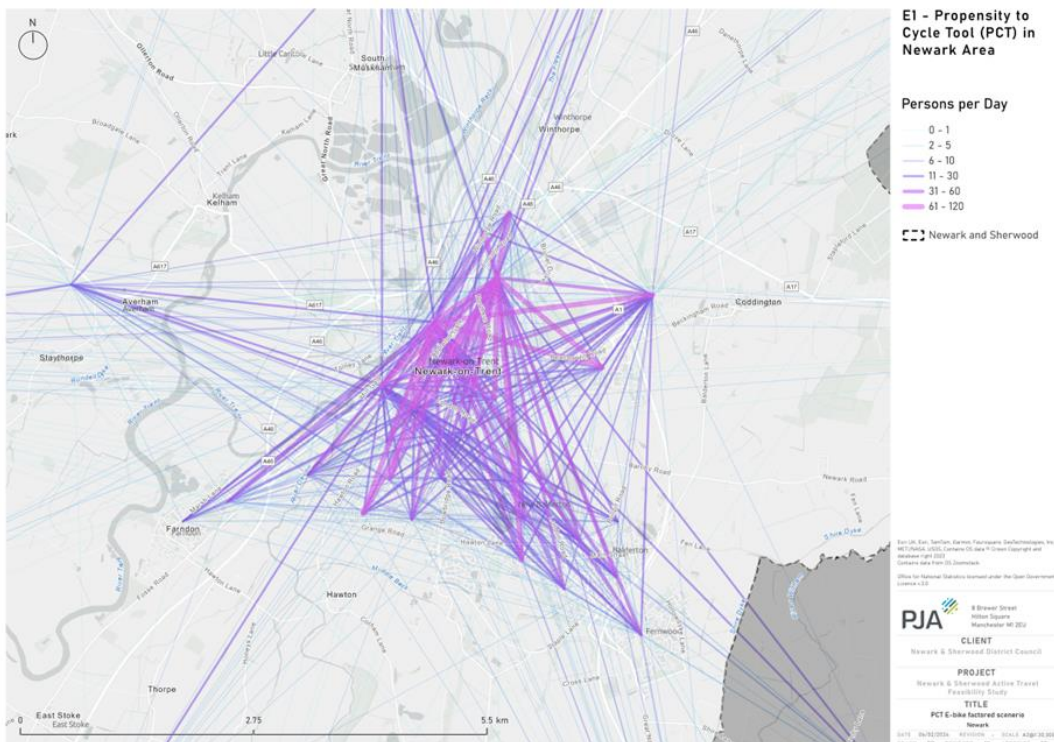


Figure 4-19: Propensity to cycle tool (e-bike scenario daily flows) Newark

4.3.5 Everyday trips analysis

Methodology

The Everyday trips analysis seeks to overcome some of the limitations of the Propensity to Cycle Tool, which does not account for short ‘everyday’ trips that account for around two thirds of short journeys such as shopping, visiting friends and family or going to a local recreational area.

PJA has developed an additional layer of analysis to further understand the potential for short journeys by cycling (and walking), which is particularly useful in Newark and Sherwood given the interest in improving connections to leisure areas such as Sherwood Forest.

In order to determine the key desire lines for ‘everyday’ walking and cycling trips, such as to school, work and shops, the spatial relationship between origin and destination points has been analysed.

Firstly, a 0.5km² hexagon grid was applied and origin clusters of LSOA centroids and future housing development with 100 or more residential dwellings were identified, as shown in Figure 4-20 . Most new development is located to the south/southeast of Newark at Middlebeck and in Fernwood, as well as to the east of Edwinstowe on the former Thoresby Colliery site.

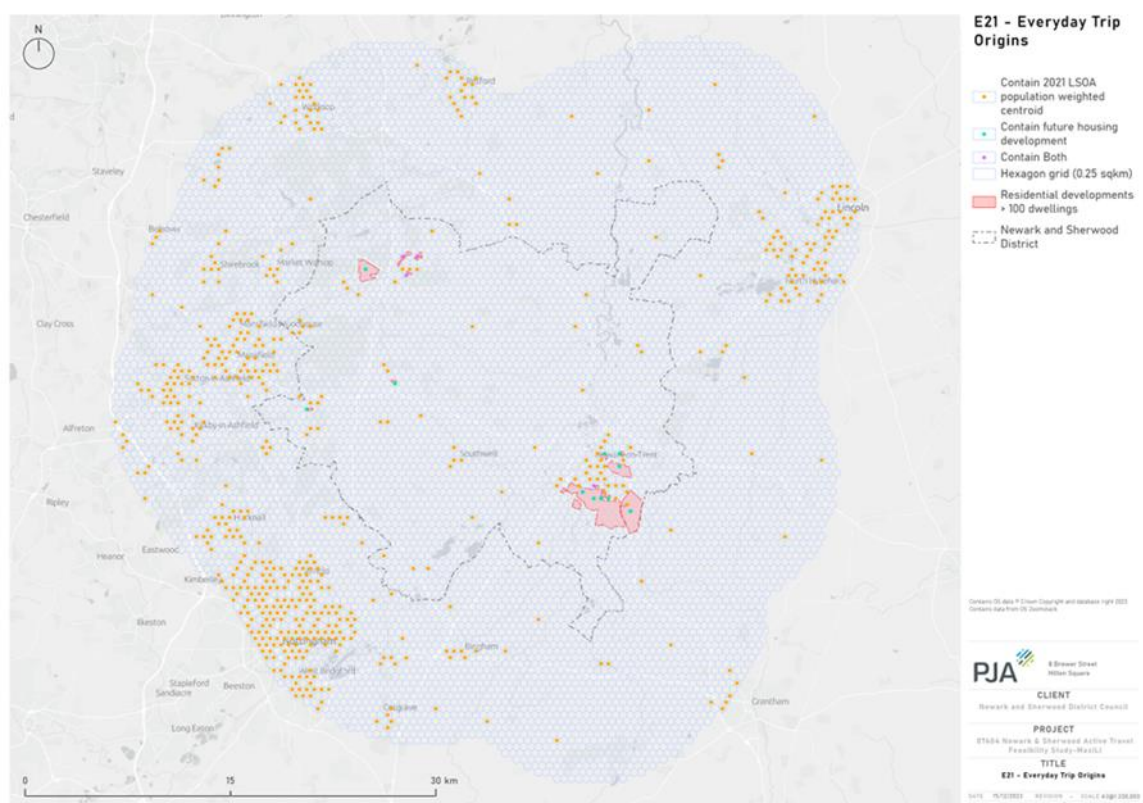


Figure 4-20: Everyday trip origins

Secondly, two classes of destination were identified. Class 1 destinations are key employment sites, local, town and village centres. Class 2 destinations include primary and secondary schools, healthcare facilities (hospitals, GP practices, dentists), community centres, leisure facilities, supermarkets etc. For class 2 destinations, it is assumed that people are most likely to travel to the closest facility of that type (e.g. supermarket or dentist), while there is assumed to be demand to travel to all class 1 destinations within walking/cycling distance (for example, somebody in Clipstone may wish to travel not only to Vicar Water Country Park but also Sherwood Pines or Rufford Abbey Country Park).

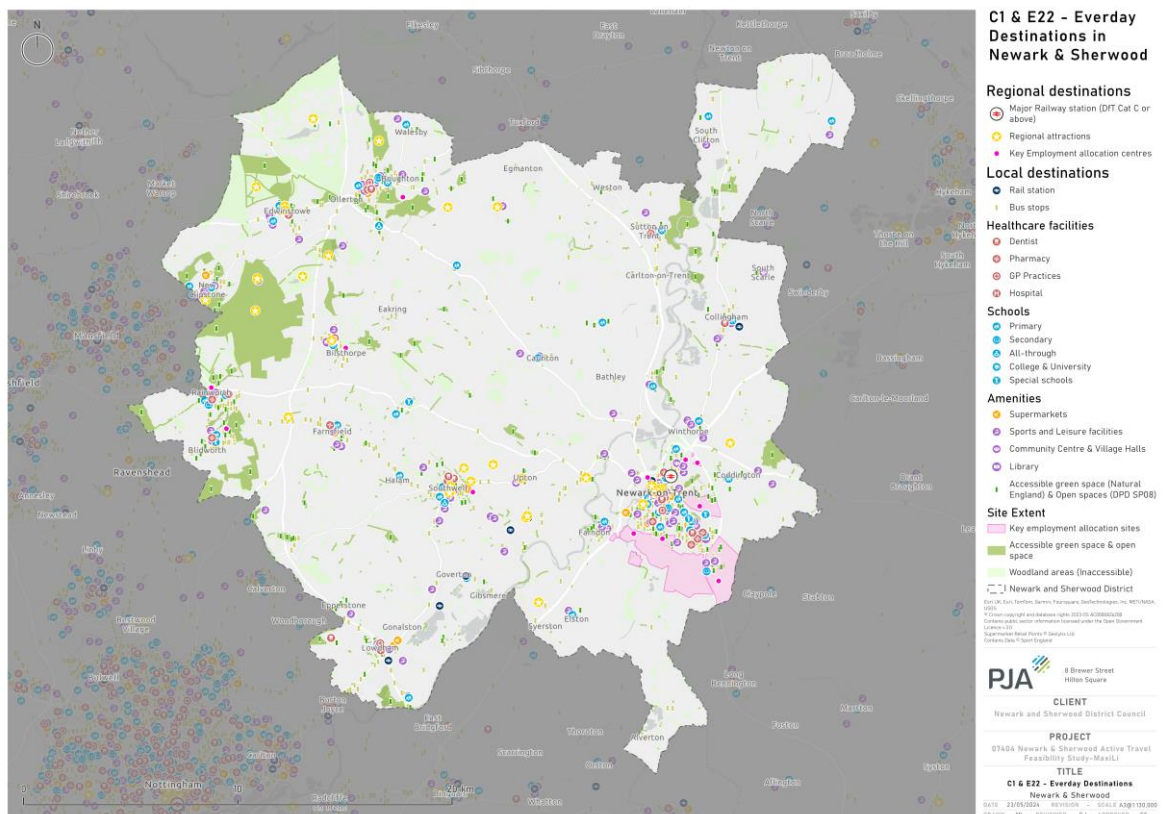


Figure 4-21: Everyday destinations

Everyday trip analysis has been conducted at three scales, 0-2 kilometres, to factor walking trips, 2-5 kilometres, for shorter cycling trips, as well as 5-10 kilometres, to factor longer distance but still potentially cyclable trips that may be interurban or rural in nature.

Walking trips in Newark (0-2km)

For walking trips within Newark, there are a number of radial desire lines indicating the demand that the town centre creates due to the various amenities located there. In addition to this, there

are several tangential desire lines that indicate demand to key amenities outside of the centre, such as the Hospital, Northgate station and to schools.

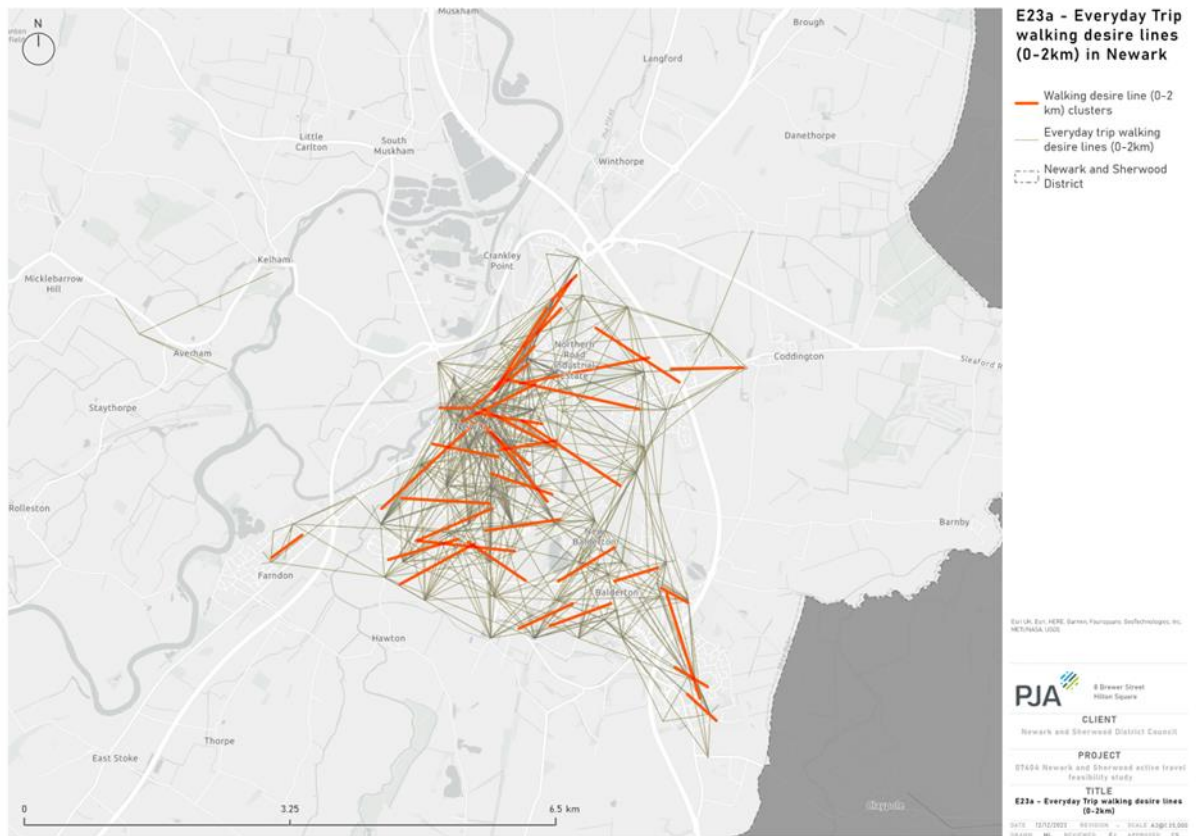


Figure 4-22: Everyday trip walking desire lines (0-2km) – Newark

Walking trips in Ollerton and Edwinstowe (0-2km)

In Ollerton there are desire lines into the centre and across the town, though there are also desire lines heading from Wellow into Ollerton, and to Boughton industrial estate.

Given that everyday trip analysis factors in the demand associated with new development, there will be a significant desire line from the Thoresby Vale development into Edwinstowe and Ollerton where there are significant clusters of destinations. There are also desire lines towards forest corner and the forest where there are more leisure destinations.



Figure 4-23: Everyday trip walking desire lines (0-2km) – Ollerton and Edwinstowe

Cycling trips (2-5km)

Analysis of journeys between two and five kilometres indicates radial desire lines into the centre of Newark, and similarly (though to a lesser extent) in Ollerton. In the north-west of the District, several desire lines suggest demand for links between settlements and leisure areas, such as Sherwood Pines to Bilsthorpe, Edwinstowe and Clipstone, Rufford to Bilsthorpe, Edwinstowe and Ollerton, as well as Clipstone and Ollerton to Sherwood Forest and Thoresby park. Given the intermediate position of Edwinstowe and Rufford between other areas, it can be considered that there are generally desire lines between Ollerton and Clipstone, and between Bilsthorpe and Ollerton/Edwinstowe.

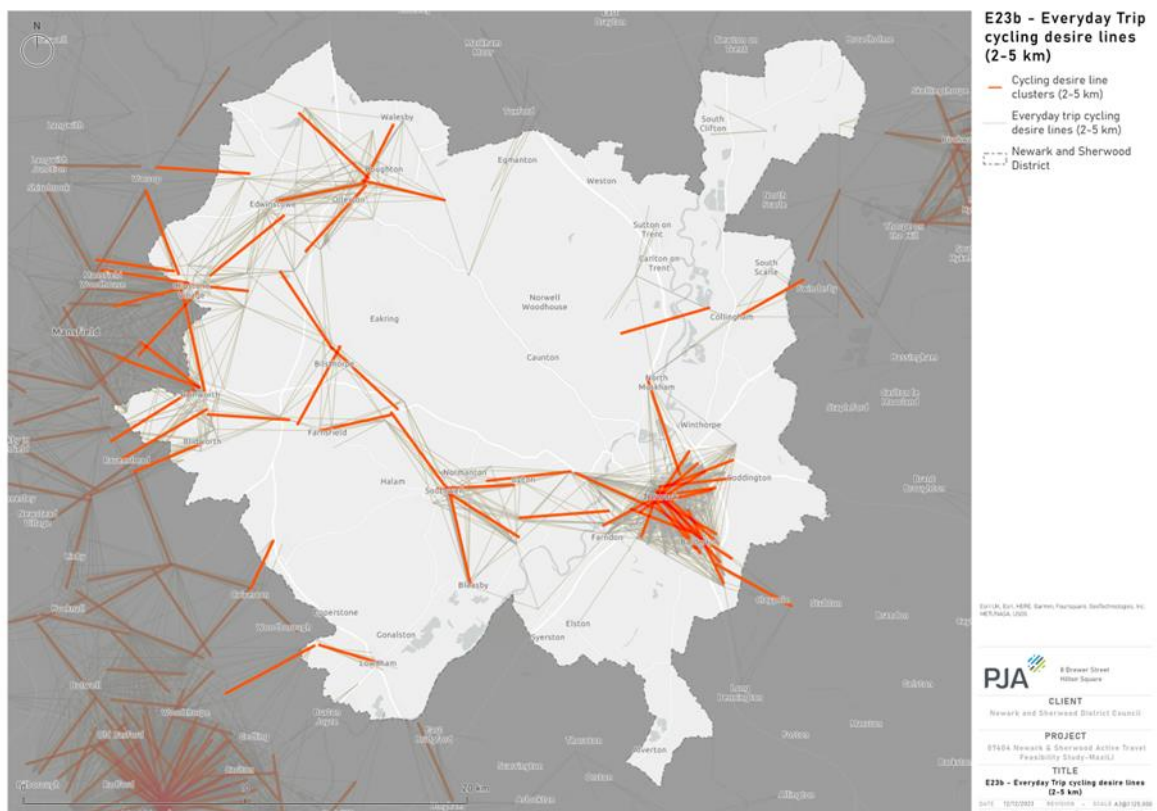


Figure 4-24: Everyday trip cycling desire lines (2-5km)

Cycling trips (5-10km)

Regarding trips between 5 and 10 kilometres, the desire lines indicate demand potential between Newark and Southwell (due to the relative lack of key amenities in Southwell compared to Newark), though the current link is poor due to the severance caused by the River Trent.

There are a large number of desire lines in the north-west of the District, many of which cross into Mansfield – where there are a larger number of key amenities, which people in Edwinstowe and Clipstone may depend on (given the small size of those settlements).

These indicate that there are many origin destination pairs within this area that are too far to walk but are potentially cyclable. Many of these desire lines link into the various leisure destinations, such as Sherwood Pines, Sherwood Forest and Rufford Country Park.

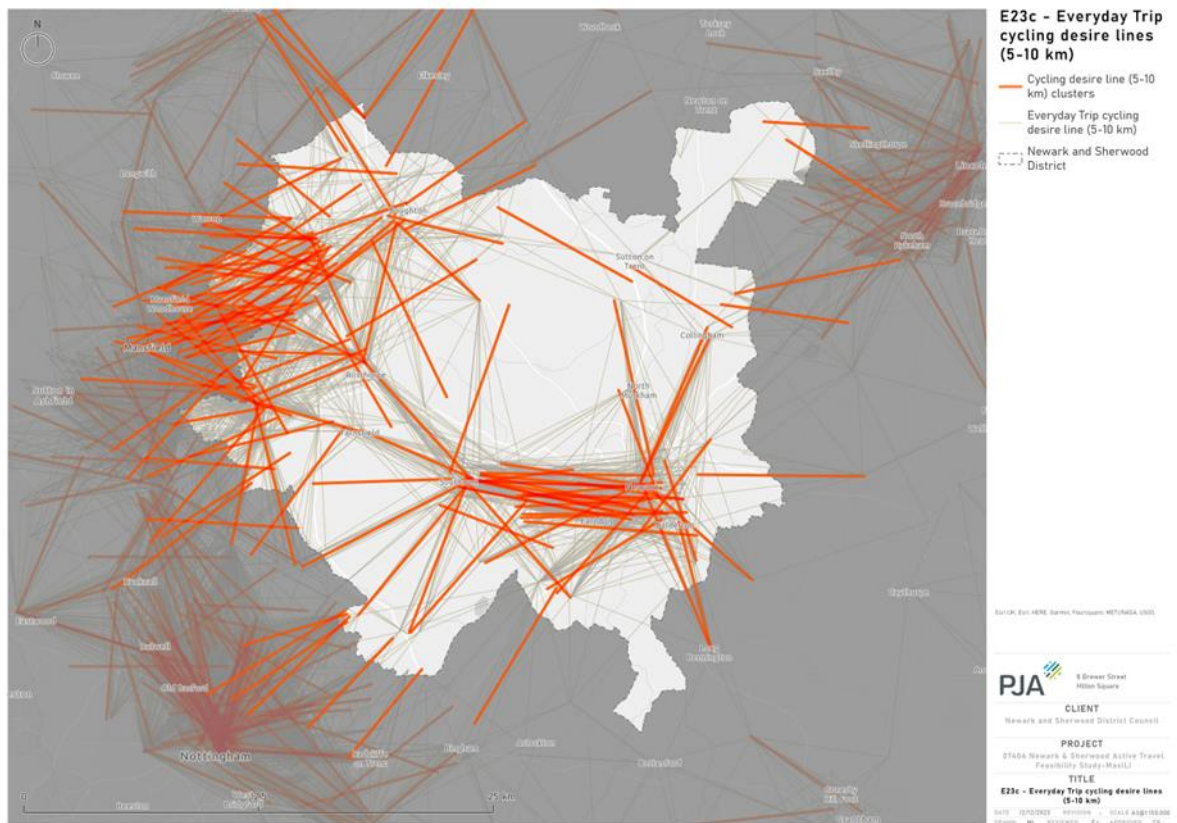


Figure 4-25: Everyday trip cycling desire lines (5-10km)

4.4 Route identification for audit

Based on the above analysis, and engagement with the project team, a core walking zone and priority walking and cycling routes were identified for audit using the Route Selection Tool (RST) set out in the DfT LCWIP process guidance, and the Walking Route Assessment Tool (WRAT). The routes for audit comprise a range of urban and inter-urban/rural routes.

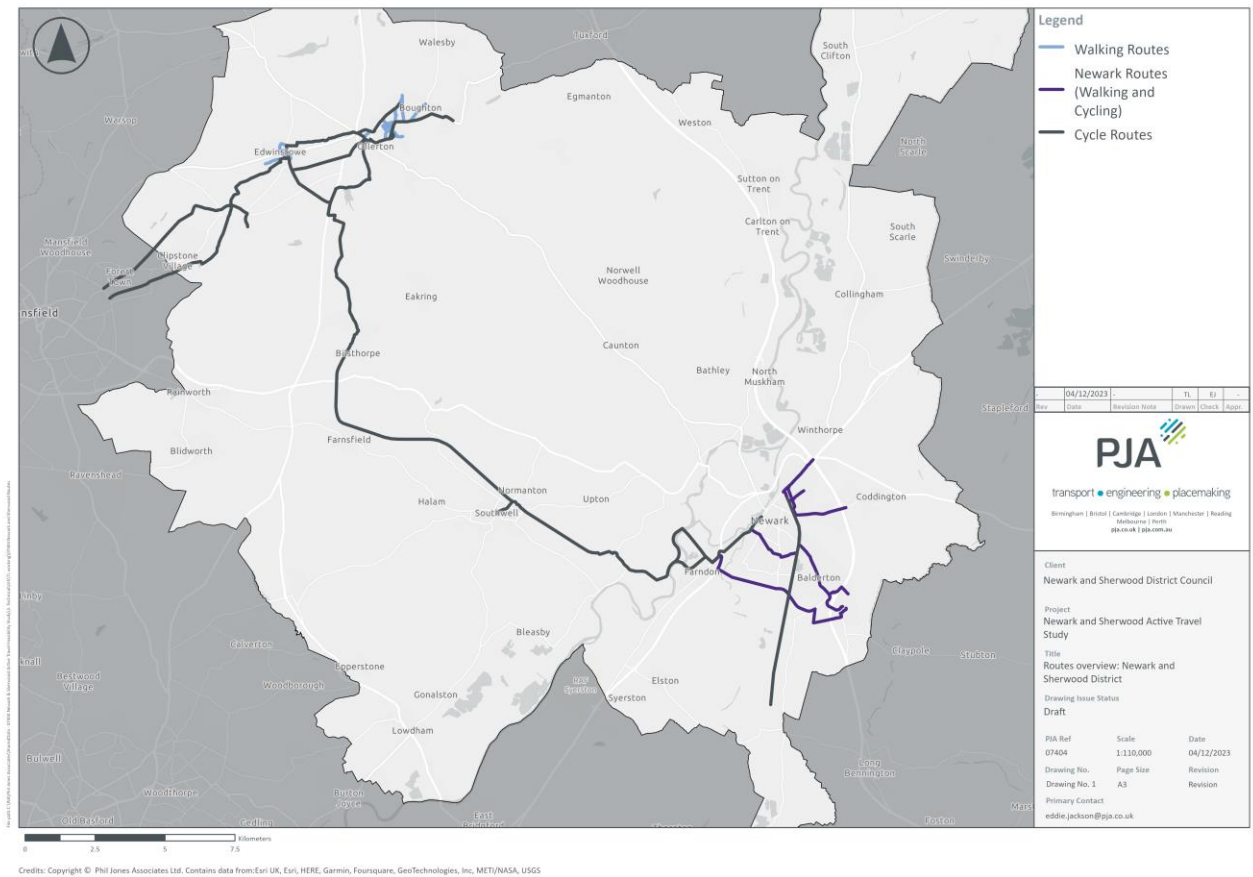


Figure 4-26: Network for audit

Newark

Newark routes were audited for both walking and cycling. In Newark, east-west connections were considered in addition to radial ones heading into the town centre, to provide links with key local facilities and to schools.

Several key severance points were also identified as places to investigate, such as the River Trent at Farndon (in two locations), the southern approach into Newark Northgate (and the lack of a connection from Northern Road industrial estate, and Fernwood/Balderton, where there are only two crossings over the A1, with a distance of 1.4km between them).

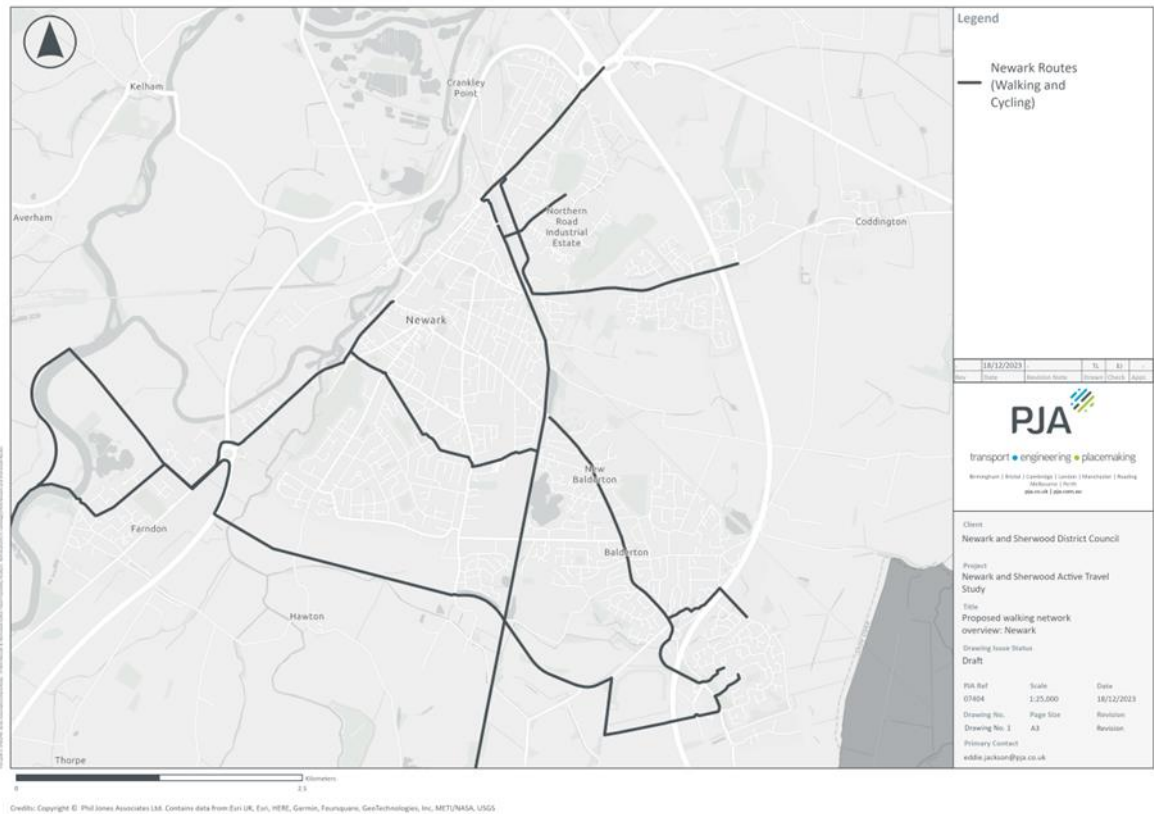


Figure 4-27: Network for audit in Newark

Ollerton & Edwinstowe

In Ollerton, the walking network focuses on linking schools and the Energy Village with residential areas, as well as a link towards Ollerton Village. The connection to Boughton industrial estate was considered for both walking and cycling. In Edwinstowe, the high street and adjacent streets were prioritised for walking, as well as connections to Forest Corner, Lidgett, King Edwin Primary School and Thoresby Vale (from Church Street/Swincote Road).

The audited routes for cycling considered longer distance links that provide access to (and through) leisure areas, though key sites such as Boughton industrial estate, the Dukeries Academy, and Ollerton Energy Village were also included. The extent of the audited routes included connections into Clipstone and beyond the District Boundary into Forest Town in Mansfield (to the west of Vicar Water Country Park). A potential route linking Bilsthorpe to Edwinstowe and Ollerton via Rufford was also investigated.

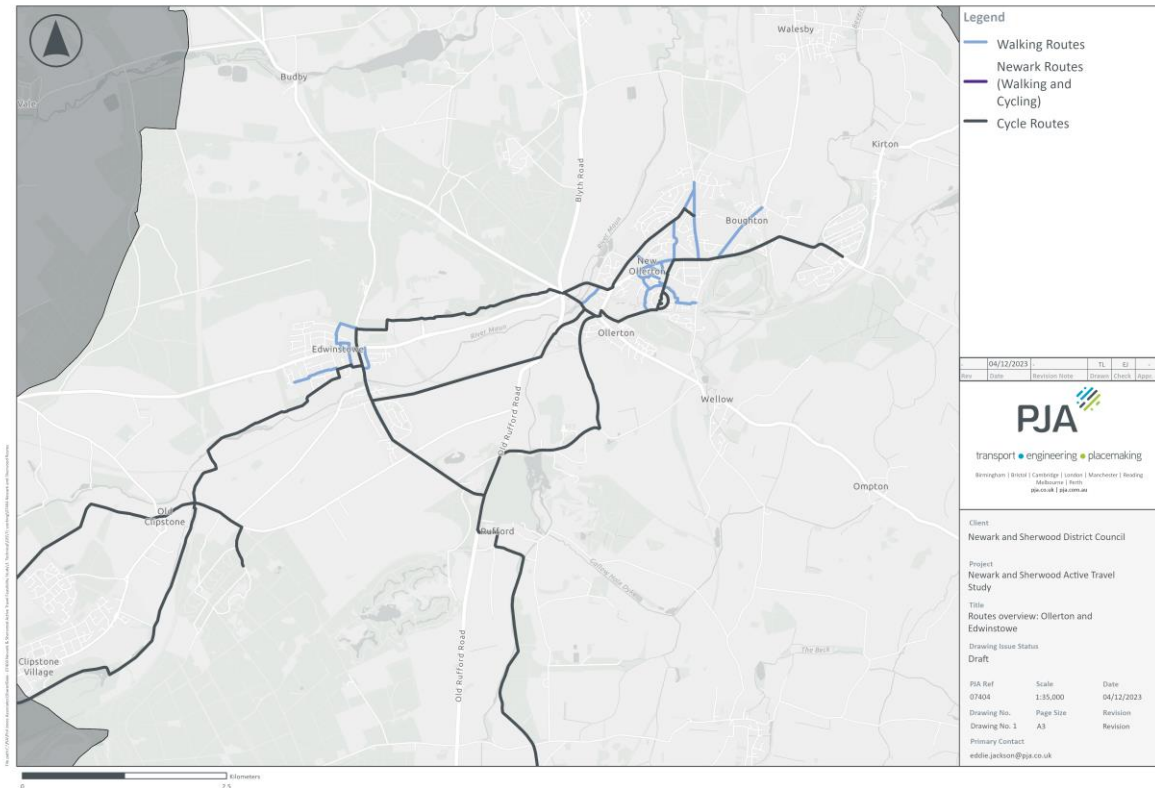


Figure 4-28: Network for audit in Ollerton and Edwinstowe

4.5 Route selection tool (RST) Audit

4.5.1 RST Audit methodology

The Route Selection Tool (RST) is an appraisal methodology that allows practitioners to determine the best route to fulfil a particular straight-line cycle corridor, referencing against existing conditions and the shortest available route. It considers five important criteria that determine the quality of a cycling route (directness, safety, gradient, connectivity, and comfort) plus junction safety. Along with other information collected during the LCWIP development, the RST audit then helps inform recommendations for improvements along each corridor. The RST divides routes into shorter sections which should reflect changes in the character and layout of the alignment.

- Directness: Compares the length of cycle route against the equivalent vehicle route with cycle routes that are shorter than the vehicle is scored positively for directness. Higher scores can be achieved through the introduction of modal filters or routing cyclists through parks/open spaces to provide a more direct connection.

- Gradient: Identifies the steepest section of route within the proposed alignment with gradients that exceed either 5% in gradient and/or 50m in length scoring lower.
- Connectivity: Records the number of individual cycle connections into a section of route. Routes should aim to have >4 connections per km.
- Comfort: Assesses the space available for cycling and the quality of surfacing with a preference for protected cycle facilities of >3m (bi-directional) or >2m (uniflow).
- Critical Junctions: Assesses several critical junction design issues including vehicle flows, protection from vehicular traffic, wide junction splays, and junction geometries.
- The RST outcomes are recorded as Red/Amber/Green, showing the overall score across the categories, indicating the broad quality of the existing route.

4.5.2 RST Audit findings

The RST identified a number of key themes across the network, which also have an impact on walking.

Substandard infrastructure – Many of the routes along main roads (particularly in Newark) have shared-use footways or advisory cycle lanes that induce conflict pedestrians or motor vehicles, and do not meet current standards. For example, Northern Road in Newark has an advisory cycle less of less than 1m width – encouraging people cycling to take a position near to the kerb which may also encourage people in motor vehicles to pass them too closely. Several the major arterial routes within Newark have shared use facilities where there are considerable levels of pedestrian movement, such as Beacon Hill Road, London Road and Farndon Road. While some shared-use paths do provide a level of protection for people cycling (particularly in areas where pedestrian flows are lower, e.g. on the Southern Link Road and the B6326 over the A1 towards Fernwood, these still do not meet current standards.

Side road priority – Another major issue on arterial roads and on some neighbourhood streets is the lack of side-road priority. This impacts cycling particularly on radial routes where people cycling are required to give way frequently – making journeys slower, and also requiring more physical effort (to accelerate back up to speed).

Greenways – While some of the greenways are well surfaced and wide (such as the Southwell Trail and the NCN64 on the former railway line through Newark) others are overgrown and unsurfaced, thus potentially excluding some users (e.g. wheelchairs, pram users, road bikes). Poor drainage is also a general issue on these routes, with water often pooling/stagnating, creating a muddy surface, reducing levels of comfort – especially in winter. A lack of lighting can limit use on darker mornings

and evenings, meaning these routes may be less suitable for utility cycling – to work and to access local amenities.

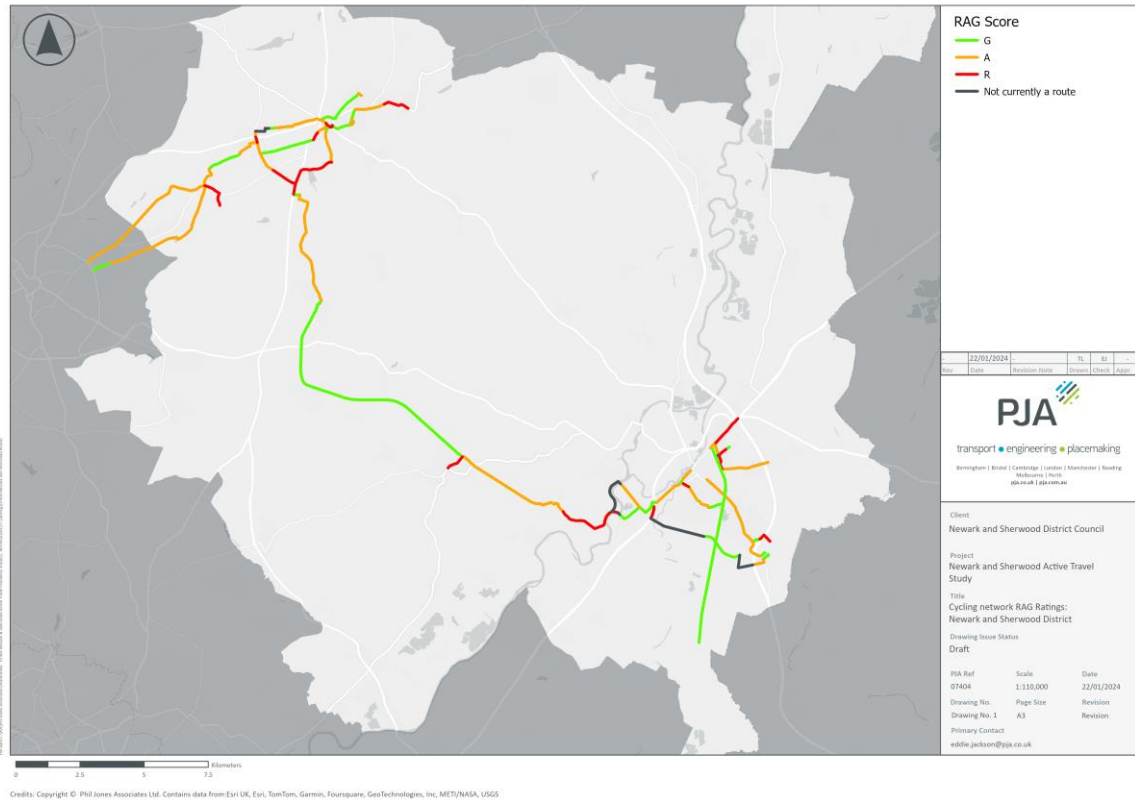


Figure 4-29: RST Audit summary

Figure 4-29 and Figure 4-30 show the audited routes. Sections marked in green represent good quality routes – though these may still require improvements – particularly surfacing improvements on the traffic free routes (many of which score green). Sections with an amber score may be useable by some people, though will exclude a portion of potential users and/or are not attractive to use. Sections with a red score are poor, excluding most potential users, and require significant improvements.

It is worth noting that it may not be possible to improve all aspects of all sections. For example, Rufford Lane Scores red due to the steep gradient east of the village – this is not something that can be improved. In such situations alternative routes may be identified, though in this instance this route remains better than alternative options.

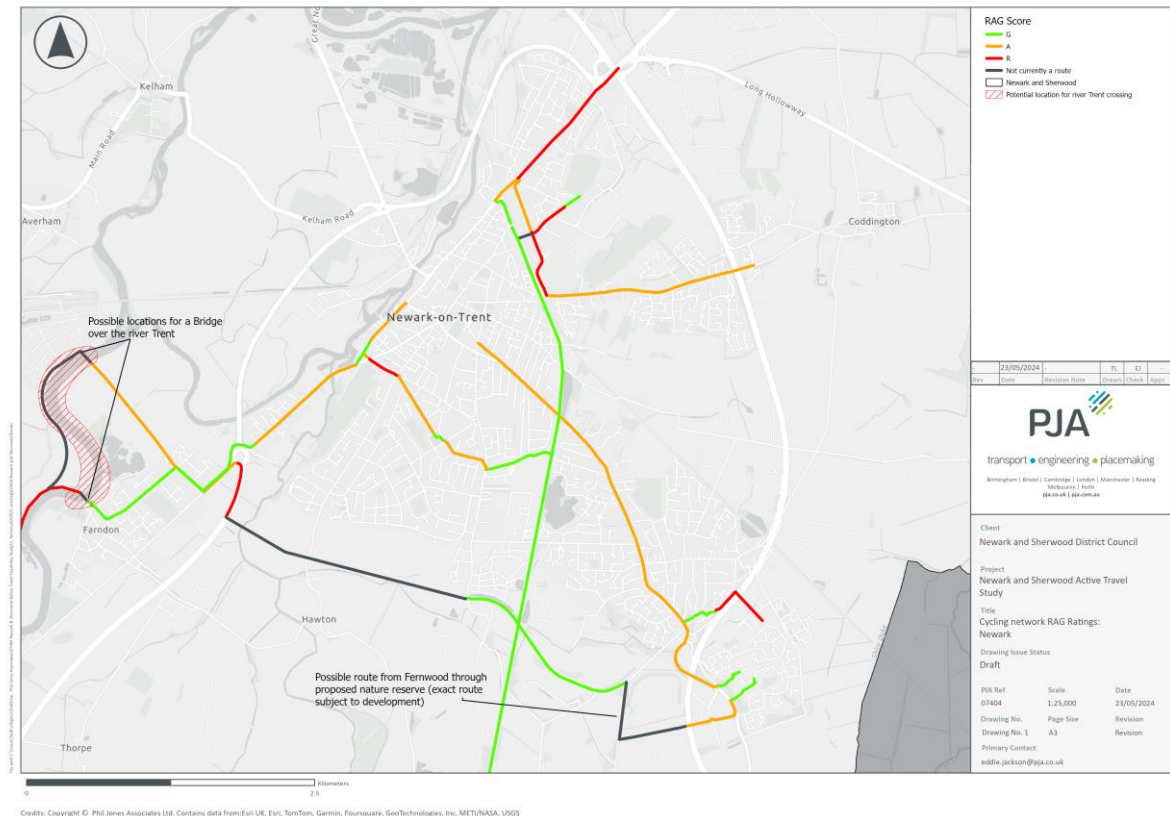


Figure 4-30: RST Audit Summary - Newark

Within Newark, most of the radial routes receive an amber score, though Lincoln Road receives a red score due to the narrow width of the (shared use) footways that are particularly problematic due to the conflict between people walking and cycling.

The former railway line greenway that forms part of NCN64 scores green due to its generally adequate surface and traffic free, grade separated nature that allows for a direct and attractive link from Northgate station southwards.

Northern Road scores red due to the extremely narrow advisory cycle lanes (less than 1m wide in some parts) – as well as the need to share the carriageway with high volumes of traffic, particularly HGV's.

4.6 Walking Route Audit Tool (WRAT)

4.6.1 WRAT Methodology

The rationale of developing a network plan for walking is to improve and extend the quality and coverage of the existing walking network to enable more people to walk for everyday trips. The development of the walking network is based upon the identification of 'Core Walking Zones' (CWZ) which represents areas that are expected to contain key walking trip generators and therefore likely to create higher levels of footfall. CWZ's were identified in Ollerton and Edwinstowe.

Newark Town Centre is being considered as part of the ongoing Newark Town Centre Masterplan work, so is outside the scope of this study, although the studies have been co-ordinated to ensure integration of the plans.

The Walking Route Audit Tool is divided into several categories for analysis and uses a Red Amber Green (RAG) scoring technique:

- **Attractiveness:** Considers the impact of maintenance, traffic noise, pollution, and fear of crime upon the attractiveness of a route.
- **Comfort:** Reviews the amount of space available for walking and the impact of obstructions upon walking such as footway parking, street clutter and staggered crossings.
- **Directness:** Assesses how closely pedestrian facilities are aligned with the natural desire line and accommodating the crossing facilities are for pedestrians to follow their preferred route.
- **Safety:** Focusses on the impact of vehicle volumes and speeds and interaction with pedestrians.
- **Coherence:** Focuses on the provision of dropped kerb and tactile information for pedestrians.

4.6.2 WRAT Audit findings

The WRAT audit identified a number of issues:

Newark:

General conditions on Lincoln Road – the footway on one side is very narrow (under 2m) while the other footway is shared-use, creating conflict between pedestrians and people cycling. This is also an issue (though less critical) on several other radial streets in Newark, such as Farndon Road, London Road and Beacon Hill Road.

Observations and stakeholder feedback suggest that Boundary Road has a significant number of HGV's passing through – the street is the first east-west connection upon entering Newark from the south and thus traffic associated with the ongoing developments to the south of Newark is using

the street as a link between Farndon Road and Hawton Road. The Holy Trinity School faces onto the street which makes the issue of safety particularly pertinent. The roundabout to the east of the school does not have any controlled crossings and its design gives priority to moving traffic over pedestrians.

The public right of way between Fernwood and Balderton has no adequate crossing facility over the A1 – Additionally, the verges are overgrown to the point that this crossing is no longer accessible.

Ollerton:

Generally, most walking routes are in good condition, with good surfacing and width of over 1.5m in most areas, though improvements could be made to the crossings at the junctions of Tuxford Road/ Whinney Lane, and Tuxford Road/Main Road – both having mini-roundabouts and uncontrolled crossings for pedestrians.

The major challenge with regards to walking in Ollerton is the connection to Boughton industrial estate along Cocking Hill. Here the footway is narrow and not separated from the carriageway by a verge. Given the 40mph speed limit and prevalence of HGV's along this route, this creates an uncomfortable walking experience. There is a wide grass verge on the other side of the footway, which could potentially be used to expand the footway to create a safer and more comfortable pedestrian environment. The alternative to using this footway is to use a public footpath that starts at the end of a driveway on Church Road - however this route adds around 200m of detour when compared to using Cocking Hill, and its usability may depend on the state of the agricultural land that it cuts through. Additionally, this route is unsurfaced and unlit, making it unsuitable during wet weather and the winter months where it will be dark in the mornings and evenings.



Figure 4-31: Cocking Hill (facing towards Boughton industrial estate)

Edwinstowe:

Edwinstowe suffers from physically constrained streets that leave little space for walking. For example, Church Street (linking High Street to Forest Corner) has a footway only on one side (for most of its length) and this narrows to less than 1.5m in places. Similarly, High Street has some pinch points where the footway is less than 1.5m and longer sections where it is still below 2m. Footfall is significantly higher here as the street acts as the village centre.

Further work is needed to understand the nature of traffic patterns at a local level in order to identify options to reduce the vehicle domination of High Street in the village centre – with this section being the southbound part of the B6034 (northbound vehicles utilise West Street).



Figure 4-32: High Street, Edwinstowe.

High Street beyond the village centre to the south has narrow footways, and a particularly wide mouthed side road entry onto Boy Lane, allowing vehicles to turn in at a high speed, and creating a longer crossing distance for pedestrians.



Figure 4-33: High Street, Edwinstowe (south of the village centre)

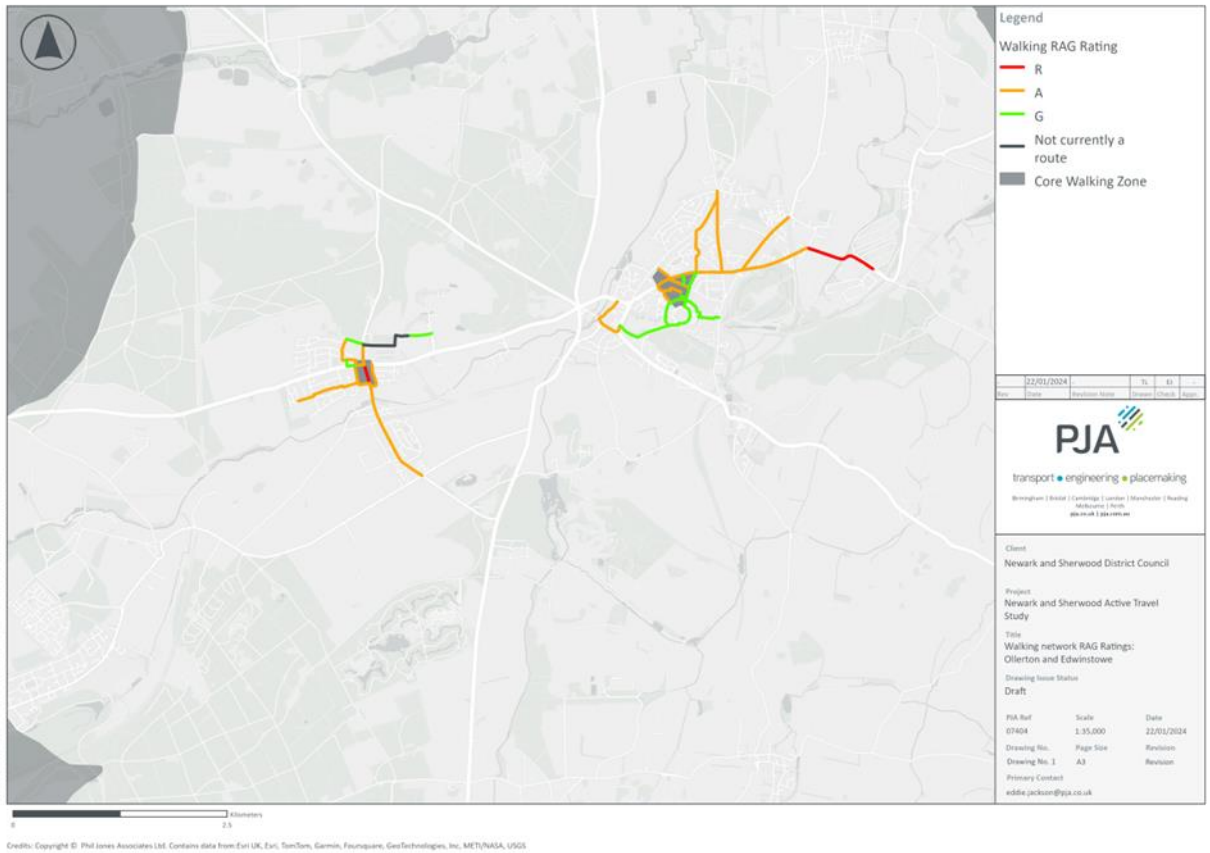


Figure 4-34: WRAT Audit summary, Ollerton and Edwinstowe

Within Ollerton and Edwinstowe, most routes score amber, with a few green sections, primarily in and around the Energy Village in Ollerton. As with the RST analysis for cycle routes, a green rating does not mean that a route cannot/should not be improved. For example, Middlefield is rated green, though may be less attractive at night due to the lack of lighting – the provision of which would improve the route. The two red rated sections are High Street in Edwinstowe and Cocking Hill in Boughton.

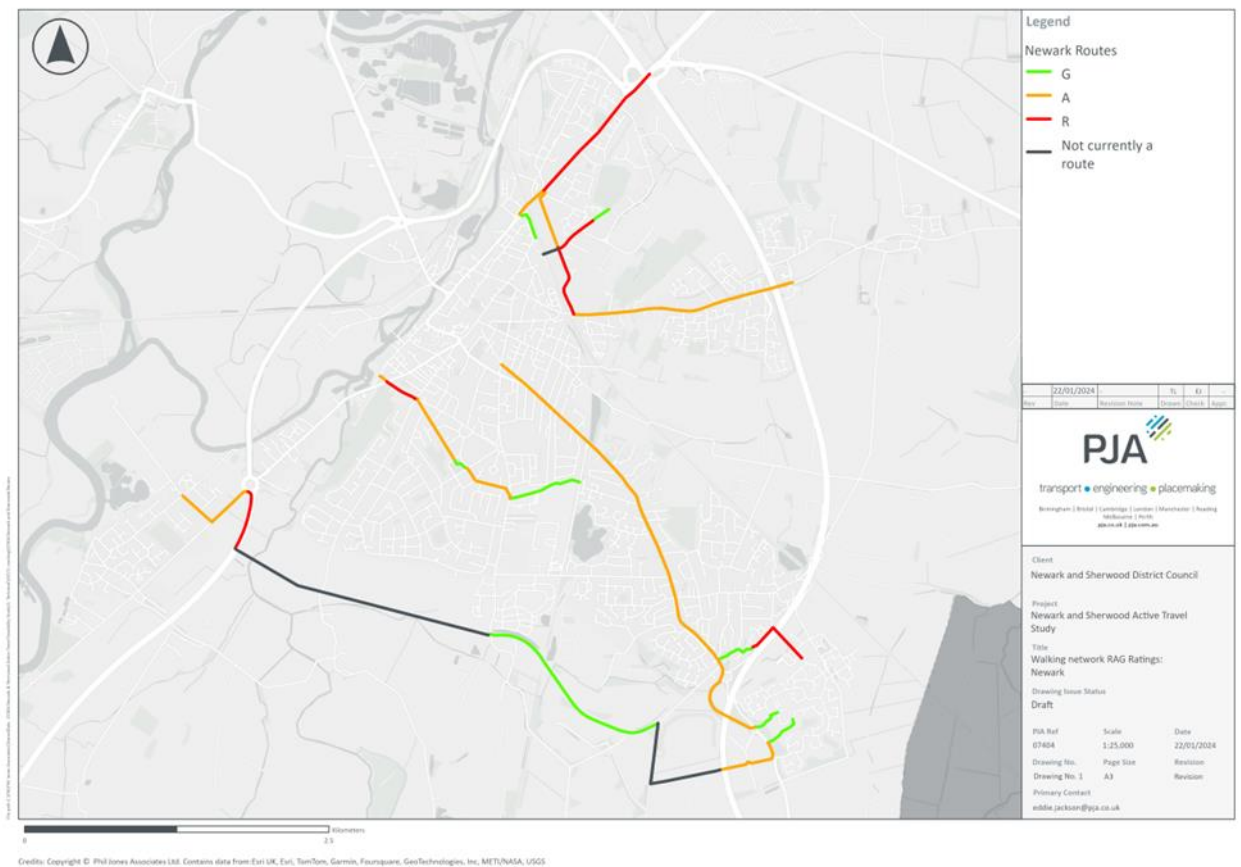


Figure 4-35: WRAT Audit summary, Newark

Route ratings vary more in Newark, though there are few green rated sections. As mentioned previously, Lincoln Road and Boundary Road are unattractive due to limited space/conflict with cycles and high traffic volumes/speeds respectively. Northern Road and Brunel drive are also rated red, due to the number of HGV's, as well as a lack of crossing facilities, coupled with junctions that permit high speeds and thus make walking unsafe.

4.7 Proposed Network and Design Recommendations

Based on the findings from the RST and WRAT audits, outcomes of the site visits, and feedback from stakeholders, the proposed networks for walking and cycling have been developed. Design recommendations have been made for walking and cycling routes in Newark, Ollerton and Edwinstowe, as well as for inter-urban and rural cycle routes linking to Clipstone, Bilsthorpe, Southwell, as well as key leisure destinations. Design recommendations are informed by LTN1/20 and vary depending on conditions including traffic volumes, speeds and any constraints.

The analysis and audit indicated that different approaches should be taken in different locations. In Newark, routes were considered both in terms of walking and cycling given the primarily uniform built-up nature of the town.

For Edwinstowe, Ollerton and the surrounding areas, cycling was considered separately due to the different (primarily leisure and employment) destinations that become accessible when cycling – such as Sherwood Pines, Vicar Water Country Park, Rufford Abbey and Center Parcs. The settlements of Clipstone and Bilsthorpe are also integrated into this cycle network, with key routes such as Bilsthorpe-Center Parcs and Clipstone-Sherwood Pines being a focus in those areas.

The extent of the network and design recommendations are outlined in the Design Recommendations Booklet - Appendix C.

4.8 Costings

A high level construction costing exercise has been undertaken, based on 2023 prices and PJA’s experience of undertaking similar improvements elsewhere. The details of the costing exercise are summarised in Table 4-2 with more detail on the cost calculations in Appendix D.

Costing Summary

	Total	Link costs	Point costs
Sherwood Area	£ 10,275,053	£ 8,665,053	£ 1,610,000
Newark Area	£ 20,593,883	£ 11,938,883	£ 10,150,000
Inter-urban route	£ 2,909,609	£ 2,774,609	£ 135,000
Newark, Sherwood Area + Inter-urban total	£ 35,278,545	£ 23,378,545	£ 11,900,000

Note: All design interventions and therefore costs are provided at a very high level. Works have not been done to identify delivery issues such as the movement of utilities, etc. These therefore do not form part of the costing estimates. Overheads such as preliminaries, contract, contingency, optimism, design and project management are also not included. Costs are itemised at a high level as per the LCWIP guidance and previous PJA project experiences.

Table 4-2: Construction Cost Estimate Summary

4.9 Prioritisation

4.9.1 Prioritisation Approaches

A prioritisation exercise was undertaken in collaboration with NSDC officers in order to identify the parts of the network that may be a higher priority, and those which may be longer term aspirations.

It is proposed that all elements of the network are ultimately delivered, but this prioritisation assessment can be used to inform applications for funding, direct developer contributions, or prioritise other resources.

The approach to prioritisation follows the recommendations in the LCWIP guidance, which states that the criteria used should be tailored to the local circumstances, but will typically cover;

Effectiveness – how well the improvements are likely to contribute to an increase in active travel trips.

Policy – How well the improvements align with other planned schemes, and the likely contribution to other local policy goals.

Deliverability – How easily the improvements could be delivered, in terms of technical feasibility, and stakeholder acceptability.

The likely cost of the interventions is an additional consideration, which is assessed separately.

4.9.2 Newark and Sherwood Prioritisation Approach

The proposed improvements set out in the Design Recommendations appendix have been clustered into a number of routes, as shown in Figure 4-36.

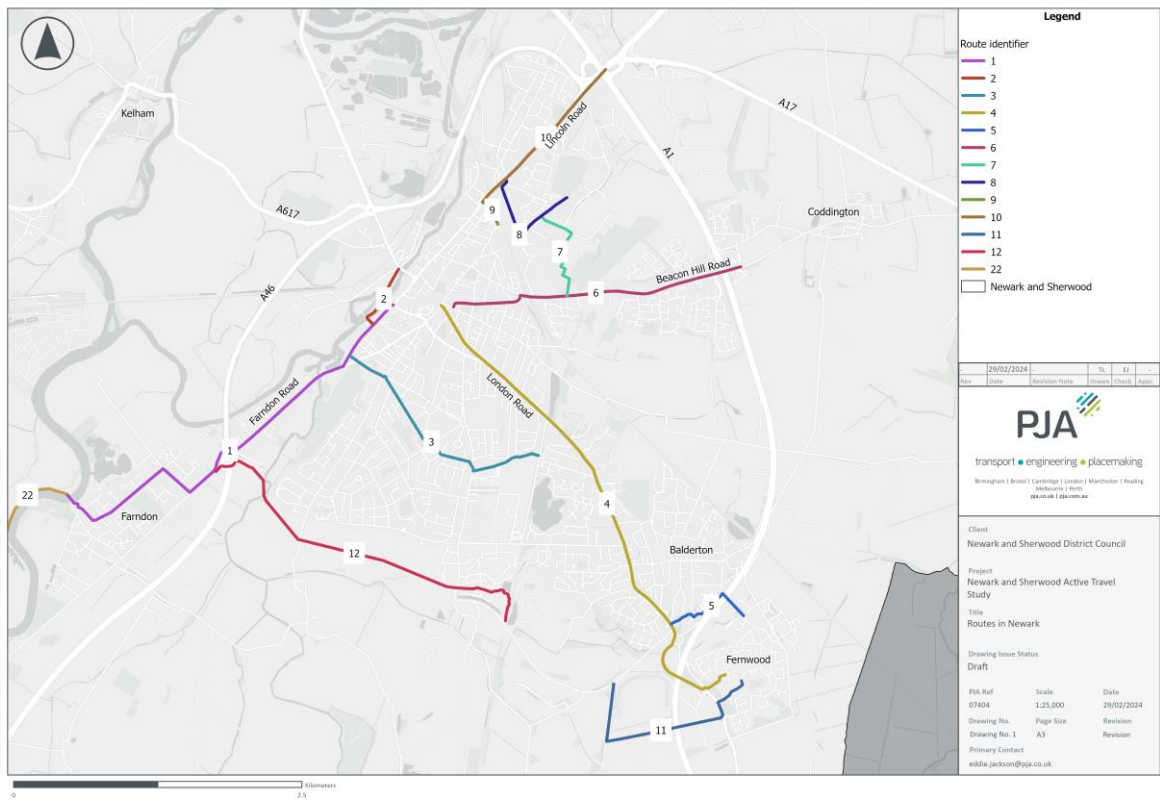


Figure 4-36: Routes for prioritisation - Newark

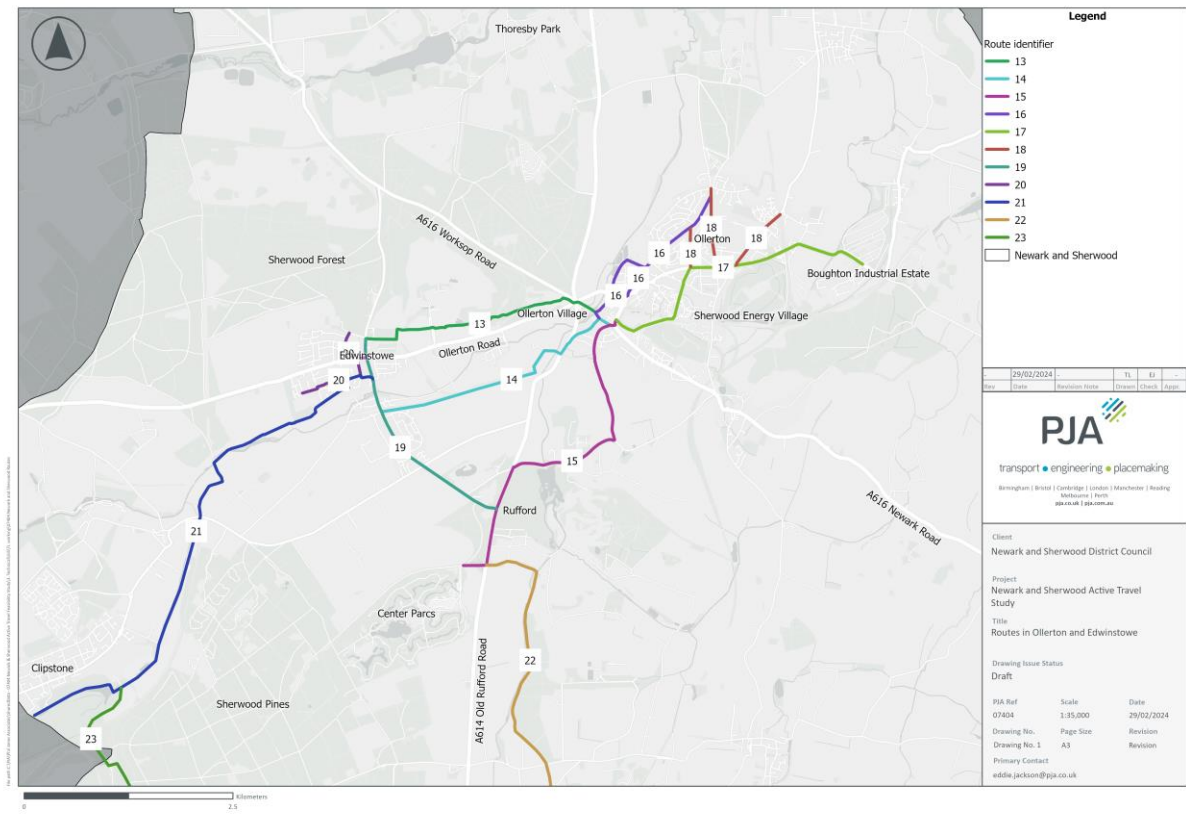


Figure 4-37: Routes for prioritisation – Ollerton and Edwinstowe

In agreement with the NSDC Project Team, the criteria for prioritising the routes are;

Effectiveness:

- Correlation of the route to potential demand identified through the PCT and Everyday Trips analysis
- Connectivity with other LCWIP routes
- Connectivity to areas of population and employment
- Connectivity with leisure destinations

Policy Alignment:

- How well the route aligns to future development and other policies
- Alignment to issues or priorities raised by stakeholders

Deliverability:

- Space available for the proposed improvements
- Complexity of planning and constructing the proposed improvements, including local consultation.

Alignment with the D2N2 LCWIP network has also been considered, highlighting routes where the network developed as part of this strategy aligns most effectively with the funding priorities for the D2N2 LCWIP outlined by Nottinghamshire County Council.

A simple 1-3 scale has been used to score the routes against each of the main criteria, with a more detailed 0-4 scale used to score alignment with the D2N2 LCWIP – reflecting the funding timescales outlined by Nottinghamshire County Council’s 15-year Infrastructure Programme¹.

The combined scoring provides an overall score and rank for the routes. The ranking outcome is summarised in Table 4-3 and the more detailed scoring is shown in Appendix E.

Route identifier	Route Name	Total	Rank
13	Ollerton Village - Edwinstowe (northern)	25	1
1	Mill Gate/Farndon	24	2
19	Forest Corner - Center Parcs	24	2
21	Edwinstowe - Clipstone	23	4
4	Balderton Gate - Fernwood	22	5
6	Bede House Lane - Beacon Hill Road	21	6
15	Ollerton Village - Center Parcs	21	6
23	Bilsthorpe - Clipstone	21	6
10	Lincoln Road	20	9
17	Ollerton Village - Boughton industrial estate	20	9
22	Farndon - Center Parcs	20	9
7	Beacon Hill Road - Brunel Drive	19	12
18	Ollerton walking routes	19	12
2	Castle Station - Mill Gate	18	14
3	Southfield Terrace - NCN64	18	14
8	Brunel Drive - Lincoln Road	18	14
11	Fernwood - Bantycok Quarry/Southern Link Road	18	14
12	Southern Link Road - Farndon	18	14
16	Ollerton Village - Dukeries Academy	18	14
5	Fernwood - Balderton (A1 crossing)	17	20
14	Ollerton Village - Edwinstowe (southern)	17	20
20	Edwinstowe walking routes	17	20
9	Northgate Station - Lincoln Road Bridge	16	23

Route Categories
Newark Routes
Ollerton - Edwinstowe area
Inter-urban routes

Table 4-3: Route Prioritisation Ranking

1

<https://www.nottinghamshire.gov.uk/media/5081413/nottinghamshirecountycouncillocalcyclingandwalkinginfrastructureplandeliveryprogramme.pdf>

5 Conclusions and Recommendations

This chapter briefly summarises the key issues and recommendations for the Newark and Sherwood Active Travel Study.

Analysis of background data and engagement with stakeholders indicates that there is a strong case for improving the active travel offer in Newark and Sherwood, with significant potential demand for new walking and cycling journeys, and to also shift some existing short cars journeys to active travel. The study looks at demand for 'utility' journeys – trips to work, education, retail – but also considers access to green space and leisure opportunities, providing areas of higher deprivation and poorer health outcomes with better links to outdoor activity space. Analysis indicates that the areas of greatest potential are around Ollerton, Boughton and Edwinstowe, as well as in the south of Newark, where there is significant development under way.

Engagement with stakeholders, including a Member Briefing early in the process, a wider stakeholder workshop, and public consultation on key priorities has been incorporated alongside the data analysis to develop a network of proposals. The network aims to provide improved links in areas of demand, providing a safe, direct, coherent, comfortable and attractive network for people walking and cycling.

Figure 5-1 summarises the proposed network, comprising urban route improvements in areas of higher population, and inter-urban routes which offer leisure and longer distance cycling opportunities.

Figure 5-1
: Proposed cycle network, Newark and Sherwood District

As a strategic network study, the proposals are high-level, and subject to more design to confirm their engineering feasibility. However our recommendations for network implementation are:

- Stronger east-west links between Ollerton and Edwinstowe – especially for school travel and links to retail and employment opportunities.
- Greenway links especially around the Sherwood area aim to provide improved active travel connections for leisure activities, particularly linking Ollerton and Edwinstowe to the Sherwood Pines area – reducing the need for people to drive to the forest.
- Improved connections to the popular Southwell Trail, especially from Newark, via a new bridge connection over the River Trent in Farndon. This link would also significantly benefit access to the Staythorpe Power Station from Newark, allowing workers to use a much more direct route from residential areas south of Newark.
- Improved orbital connections around the south of Newark, linking key amenities, schools and providing for short local journeys.
- Improvements of radial routes to the south of Newark, particularly Farndon Road and London Road, bringing cycle infrastructure up to a higher standard. A new bridge over the A1 to link to the Fernwood development would reduce severance and bring the local amenities of Balderton within easier reach of Fernwood residents.

The proposals have been prioritised using criteria agreed with the NSDC team, and indicative costs have been identified to inform future funding applications and potential delivery opportunities.





Appendix A Plans



Appendix B Walking and cycling Audit Tables



Appendix C Design Recommendations Booklet



Appendix D Costings



Appendix E Prioritisation