

Local Cycling & Walking Infrastructure Plan

January 2023



Foreword from Cabinet Member for transport Councillor Jennifer Wilson-Marklew

[INSERT PICTURE HERE]

I am pleased to present Milton Keynes' first Local Cycling and Walking Infrastructure Plan (LCWIP). It sets out our ambitious plan for the expansion and upgrade of our Redway network.

Milton Keynes City Council declared a climate emergency in 2018 and committed to be carbon neutral by 2030 and carbon negative by 2050. In our Strategy for 2050 we highlight the need to make walking, cycling and scooting the first choice for shorter trips. Attractive and high-quality infrastructure is key to this and to providing accessible mobility for all. Both in the Strategy for 2050 and in the current Council Plan we aim to increase levels of active travel. This is vital if we are to reach our carbon reduction goals, improve the health and wellbeing of our residents and support our local economy.

We recognise the importance of this LCWIP in achieving these goals. Milton Keynes already has an extensive Redway network that enables our city to be explored. Building upon our infrastructure will improve the low-carbon travel options available and increase the trips taken by healthy modes. This LCWIP will play an important role in making active travel accessible, easy, welcoming and enjoyable, whilst creating more liveable environments. It will inform the new Local Transport Plan and Local Plan, guide the delivery of sustainable new developments and provide a clear rationale for investment to make our city safe and accessible for residents, businesses and visitors.

During the pandemic, we saw an increase in people taking advantage of our Redway network, exploring our great city by walking and cycling. We want to further encourage residents to get out and enjoy the network, whilst trying to combat physical and mental health issues associated with inactivity.

We have worked with many stakeholders in the preparation of this document. We would like to express our gratitude to everyone for their time and effort to share their views and opinions in the development of this LCWIP and we would particularly like to thank the Milton Keynes Cycling Forum for their invaluable help and ongoing commitment. Your contributions will ensure that this LCWIP will aid the future development of our city and to make it the greenest and most sustainable city in the world.

Contents

Executive Summary	A
1. Development of this LCWIP.....	1
1.1. Purpose of this LCWIP	1
1.2. Process undertaken.....	1
1.3. Background to Milton Keynes	4
1.4. Creating the Project Scope.....	4
1.4.1. Establishing the Geographical Scope	5
2. Establishing the Evidence Base.....	7
2.1. Policy Review.....	7
2.1.1. National Policy.....	8
2.1.2. Local Policy.....	10
2.2. Data Review.....	11
2.2.1. Existing Walking and Cycle Network.....	11
2.2.2. Population Demographics	15
2.2.3. Demand	16
2.3. Stakeholder Feedback	18
2.3.1. Call for schemes	18
2.3.2. Stakeholder Responses	19
2.3.3. Stakeholder Workshops	20
2.3.4. Site Visits	22
3. Developing the Long-List: The Interborough Network	24
3.1. Methodology	24
3.1.1. Baseline Data Analysis.....	24
3.1.2. Key Desire Line Identification.....	25
3.1.3. Gap Analysis	27
3.1.4. Future development schemes.....	28
3.2. Interborough Network Long List	29
4. Developing a Long List: The Local Schemes	31
4.1. Methodology	31
4.1.1. Core Walking Zones.....	31
4.1.2. Baseline Data Analysis.....	33
4.1.3. Desire Lines	34
4.1.4. Gap Analysis	34
4.1.5. Existing Network Analysis	34

4.2.	Local Networks	34
4.2.1.	Central Milton Keynes	35
4.2.2.	Bletchley	36
4.2.3.	Newport Pagnell	38
4.2.4.	Wolverton	39
4.2.5.	Stony Stratford	40
4.2.6.	Olney	41
4.3.	Low Traffic Neighbourhoods	42
5.	Appraising and Prioritising Schemes	43
5.1.	The Long List	43
5.2.	Appraisal Metrics	45
5.3.	Appraised Long-List Summary	46
5.4.	Prioritisation of Long List Schemes	50
5.4.1.	Delivery Timeframes of Schemes	50
5.5.	Prioritised Long List	50
5.6.	Wider Recommendations	52
5.6.1.	Redway Design Specifications	52
5.6.2.	Wayfinding and Signage	52
5.6.3.	Underpasses	52
5.6.4.	Identity	53
5.6.5.	Accessibility and Inclusivity	53
5.6.6.	Wider Placemaking improvements	53
5.6.7.	Maintenance	54
6.	Public Consultation	55
6.1.	Public Consultation Feedback	55
6.2.	Peer Review	56
7.	Delivering this LCWIP	58
7.1.	Delivery plan	58
7.2.	Governance	61
7.3.	Local policies	61
7.4.	Delivery mechanisms and funding sources	61
8.	List of appendices:	63
9.	References	i

Executive Summary

This report sets out the Local Cycling and Walking Infrastructure Plan (LCWIP) for the City of Milton Keynes and explains the methodology used to create it.

The LCWIP provides a plan for the development of the active travel network across the City of Milton Keynes authority area (see Figure 0-1), which was developed through the methodology set out in Chapters 2 - 5. Chapter 2 outlines the evidence base and how the findings of this LCWIP align with local and national policies. Chapter 3 and Chapter 4 explain how a long list of network improvements were developed with analysis at both the interborough and local levels to identify long and short distance improvements.

Chapter 5 summarises the appraisal method and how schemes were prioritised. In addition to this, wider recommendations have been made to increase usage and improve accessibility for all. These include suggested changes to the Redway design specifications, wayfinding & signage improvements, enhancements to underpasses, creating a sense of identity along the Redways, accessibility & inclusivity of the network and maintenance.

Chapter 6 provides an overview of the feedback from the public consultation on the draft LCWIP undertaken in early 2022. Chapter 7 includes a number of these improvements, notably an LCWIP delivery plan and overview of the governance to oversee this delivery.

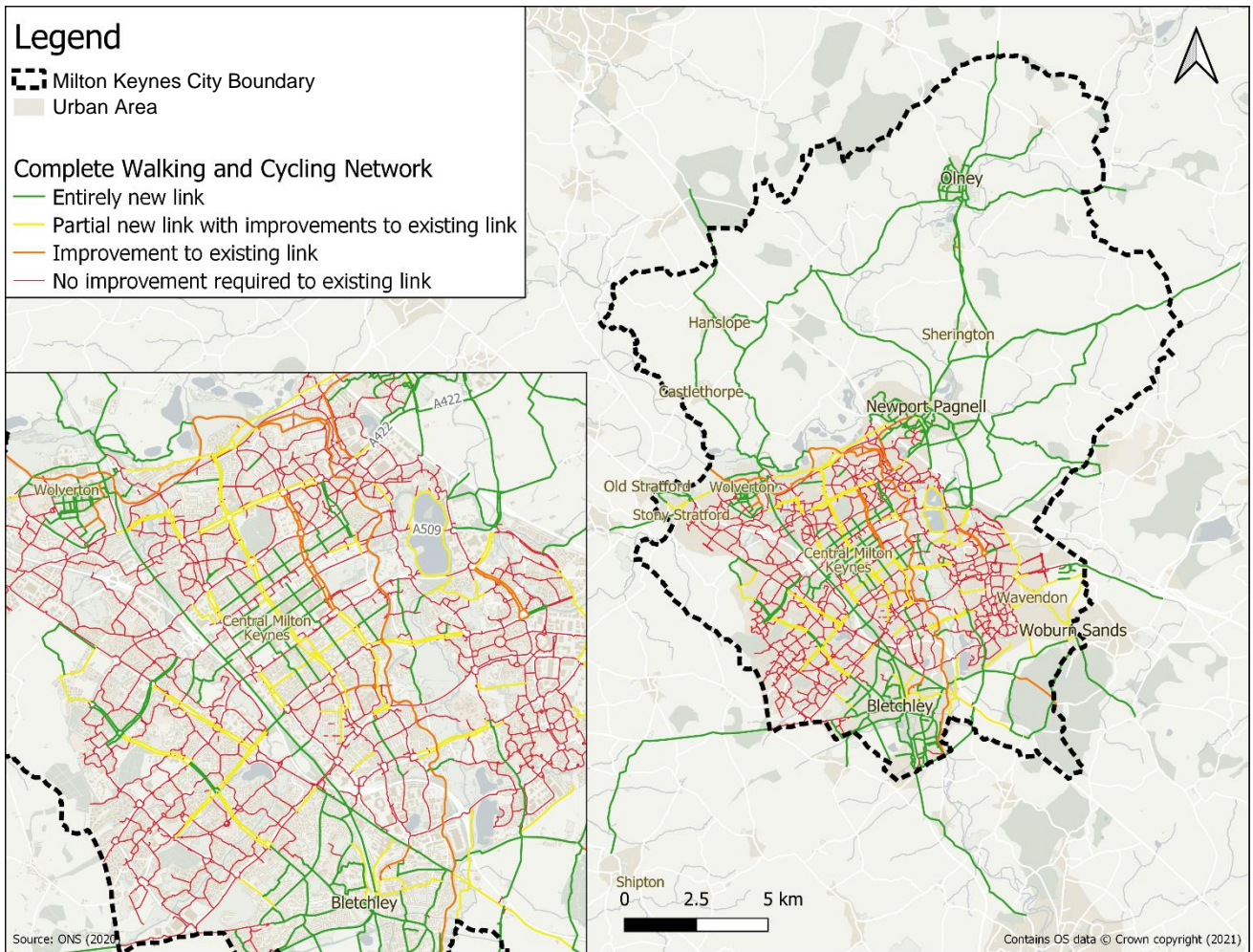


Figure 0-1: Complete proposed walking and cycling network across the Milton Keynes City boundary

1. Development of this LCWIP

1.1. Purpose of this LCWIP

Following the adoption of a new active travel strategy as part of the *Road Safety, Walking & Cycling and Smarter Travel Strategy 2021*, Milton Keynes City Council has developed this Local Cycling and Walking Infrastructure Plan (LCWIP). The purpose of this LCWIP is to provide a plan for active travel infrastructure development throughout the City of Milton Keynes authority area. In line with LCWIP Guidance from the Department for Transport (DfT), it will support Milton Keynes City Council in creating materially better places to live and work, including:

- **Places designed for people:** Places that have cycling and walking at their heart where cycling and walking offer a safe and reliable way to travel for short journeys
- **Healthy places:** The development of a wider green network of paths, routes and open spaces
- **Better mobility:** Engagement with citizens to encourage uptake of cycling and walking, making it easy, normal and enjoyable

It will also:

- Support for investment cases into future cycling and walking infrastructure
- Provide a mechanism to engage the public and stakeholders in a clear, transparent, evidence-based process, to enhance and prioritise cycling and walking provision across the chosen area.
- Provide an evidence base which can be used to support a Local, Neighbourhood or Local Transport Plan
- Serve as a long-term strategy that can be linked to other policies and plans
- Identify places where new strategic cycling or walking routes should be delivered by a new development and ensure the protection of alignments for future planned active travel routes

This LCWIP has produced an ambitious plan for the expansion and upgrade of the existing Redway network to encourage higher usage by the public. As part of the process wider recommendations have also been made on other supporting infrastructure which could be adopted or improved to encourage usage (see 5.6).

1.2. Process undertaken

Consultants were commissioned to work with council officers to develop this LCWIP. Ahead of the consultants commencing work, the council invited stakeholders to suggest improvements to local walking and cycling provision. This engagement exercise received over seventy responses with over one hundred schemes suggested. This was shared with the consultants when they commenced the LCWIP development process. The LCWIP development stages are outlined in Figure 1-1 below.

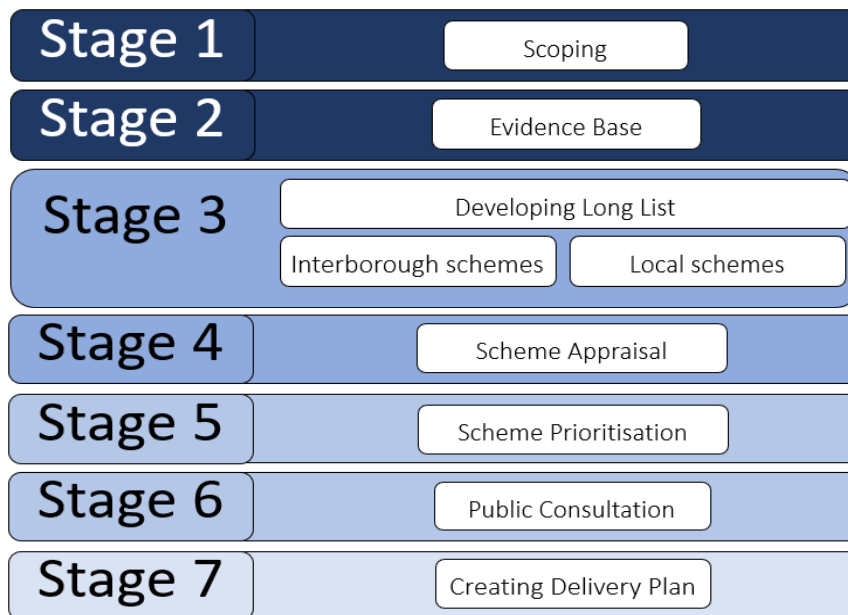


Figure 1-1: Stages taken for development of this LCWIP

Stage 1 - Scoping

Define and agree the geographical scope, delivery model, governance arrangements, stakeholder engagement approach and timescales for the LCWIP.

Stage 2 - Establishing an Evidence Base

Conducting initial engagement with stakeholders, gain feedback on existing and planned infrastructure and create a relationship which improved the success of the work proposed in this LCWIP. At this stage, local and national policy was reviewed and data on the existing walking and cycling infrastructure and trip demand, including identifying existing and planned trip generators (see Chapter 2).

Stage 3 – Developing the Long List

This stage was broken into two sections: interborough schemes and local schemes. Interborough schemes looked at creating a long-distance network, while the local schemes looked at more localised development of a short distanced local networks, focussing on key destinations. A series of exercises were undertaken (see Chapter 3 and Chapter 4) to develop a long list of schemes, which were combined with suggestions from stakeholders.

Stages 4 and 5 – Appraising and Prioritising Schemes

High-level appraisal of the long list of schemes was conducted, including determining high-level costs, prioritising schemes and creating a deliverability appraisal on shortlisted schemes. In addition, wider recommendations were made for further improvements to the network (see Chapter 5).

Stage 6 – Consulting the Public

A draft LCWIP was taken to public consultation. The consultation exercise ran from 17th January 2022 until 13th March 2022, where a total of ninety responses were received. For more information (see Chapter 6).

Stage 7 – Creating the Delivery Plan

Building on the feedback received during the consultation exercise, multiple changes were made to the draft LCWIP. In addition, MKCC created a clear delivery plan to provide a pipeline of work to guide future investment in the Redway network and the governance structure to ensure its delivery (see Chapter 7). This delivery plan has been informed by the scheme appraisal, as well as consideration for the scheme’s deliverability and likely funding availability.

Stakeholder engagement has been undertaken at numerous stages in the process. This included stakeholder workshops, site visits across the city and a public consultation. We greatly appreciate all contributions during the development of this LCWIP.

1.3. Background to Milton Keynes

Despite there being over 350km of Redways in Milton Keynes, the dominant mode of transport is still the private vehicle. The city is known for its unique grid-based road network and the high quantity of roundabouts. This road system makes it very easy to travel around the city by private vehicle, however this is to the detriment of other transport modes. Active travel modes have particularly suffered, as the grid system makes cycling routes indirect and limits opportunities for crossing points of barriers such as the railway, waterways and major grid roads. The city continues to grow, with future growth and intensification presenting a great opportunity to significantly improve active travel infrastructure in Milton Keynes. Figure 1-2 below shows the scope area.

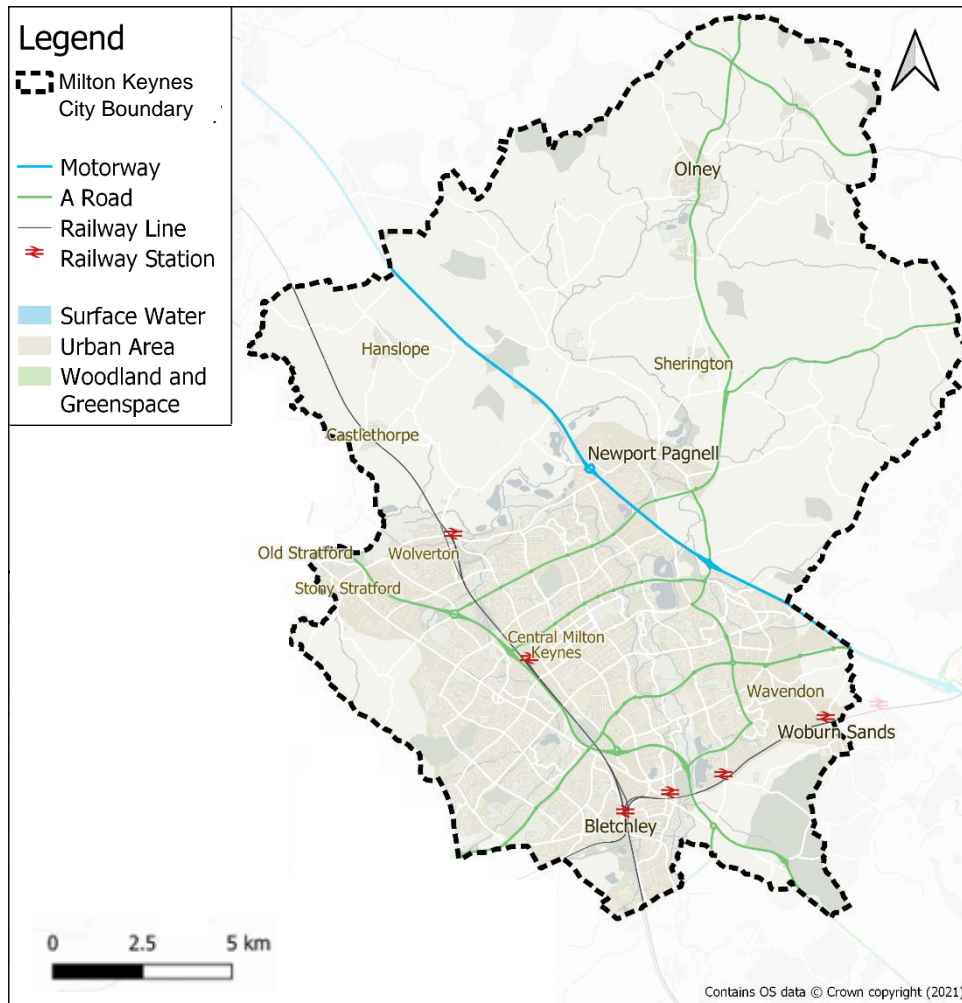


Figure 1-2: Scope Area

1.4. Creating the Project Scope

As Milton Keynes already has an extensive Redway network for walking and cycling, the focus of this LCWIP was to identify missing links within the existing network and produce an ambitious plan for the Redway expansion within Central Milton Keynes, extending into Bletchley, Wolverton and Olney. This LCWIP acknowledges that missing links are not the sole issue facing the Redway network and so also provides a list of other, supporting recommendations to improve the infrastructure in the borough, such as wayfinding and design guidance.

Schemes identified were categorised as follows

- **Quick Win Network Improvements (<2 Year Delivery Timescale)**

- **Short Term Network Improvements** (2-4 Year Delivery Timescale)
- **Medium Term Network Improvements** (4-8 Year Delivery Timescale)
- **Long Term Network Improvements** (8+ Year Delivery Timescale)

The desirable outcomes of this LCWIP are shown in Figure 1-3, showing their alignment with the [Milton Keynes Mobility Strategy](#) (LTP4) and [Road Safety, Walking & Cycling & Smart Travel Strategy](#) sub-objectives (please see the [Evidence Base Report](#) for more information). The deliverable solutions are elements that can be delivered as part of this LCWIP and the measurable outcomes are how success can be measured over time.

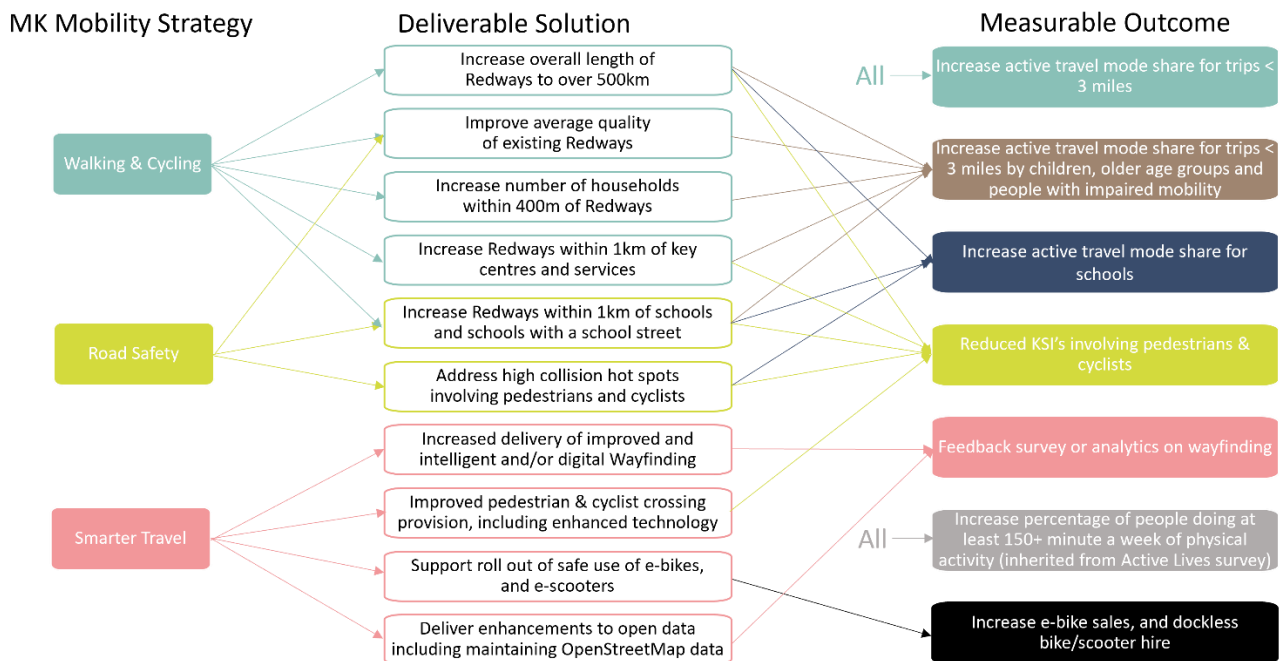


Figure 1-3: Desirable outcomes of the Milton Keynes LCWIP

1.4.1. Establishing the Geographical Scope

The geographical scope of this LCWIP is the City boundary (see Figure 1-4). In line with LCWIP Guidance, we have evaluated cycling within a 10km area around the centre of Milton Keynes (approximately a 60-minute cycle) which covers the majority of the borough.

For walking, the LCWIP guidance recommends looking at 2km from the central zone. Through discussion with the council, the following areas were established as centres of interest:

Bletchley	Central Milton Keynes	Newport Pagnell
Olney	Stony Stratford	Wolverton

As such, a 2km walking scope was established around each of these centres. The cycling infrastructure within the walking scope of Olney was also assessed even though this falls outside of the 10km scope of Central Milton Keynes.

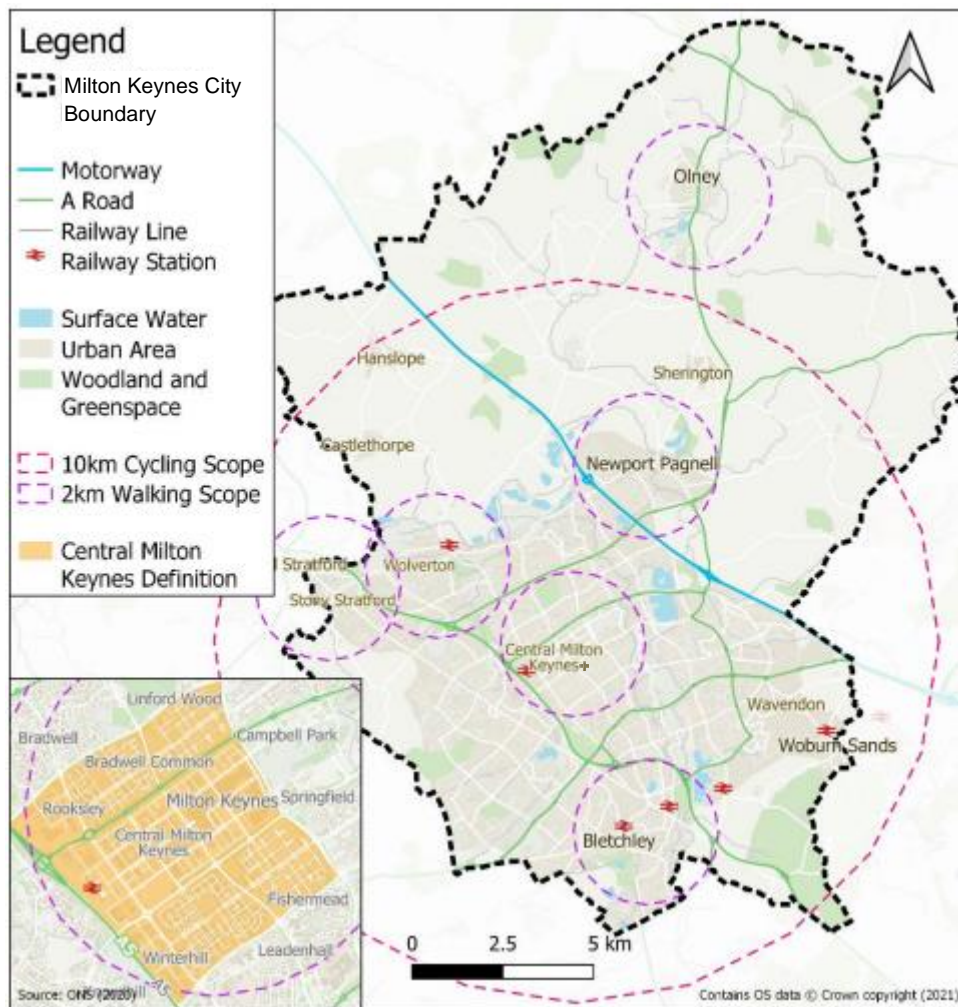


Figure 1-4: Definitions of the scope areas covered by the LCWIP

For the purpose of this project, the following definitions have been made and apply hereafter:

1. **Central Milton Keynes (CMK+)** includes not only the area enclosed by the A509, A5, H6 Childs Way and the B4034, but also the residential areas of Bradwell Common, Conniburrow, Fishermead, Oldbrook. This is shown in the inset in Figure 1-4.
2. **Milton Keynes City Centre** encompasses Central Milton Keynes (CMK+) and the residential areas around it up to but not including the surrounding towns of Stony Stratford, Wolverton, Newport Pagnell, Bletchley, Wavendon and Woburn Sands.

2. Establishing the Evidence Base

Chapter at a Glance

This chapter summarises Stage 2 of the LCWIP process, consisting of development of an evidence base, including the policies reviewed (see Section 2.1.) and the data that was analysed (see Section 2.2.) Whilst compiling the Evidence Base, stakeholder engagement was undertaken to understand the local perception of the network. The findings from this are summarised in Section 2.3. A site visit was undertaken, details which and the subsequent findings are summarised in Section 2.3.4.

2.1. Policy Review

The policies that were reviewed as part of the evidence base covered local and national policies focussed on active travel and relevant wider policies (see Figure 2-1). A key focus of these policies is the need to increase active travel within the Borough, both to:

1. Benefit the environment by reducing private vehicle use to decrease transport emissions
2. Improve the health of the resident population

The Redways are a defining feature of Milton Keynes active travel network. Their high design standards and wide coverage make walking and cycling a more attractive option for many within the town. Priorities for the future investment, as outlined within these policies, include the upgrading of Redway Super Routes and the expansion of the network beyond Milton Keynes Centre. This LCWIP is anticipated in many of these policies as a useful tool in the prioritisation of the future infrastructure development.

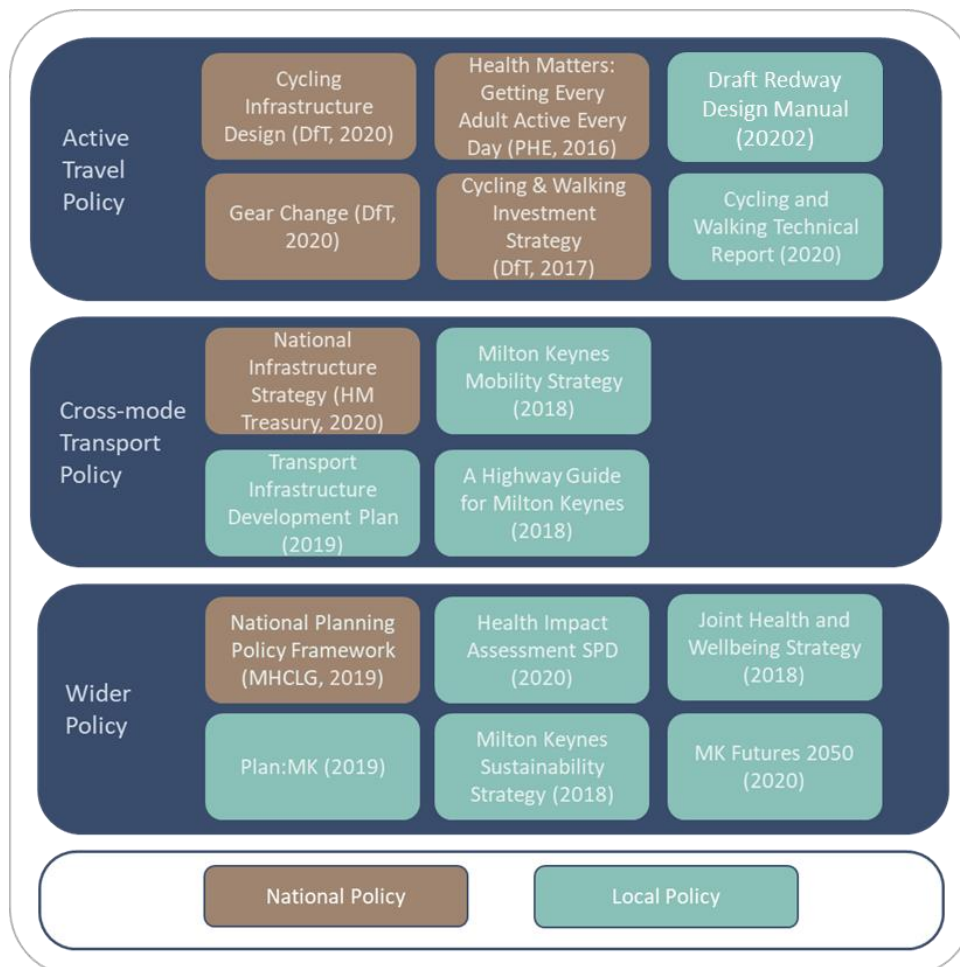


Figure 2-1: Summary of the Policies reviewed in the evidence base

2.1.1. National Policy

DfT's Gear Change (DfT, 2020) is a visionary strategy which identifies how walking and cycling will be revolutionised across England. It is based around four themes.

The Gear Change Themes:

Theme 1 – Better streets for cycling and people

Theme 2 – Cycling at the heart of decision-making

Theme 3 – Empowering and encouraging Local Authorities

Theme 4 – Enabling people to cycle and protecting them when they do

It aspires that 'all new housing and business developments are built around making sustainable travel, including cycling and walking, the first choice for journeys'. Also, aligned with the UK Government's Ten Point Plan for a Green Industrial Revolution, it aspires to empower and encourage local authorities to deliver new active travel infrastructure by 2025. A key element of qualifying for funding is through ensuring that new schemes comply with the key design principles identified in Local Transport Note (LTN) 1/20 which includes ensuring cycling infrastructure is accessible, segregated from traffic, resilient to future usage increase, legible and direct and with consistent provision.

2.1.1.1. LTN 1/20 Cycle Infrastructure Design

It is important that the Redways align with relevant guidance on shared use paths. LTN 1/20 clearly states that: *"Off-carriageway cycling provision may either be physically segregated from pedestrian facilities or a common surface may be shared."* Examples include:

- If well-designed and implemented in appropriate locations
- Alongside interurban and arterial roads where there are few pedestrians
- At and around junctions where cyclists are generally moving at a slow speed
- Where a length of shared use may be acceptable to achieve continuity of a cycle route
- Where high cycle and high pedestrian flows occur at different times
- Away from streets in locations such as canal towpaths, paths through housing estates, parks and other green spaces
- Alongside busy interurban roads with few pedestrians or building frontages

"The potential conflict between pedestrians and cyclists is often a concern when designing routes away from highways. Although there are few recorded collisions between pedestrians and cyclists on shared use paths, the fact that the two user groups travel at different speeds and sometimes in different directions, can affect the level of comfort of both groups. It is a particular concern for visually impaired people." (DfT, 2020)




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

Figure 2-2: LTN 1/20 Core Design Principles

Additionally, to ensure funding for further Redways, Milton Keynes City Council needs to simply and clearly justify any deviation from the guidance.

“Where schemes are proposed for funding that do not meet these minimum criteria, authorities will be required to justify their design choices. It still gives local authorities flexibility on design of infrastructure, but sets an objective and measurable quality threshold.” (DfT, 2020)

The LTN 1/20 also sets out 22 summary principles which form an integral part of the guidance. Below is a selection of the relevant principles.

Principles	Description	Action From This LCWIP
Cycles must be treated as vehicles and not as pedestrians	On urban streets, cyclists must be physically separated from pedestrians and not share space. Where cycle routes cross pavements, a physically segregated track should be provided. At crossings and junctions, cyclists should not share the space used by pedestrians but should be provided with a separate parallel route	This means that for new Redways, where applicable, segregation of pedestrians and cyclists should be considered and, a plan for the segregation of existing high-volume routes should be created. Installing Tiger crossings would provide parallel crossing provision.
Cycle infrastructure should be designed for significant numbers of	To allow for high numbers of cyclists, including non-standard cycles such as cargo bikes, handcycles and trikes, cycle tracks	The Redway design manual states a minimum of 3m wide for bidirectional tracks, however this

Figure 2-2 shows the core design principles from LTN 1/20.

The Redway network generally aligns with the **DO** category, however improvements could be made in directness at junctions and wayfinding.

Additionally, further investment needs to be made in traffic reduction, such as Low Traffic Neighbourhoods, to reduce traffic permeability and increase space and safety for active uses.

Maintenance plans are also required for maintaining smooth Redway surfaces, as they are often dug up for accessing services.

Each of the **DON'T** categories were observed on the existing Redway network, of particular prevalent issue was lack of priority given to Redways at junctions with side roads.

cyclists, and for non-standard cycles	<p>should ideally be 2 m wide in each direction, or 3 to 4m (depending on cycle flows) for bidirectional tracks though there may have to be exceptions.</p> <p>Where a shared use facility is being considered, early engagement with relevant interested parties should be undertaken, particularly those representing disabled people, and pedestrians and cyclists generally. Engaging with such groups is an important step towards the scheme meeting the authority's Public Sector Equality Duty.</p>	<p>should be expanded wherever possible to provided additional width to accommodate high cycle volumes and non-standard cycles.</p> <p>This LCWIP recommends direct engagement with Royal National Institute of the Blind and other mobility impaired groups on their views on Redway segregation and widths.</p>
Cycle infrastructure must join together, or join other facilities together by taking a holistic, connected network approach which recognises the importance of nodes, links and areas that are good for cycling	<p>Routes should be planned holistically as part of a network.</p>	<p>This LCWIP has focused on joining up isolated stretches of Redway and areas without provision to the wider network, creating a more holistic network.</p>
As important as building a route itself is maintaining it properly afterwards	<p>Roads / paths get dug up by utility contractors, ignored in repaints or just worn away; tarmac is allowed to crack and part; tracks and lanes are seldom or never swept, leaving them scattered with debris and broken glass.</p>	<p>Schemes taken forward from this LCWIP should include a clear maintenance plan and Redway maintenance must be conducted more holistically to eliminate inconsistent surfaces from utilities.</p>
Cycle routes must flow, feeling direct and logical	<p>Users should not feel as if they are having to double back on themselves, turn unnecessarily, or go the long way round. Often, cycling schemes - when crossing main roads require cyclists to make a series of ninety-degree turns to carry out a movement that a motor vehicle at the same location could do without turning at all.</p>	<p>This is particularly relevant to the grid-like road network which prioritises vehicles over cycles resulting in indirect routes at junctions and non-linear routes across the city.</p>

Table 2-1: Relevant LTN 1/20 Cycle Infrastructure Design Guidance Principles

2.1.2. Local Policy

Reviewing local policy highlighted that the creation of this LCWIP has been anticipated in much of what is currently adopted policy.

- The *Mobility Strategy (LTP4)* and *Road Safety, Walking & Cycling and Smarter Travel Strategy* anticipated the LCWIP to create a list of options for active travel schemes and prioritise them.
- A particular focus of LTP4 is safety.
- This LCWIP looked at rights of way, underpasses, segregation, speed differential between modes
- The *Transport Infrastructure Delivery Plan* sites the forthcoming LCWIP as a policy enabler for active travel.
- This LCWIP builds on the evidence base summarised in the *Milton Keynes Cycling and Walking Technical Report*, providing supplementary data, analysis and planning. It is recommended that

the two documents be considered as part of an overall whole evidence base to support the continuation of the LCWIP process. Inclusivity is big focus of *the Cycling and Walking Technical Report* which has formed a large part of this LCWIP's approach. Not only looking at improving the experience of current walkers and cyclists but looking at the barriers that prevent others from adopting this as their default mode of transport

- The conclusions drawn from the site visit and stakeholder engagement agree with points in the *Milton Keynes Mobility Strategy Evidence Base* that investment in both infrastructure and behaviour change interventions can help maximise increases in walking and cycling
- Effective “branding” of the Redway network was recognised as essential on the LCWIP site visit and would align with wider council sustainable/smarter travel branding activity.
- Compliance with the *Redway Design manual* was a metric in the LCWIP appraisal framework

However, it is recommended that this LCWIP and it's top priority schemes should be incorporated into the next Local Plan to accelerate the delivery of crucial active travel links.

2.2. Data Review

Following a review of local and national policies, data was collected and analysed on the existing infrastructure, population demographics and travel demand within Milton Keynes. This data is documented in the Evidence Base Report produced as part of this stage of the LCWIP process.

Data reviewed within the evidence base can be categorised as:

- Network analysis of the existing walking and cycling network (see Section 2.2.1.)
- Population demographics (see Section 2.2.2.)
- Travel demand (see Section 2.2.3.)

2.2.1. Existing Walking and Cycle Network

The Redway network (see Figure 2-3), plays a major part in the walking and cycling infrastructure within Milton Keynes City. These shared-use paths for pedestrians and cyclists cover 350km across Central Milton Keynes (CMK+) and beyond. The Redways also form part of two National Cycle Routes (Route 6 and Route 51) which pass through the city (see Figure 2-3).

Although Infrastructure density is good in Milton Keynes what was the ‘new town’ areas, the surrounding historic market towns of Wolverton, Newport Pagnell and Bletchley have very poor Redway coverage in comparison. This is because these smaller towns date back to before Milton Keynes New Town designation and it's Redway network. Additionally, the wide, segregated design of Redways makes them difficult to retrofit to an established urban area.

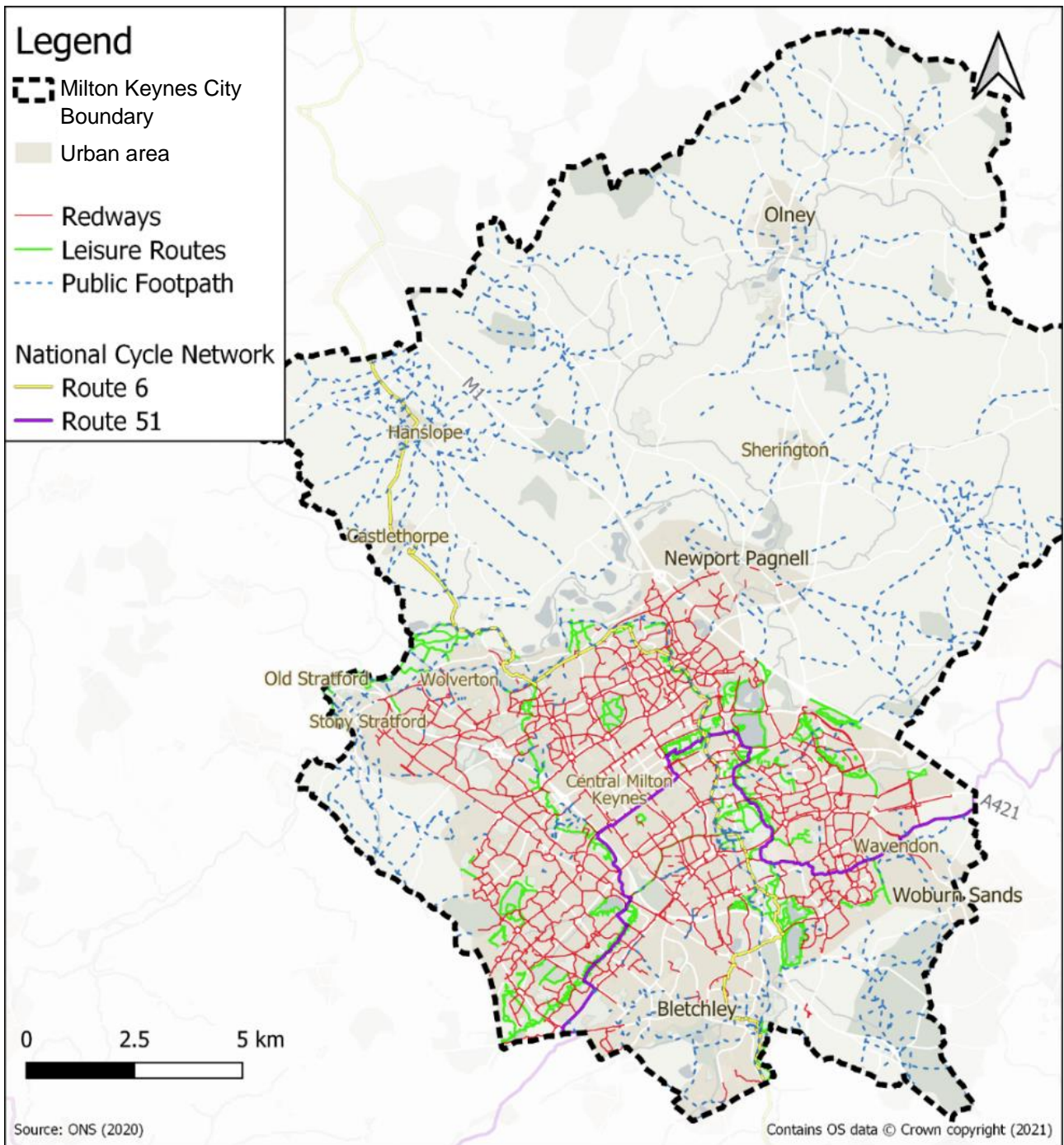


Figure 2-3: Existing Active Travel Routes throughout the City of Milton Keynes

Proposed Network – Redway Super Routes

The *Transport Infrastructure Development Plan* (Milton Keynes Council, 2019) includes the creation of a network of Redway ‘Super Routes’ across the existing Redway network in Milton Keynes City, see Figure 2-4. The Redway Super Routes have high flows and provide a grid-like network across the city to allow for clearer routing to access key services like the city centre.

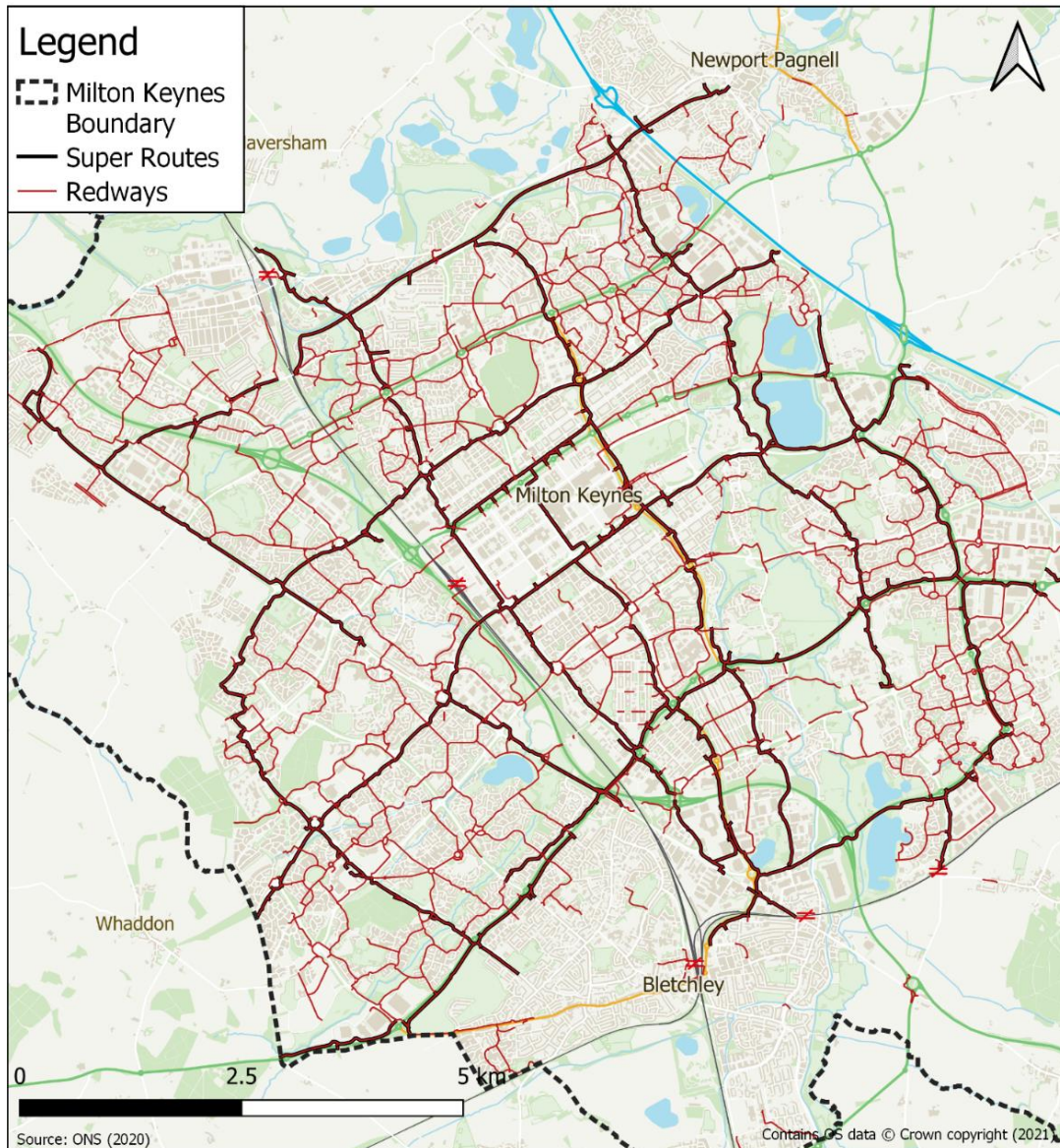


Figure 2-4: Proposed Redway Super Route network across Milton Keynes

Travel Catchments

These isochrones help with identifying key routes to/from these key locations, as well as highlighting gaps in infrastructure. 30-minute walking and cycling isochrones were created for each of the following key destinations:

- | | |
|-------------------------------------|-----------------|
| Milton Keynes Central Station | Newport Pagnell |
| University Hospital | Olney |
| Central Milton Keynes Shopping Area | Stony Stratford |
| Bletchley | Wolverton |

Figure 2-5 shows the walking isochrones produced for the whole city area. These isochrones are good indicators to where infrastructure is lacking but they must be combined with a sense check to determine if there is a necessity for such infrastructure. For example, in Olney and Newport Pagnell there is poor connectivity to the north-east. While this is important to incorporate these links in

strategic plans, there are some schemes that are required to be prioritised. For example, a link between Central Milton Keynes Station and the shopping area.

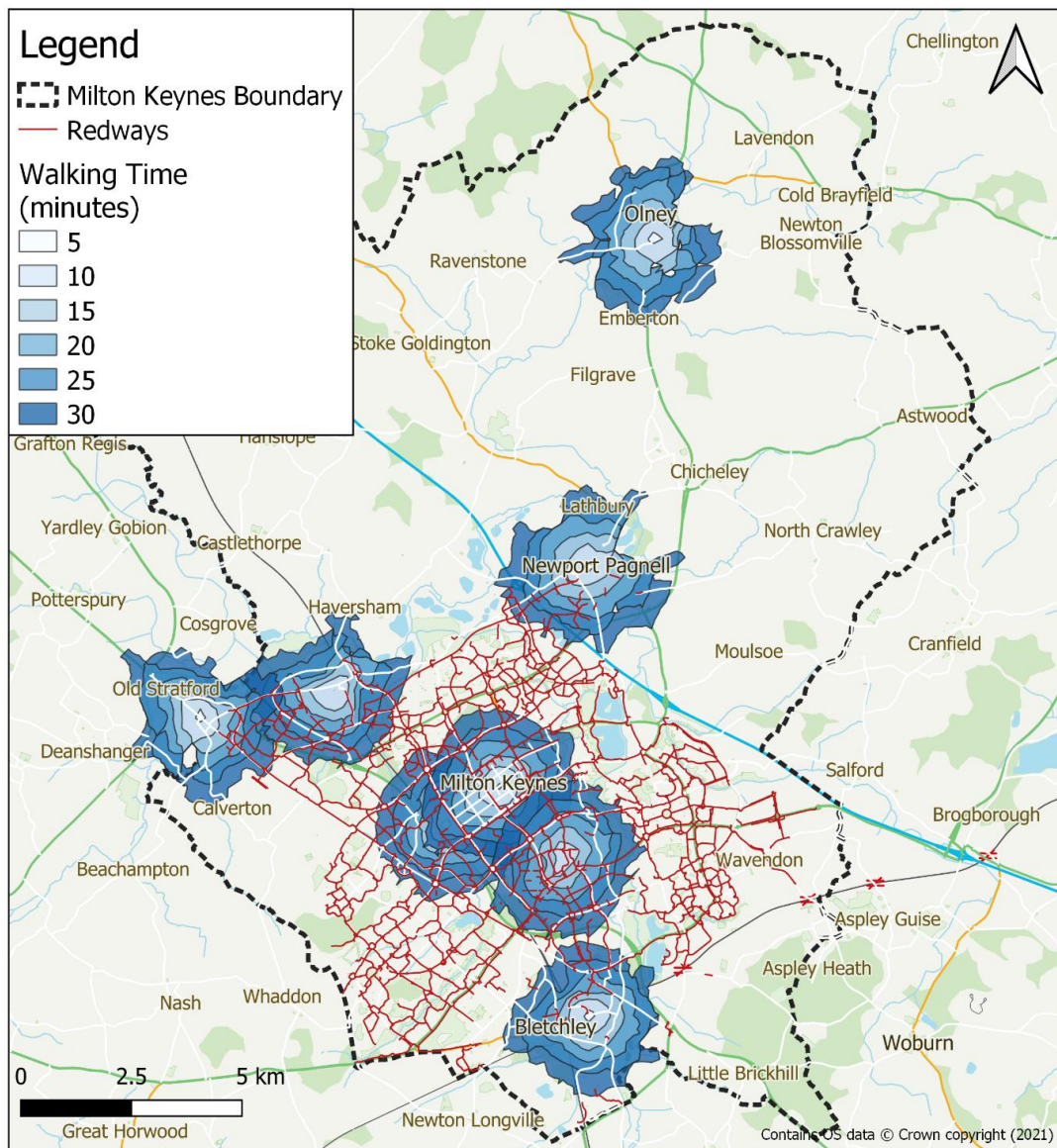


Figure 2-5: 30-minute Walking Isochrones for key locations over the city

Similarly cycling isochrones were created from each of the key destinations to show how far cyclists could get from key destinations (see Figure 2-6). The majority of the city is within a 30-minute cycle from a key destination which **implies there is great potential for a shift to active travel to reach key destinations.**

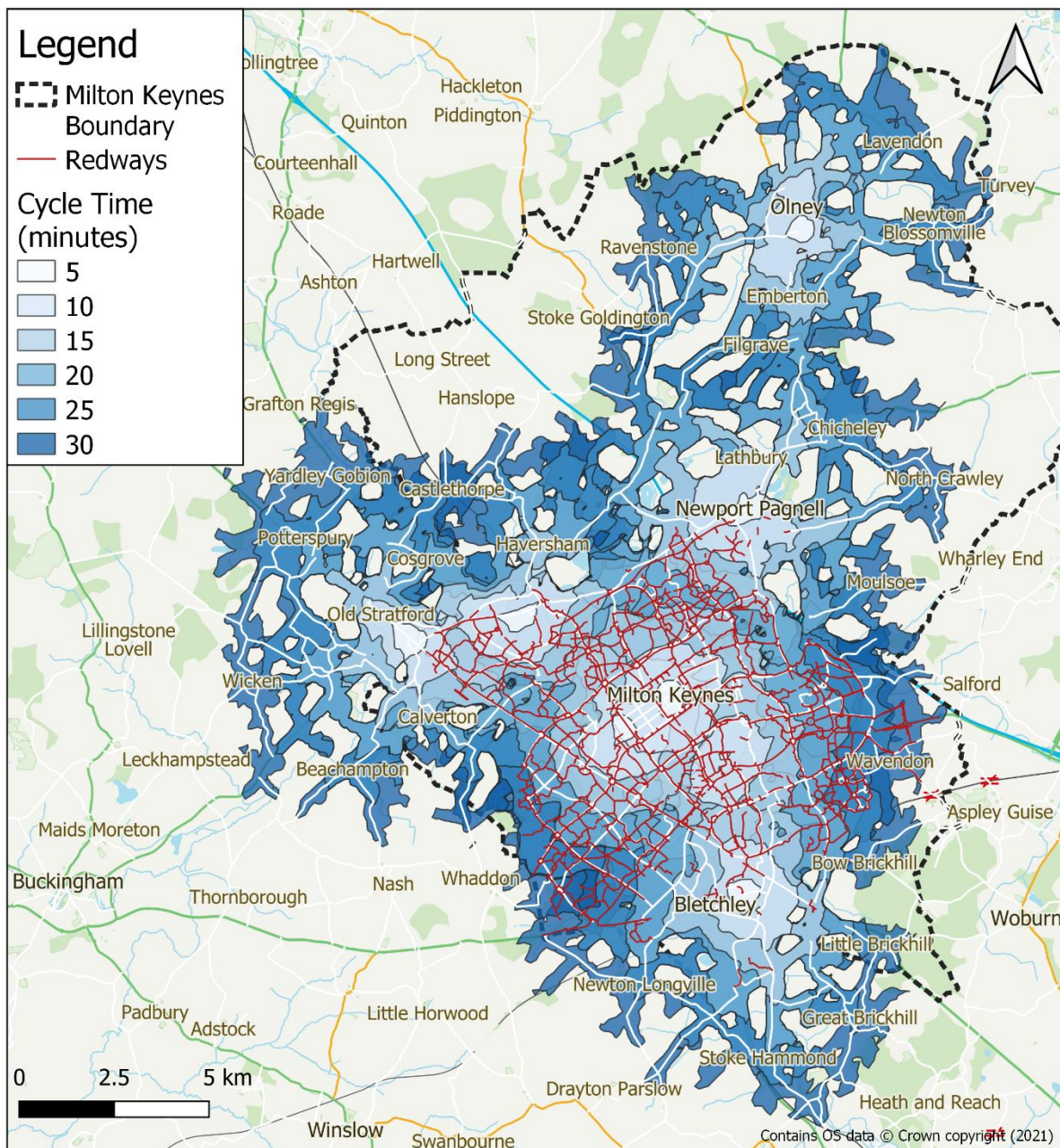


Figure 2-6: 30-minute cycling isochrones for key locations over the city

This LCWIP acknowledges that Woburn Sands is a key and important centre of activity in Milton Keynes, however, it was not part of this geographical scoping exercise. Although Woburn Sands was not included, infrastructure improvements have been captured throughout the later stages of the development of the long list.

2.2.2. Population Demographics

Population demographics within the city were analysed to give perspective of the area, these include current and future population, deprivation indices, population distribution and physical activity levels. These were then used in later stages of the project to highlight areas in need of improvement, with priority for investment aimed at improving areas with high deprivation and low physical activity.

Demographics included within the analyses were:

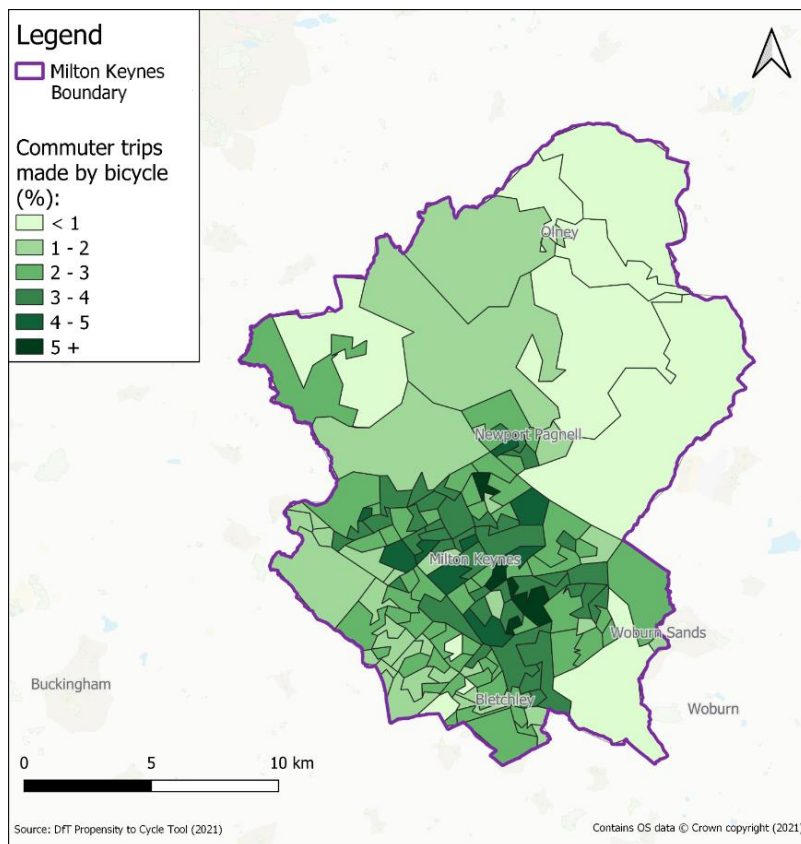
- Population including growth, age demographics and population densities
- Limiting long term illness

- Deprivation Index
- Physical Activity Levels

2.2.3. Demand

Demand for travel over the city was analysed for both existing active trips and short-distance car journeys which have the potential to be converted to active modes. This data was collected primarily using Census 2011 data with supporting data sets including live count sites along the Redway network, the National Travel Survey, route tracking data from the running app Strava and journey data from E-Scooter hire companies. The following sections provide some examples of the demand data analysed within the Evidence Base.

Cycle Mode Share



The uptake of cycling within the City of Milton Keynes is assessed in detail using data from the Department for Transport’s Propensity to Cycle Tool (see Figure 2-7). This shows that commuting trips by bike are predominantly located in the urban areas in and around Central Milton Keynes (CMK+), with rural areas typically having less than 2% commuting mode share for bikes. Despite current low usage in rural areas, this document acknowledges lack of infrastructure resulting in this numbers and the need for safe links to be provided. This has been reflected in the appraisal method to ensure that rural schemes are included and are scored fairly.

Figure 2-7: Propensity to cycle (%), Census 2011

Strava

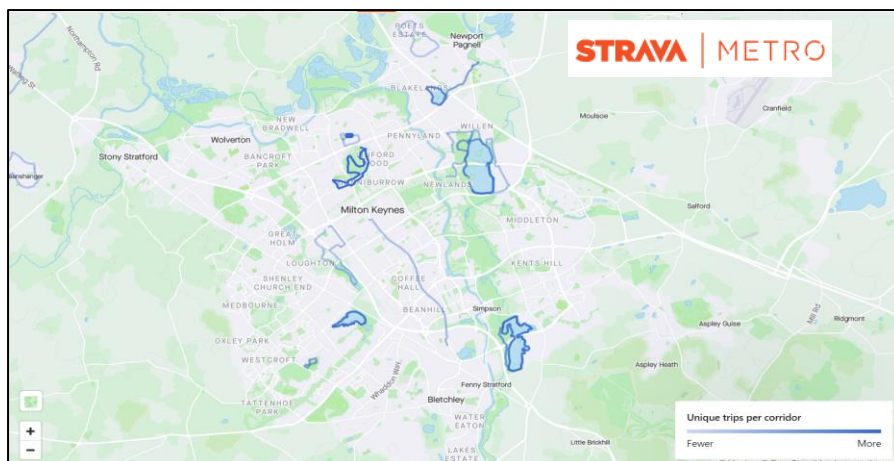


Figure 2-8: Walk, Run, Hike data for Milton Keynes, Strava Metro

More recent data was utilised from the running/cycling app and social platform Strava, which also provides insight into leisure movements. Whether a popular route is used for leisure or commuting can usually be deciphered by looking at the times at which the route is most popular. The Strava data mostly tracked commuting journeys for cyclists and leisure

journeys for pedestrians. An example of the Strava output is shown in Figure 2-8. This highlighted popular leisure routes around the Willen and Caldecotte Lakes. The data proved to be useful in understanding key leisure destination, but it was insufficient to be incorporated in the appraisal process.

E-Scooter Hire

Milton Keynes is home to multiple e-scooter trials with three companies operating in the city: Lime, Spin (now known as Tier) and Ginger. This study received data from Lime and Spin on where popular routes and pick-up/drop-off locations for e-scooter users are. Data from Lime was provided

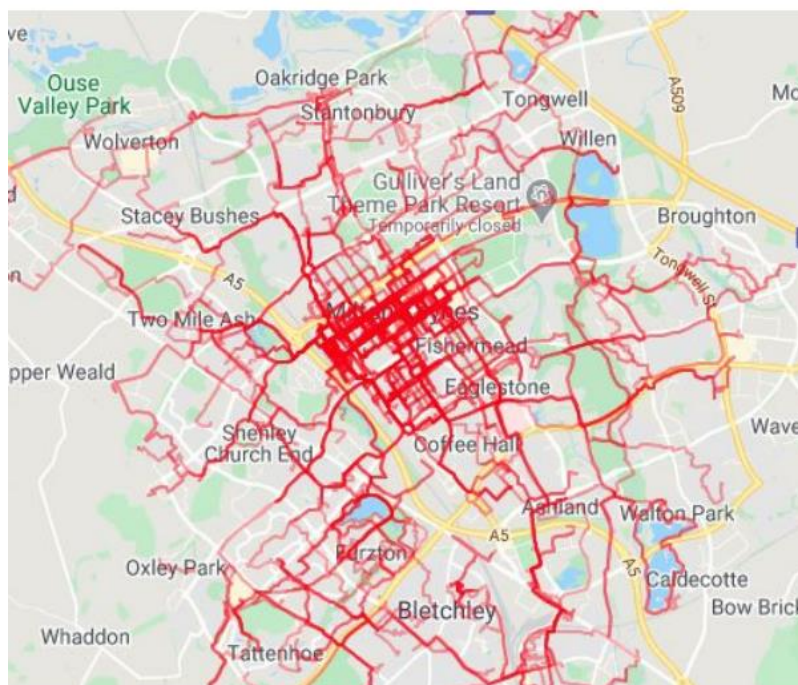


Figure 2-9: Location of Lime 'Hot Routes' through Milton Keynes March 2020-2021

from between March 2020 – March 2021. Figure 2-9 shows the locations of 'hot routes' across Milton Keynes, where 'hot routes' are defined as routes which have over 100 trips taken within a month. The 'hot routes' are located largely around the central Milton Keynes (CMK+) area with a few routes reaching out to the surrounding towns of Bletchley, Wolverton and Newport Pagnell. Furthermore, this data can be used to identify integrated transport corridors where connectivity should be improved.

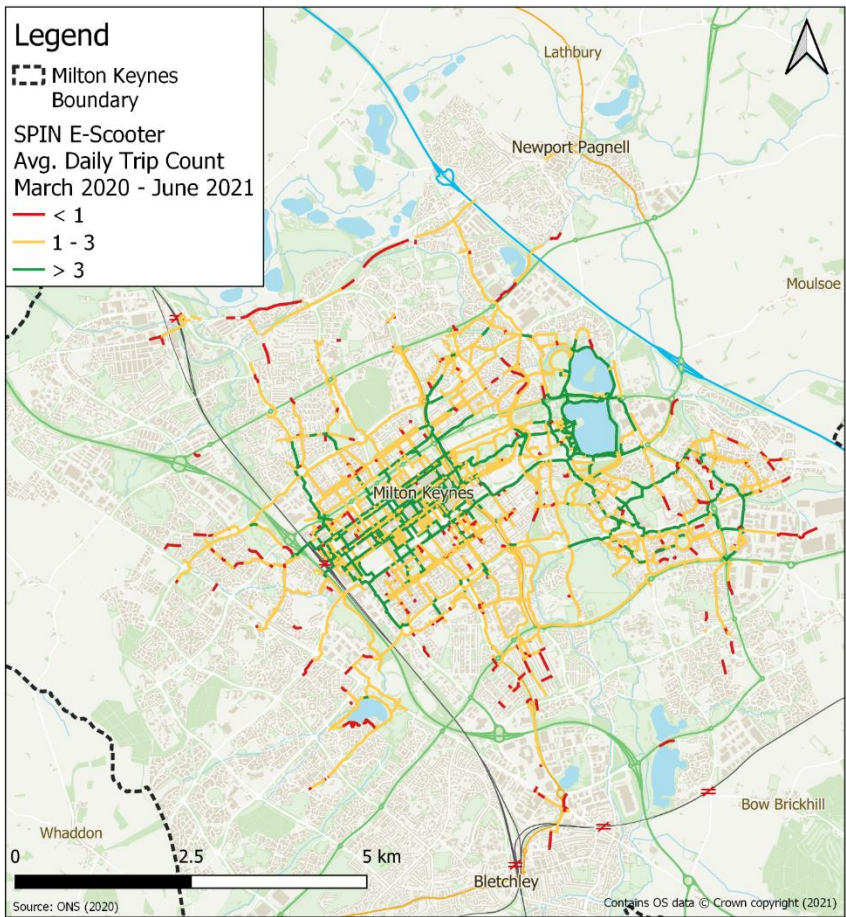


Figure 2-10: Spin e-scooter hire data March 2020 - June 2021

Data from Spin between March 2020 – June 2021 (see Figure 2-10), shows the routes taken by all Spin e-scooter hire during this period. Popular areas are again centred around central Milton Keynes (CMK+) and out to the east around popular leisure routes such as Willen Lake. This trial is a smaller scale to Lime and so doesn't have as many routes heading out towards the surrounding towns and suburbs.

2.3. Stakeholder Feedback

2.3.1. Call for schemes

Milton Keynes Council put out an invitation for the public to contribute to the project (see Figure 2-11) by providing feedback on their experience of walking and cycling in Milton Keynes and to highlight issues. An email was also sent out by the council to local stakeholders to request suggestions of potential schemes to be included in the LCWIP.

The consultation received over 70 individual replies, suggesting over 100 schemes. Contributors through this consultation included:

- Members of the Public
- Parish Councils and Councillors
- The Green Party
- MK Cycle Forum
- Cranfield University



Figure 2-11: Tweet put out to gather public feedback on walking and cycling (Twitter, January 2021)

2.3.2. Stakeholder Responses

Stakeholder responses received by Milton Keynes City Council were collated and analysed. These proposed schemes were categorised and combined with the other evidence in the network planning stages.

Schemes proposed ranged from improved cycle parking for key destinations to strategic, long-distance missing links connecting villages and Milton Keynes urban centre. Some suggestions were very specific, giving precise routes or locations for changes whereas others were more general, suggesting improvements for the whole network or for a specific area (e.g. around the hospital). Both types of suggestions were considered within the network planning stages (see Figure 2-12). Not all of the schemes proposed were included in the long-list, schemes not included in the long-list were commonly excluded due to a lack of supporting evidence or because the scheme was not within the scope of this LCWIP.

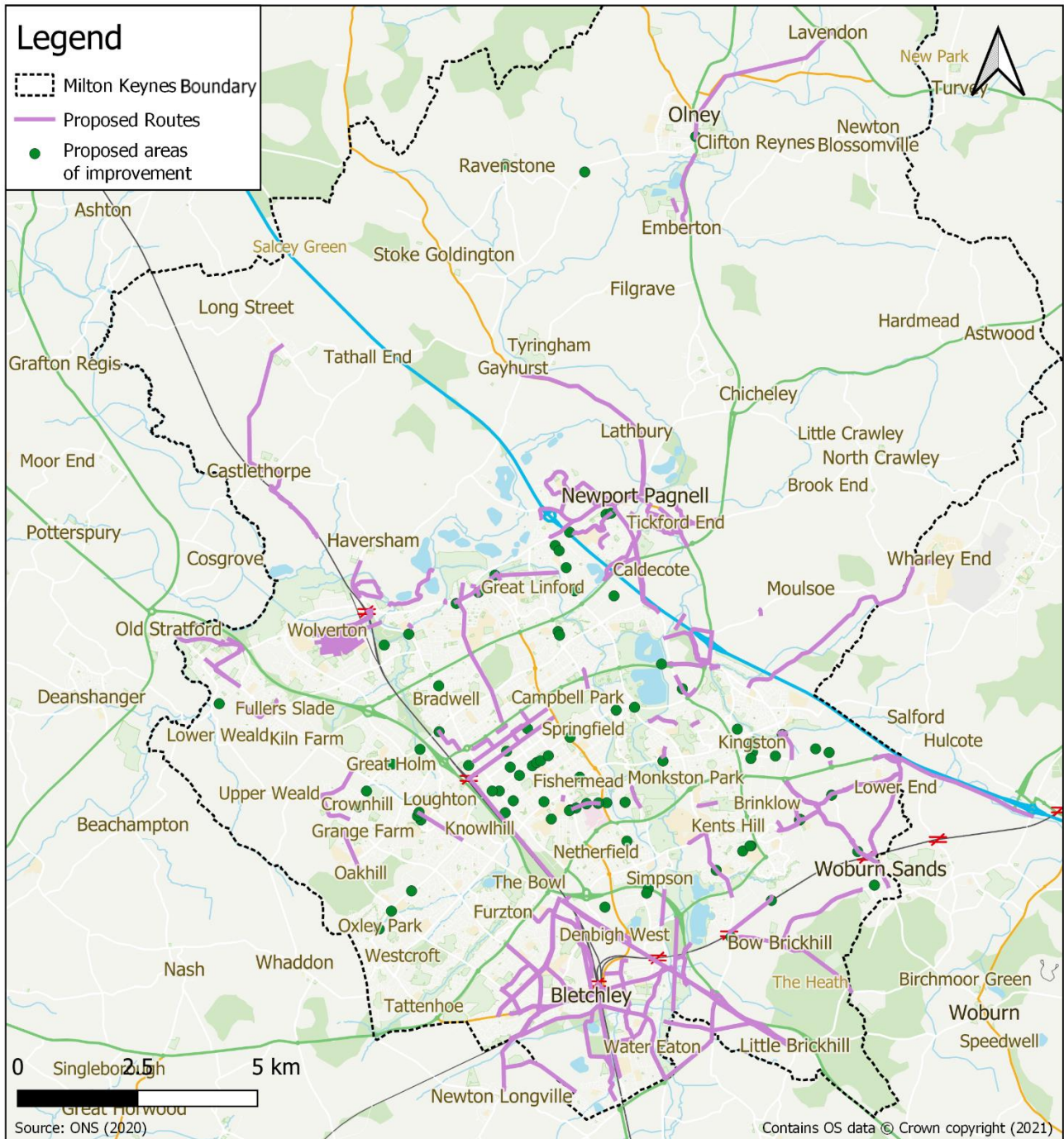


Figure 2-12: Location of schemes proposed through stakeholder consultation

2.3.3. Stakeholder Workshops

Stage 2 of the LCWIP included two stakeholder workshops:

- An Internal Stakeholders' workshop involving Milton Keynes City Council Officers from teams including Placemaking, Highways, Transport Policy and Planning, Leisure and Community and Sports Development
- A Members workshop with local councillors for Shenley Brook End, Stony Stratford, Bletchley East Ward, Bradwell Ward, Wolverton and Bletchley West Ward

The challenges and opportunities highlighted in these workshops are summarised thematically below.

Topic	Summary of Views
Routing & Network Coverage	<p>Generally Redway network coverage in the centre and surrounding towns was felt to be good. A missing link between Central Milton Keynes Station and the main shopping district was identified as a priority.</p> <p>There is not much infrastructure within the market towns themselves, and difficult to retrofit. Its perceived that there is discontinuity of Redways as they divert around the grid roads. Routes often end abruptly and there are short pieces of remote Redway around the main city. Raised that it is important to link the Redway network into transport hubs and all new estates.</p>
Signage & Wayfinding	<p>Consensus was that signage is good in places, but lacking through estates on non-Redway routes that join between network sections. The signage that does exist is inconsistent and is often damaged.</p> <p>It was also raised that the lack of redness can mean it's difficult to tell who can use the space.</p>
Safety & Maintenance	<p>There is a perception that the Redways are unsafe, particularly centred on the underpasses. Initiatives to encourage group cycling were mentioned to improve the feeling of safety. As Redways are shared spaces there is an issue of a speed differential between uses. Concern was also raised over maintaining proper segregation between cyclists and road traffic, avoiding badly designed cycle lanes that do not protect cyclists from the road. The notion of giving Redway users priority over road users at junctions was well received, but that each location should be assessed on a case-by-case basis.</p> <p>Although maintenance falls outside of the scope of this LCWIP, its consideration needs to be considered through the process. It was suggested that investment in new infrastructure schemes should be supported by a maintenance plan and commitment to fulfil it.</p>
Other factors that affect Mode Choice	<p>It was suggested that the large urban sprawl of Milton Keynes limits the ability to encourage walking and cycling due to distance.</p> <p>An anecdotal increase in walking and cycling has been observed during the COVID-19 pandemic however, there is potential that people will revert back to old habits.</p> <p>The efficiency of the local grid road network is perceived to be to the detriment of the Redway network as it provides a quicker and more efficient route for the car, compared to the Redways. When considering the network, the importance to understand what people are using it for was raised (e.g. leisure or commuting).</p> <p>Complementary infrastructure, such as green spaces, may support people's decision to use the walking and cycling network. The council could also make use of local art to make the underpasses brighter, happier spaces to improve public perception of these spaces.</p>
Access-ibility	<p>The importance of ensuring that the cycleway network is accessible to everyone was raised. Supporting infrastructure such as dropped curbs, benches and toilet facilities allow the elderly and those with health conditions to enjoy the network. Additionally, it was highlighted that some of the gates designed to slow cyclists and some crossings are too narrow for a bike trailer.</p> <p>The council has a commitment to be dementia friendly city, with a plan to be developed over the autumn, which is something to be kept in mind with any proposed interventions. There are already group walking events held in Milton Keynes for those with long-term health conditions. Cycle safety sessions were also suggested</p>

Table 2-2: Outcomes of stakeholder workshops

2.3.4. Site Visits

On the 18 May 2021, consultants led a site visit to inspect key sites and missing links in the Milton Keynes study area. They were joined by two members of the Milton Keynes Council team for part of the day.

The purpose of the site visits was to:

- Gain a better understanding of the active travel environment
- Confirm findings from the baseline evidence report
- Meet with stakeholders
- Identify and develop concepts for additional schemes
- Review the priority sites identified in the long list

The routes followed are shown in Figure 2-14. On these routes, the team was able to sample a range of topographies including residential areas (e.g. Bradwell Common and Furzton), surrounding towns (e.g. Wolverton and Bletchley) and key central destinations (e.g. the main shopping centre and the hospital).

Identity	<ul style="list-style-type: none"> • The lack of standardisation detracts the sense of identity of the Redway • Potential to make use of landscaping, rail heritage & street art to make Redways a cultural attraction
Signage & Wayfinding	<ul style="list-style-type: none"> • Poor wayfinding undermines trust in the network <ul style="list-style-type: none"> • Lack of signage • Variety of signage formats creates confusion <ul style="list-style-type: none"> • Some inaccurate and vandalised signage • No sense of hierarchy between Redway Super Routes & regular Redway
Missing Links & Routing	<ul style="list-style-type: none"> • Missing links were identified • Routes are generally governed by the grid roads leading to indirect & discontinuous routes that end abruptly
Safety	<ul style="list-style-type: none"> • Lack of segregation between cyclists & pedestrians • Proximity to fast roads and general lack of priority gives sense of vulnerability to Redway users <ul style="list-style-type: none"> • Poor surfacing on many Redways • Remote & poorly lit routes can make users feel unsafe
Accessibility	<ul style="list-style-type: none"> • Steep gradients to take Redways under/over roads make • Parked cars create a barrier to accessing the Redways
Crossings & Rights of Way	<ul style="list-style-type: none"> • Priority is often unclear and Redway users rarely given priority <ul style="list-style-type: none"> • Users must often cross wide & busy roads • Often next to no infrastructure to assist Redway users in crossing safely

Figure 2-13: Summary of observations from site visit

The key observations from the visit are summarised in Figure 2-13. Having made these observations, more missing links and Redway upgrades were added to the long-list of schemes.

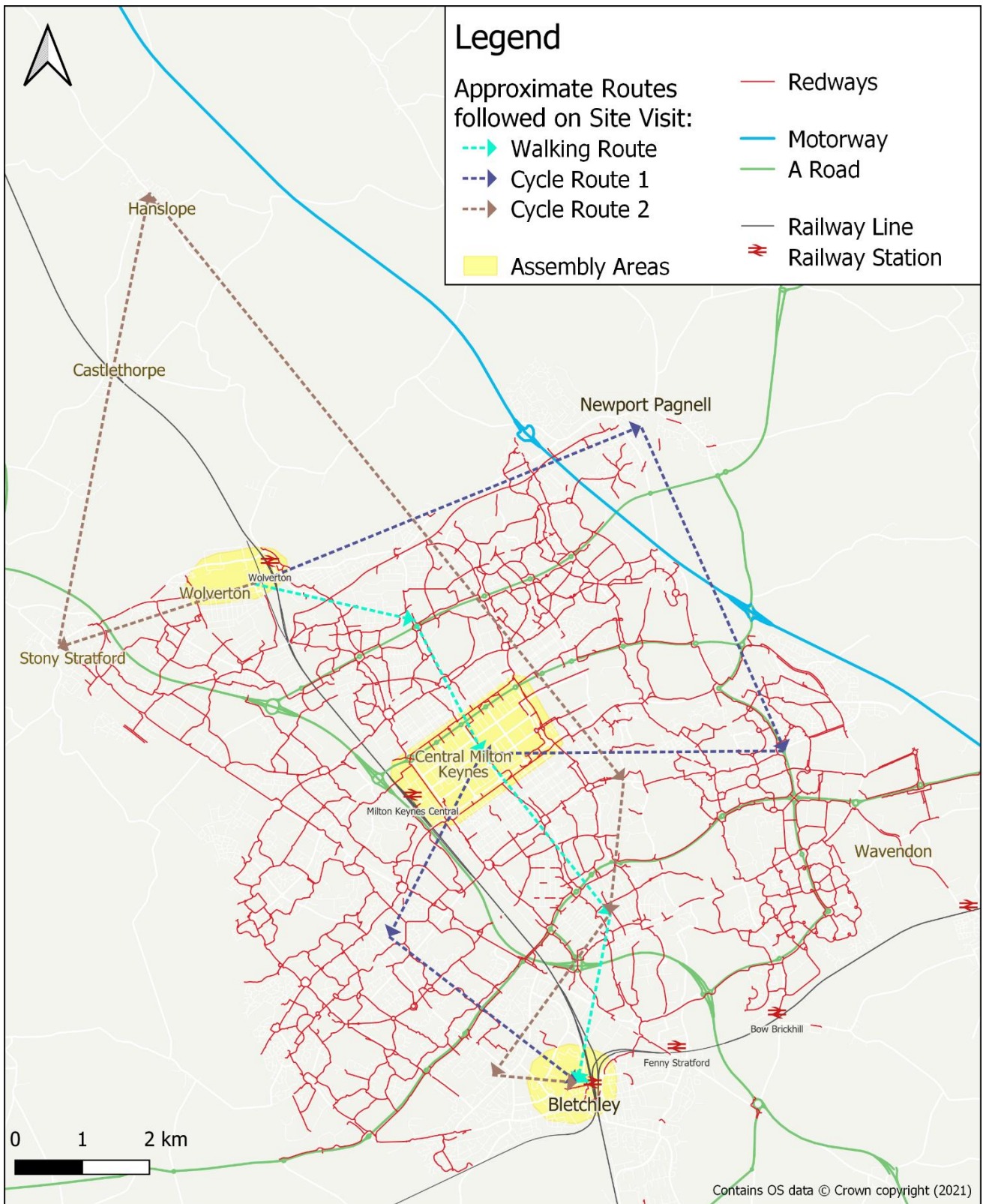


Figure 2-14: Map of the routes taken by members of the team on the site visit day

3. Developing the Long-List: The Interborough Network

Chapter at a Glance

These next two chapters summarise Stage 3 of the LCWIP process consisting of the development of a network of cycling and long-distance walking links. Section 4.1 sets out the methodology used to develop an interborough network of Redways including baseline data analysis (see Section 4.1.1) and gap analysis (see Section 4.1.3). The full interborough network that has been developed is presented in Section 4.2.

LCWIP guidance traditionally splits out the network planning stages into cycling and walking, for this LCWIP the network planning stages were carried out slightly differently. Both walking and cycling were considered throughout the whole network planning process as the main infrastructure intervention considered as part of this LCWIP were new Redways. As Redways are shared spaces, providing a new Redway link will provide infrastructure for both walking and cycling.

As such the network planning for this LCWIP was generated firstly from the development of an interborough network, followed then by development of additional localised Redway networks.

3.1. Methodology

Development of an interborough network was developed using a multi-stage process, detailed below.

3.1.1. Baseline Data Analysis

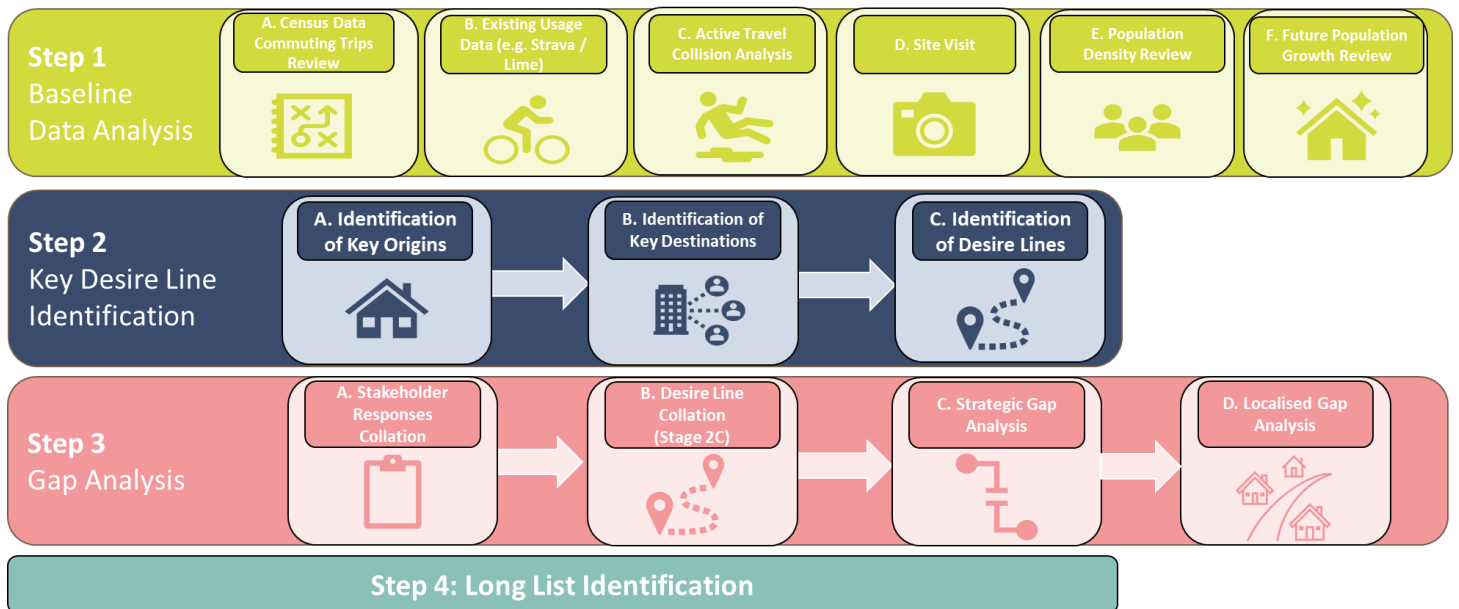


Figure 3-1: Long-list development process

In this step the baseline data detailed in the Evidence Base was utilised. An aggregate view of the data was applied for this stage, looking outside of the key urban areas and more at the strategic movements between areas. Key data used included desire lines, demographics data (e.g. population) and land use data to show key employment and growth area sites.

3.1.2. Key Desire Line Identification

In accordance with LCWIP Guidance (DfT, 2017), the identification of the main origin and destination points should be used as a core element of developing potential cycle routes.

Origin & Destination Identification

Key trip origins were assigned within key residential areas across Milton Keynes, the wider Travel To Work Area and key destinations based on commercial and employment information (see Figure 3-2). Key origins include Olney & Surrounds, Newport Pagnell and Milton Keynes East Strategic Urban Extension, Wolverton, Wavendon and the Southeast Milton Keynes Strategic Urban Extension. Key destinations include Central Milton Keynes, Cranfield Airfield, Cranfield University, Bletchley, Milton Keynes University Hospital, Magna Park and Denbig North

These were derived using a variety of data sources including:

- Residential population density
- Existing geospatial land use information, such as large commercial and employment sites
- Future strategic residential development allocations within Plan:MK

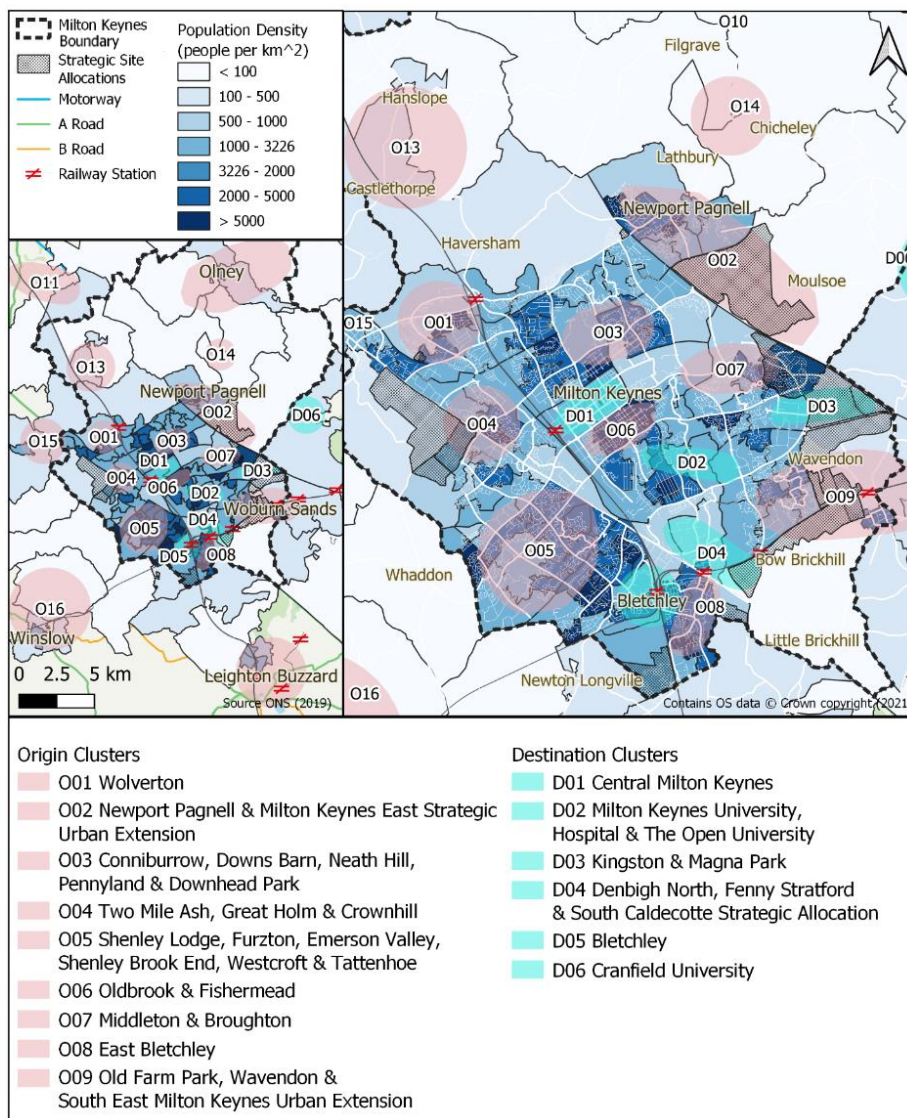


Figure 3-2: Key origins and destinations around Milton Keynes within the urban centre

Desire Line Identification

Once the key origins and destinations were identified, desire lines were plotted between them to represent indicative current and future cycle demand. In accordance with DfT Guidance (DfT, 2017), these desire lines were split into three categories:

- **Primary Desire Lines:** Those which have the potential to generate high cycle flows typically linking large residential areas with major trip attractors such as town centres
- **Secondary Desire Lines:** Those which have the potential to generate moderate cycle flows typically linking residential areas with key destinations such as employment sites or hospitals
- **Local Desire Lines:** Those which have the potential to generate lower cycle flows typically linking into primary or secondary desire lines.

As indicated in Figure 3-3, primary desire lines in Milton Keynes are between Newport Pagnell (and East Strategic Development site) and Central Milton Keynes, Western Milton Keynes suburbs to Central Milton Keynes and the Wavendon area (including the South East Milton Keynes Urban Extension) to Central Milton Keynes.

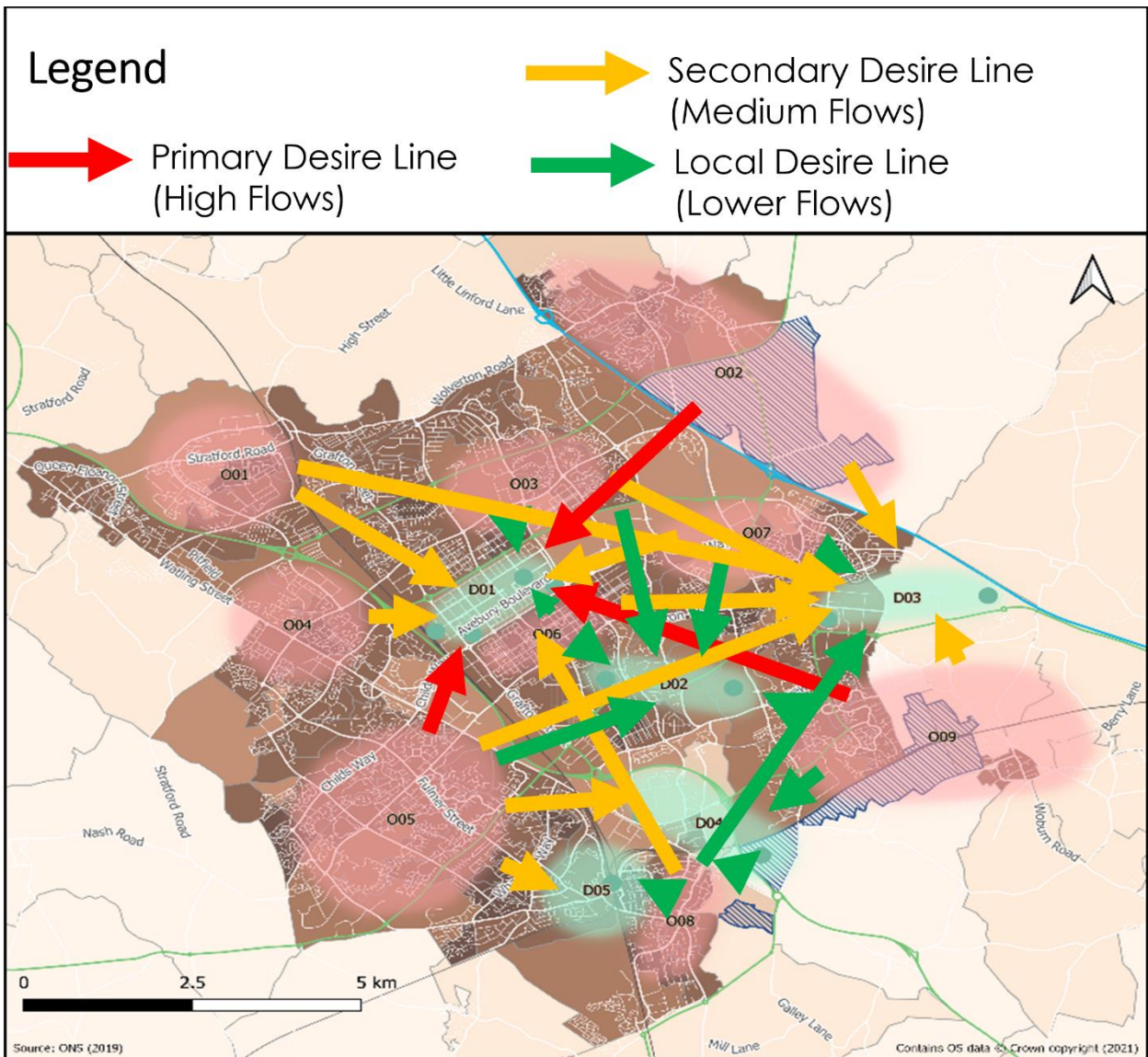


Figure 3-3: Desire lines between key origins and destinations in Milton Keynes

3.1.3. Gap Analysis

Once the key movements within the borough and between the urban areas were identified, the existing network was analysed to identify any gaps along any of the key desire lines. The following methods were used to carry out this gap analysis:

1. Visual analysis of the network using the key desire lines
2. The Propensity to Cycle Tool to highlight popular routes, and identifying missing infrastructure
3. Application of local knowledge from the project team and site visit
4. Identifying missing infrastructure through residential areas
5. The Rapid Cycleway Prioritisation Tool (where applicable for Milton Keynes, as outlined below)

The Rapid Cycleway Prioritisation Tool helps in the identifying of locations for new cycleways in England, and was developed to aid with LCWIPs. The tool produces two layers of routes: 'top routes' and 'cohesive network' routes. The top routes are identified by ranking roads by their 'cycling potential' using the Propensity to Cycle Tool and then selecting the routes which have the biggest potential but which also have spare space; that is, are either wide or have two or more road lanes in one direction. The tool identifies what a 'cohesive network' might look like and comprises all of the major high cycle potential corridors, including where sections of the road are narrower.

This was applied to support the evidence base (particularly stakeholder suggestions) but taking account of the limitations outlined below.

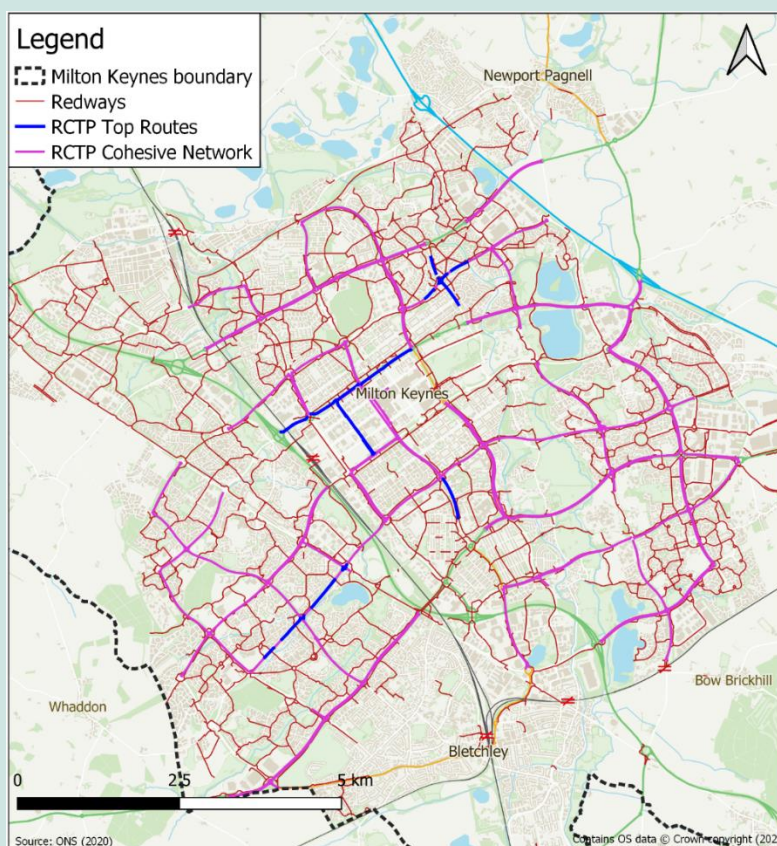


Figure 3-4: Rapid Cycleway Prioritisation Tool Outputs

Note the Rapid Cycleway Prioritisation Tool doesn't factor in surrounding green space for use by new infrastructure (available along the majority of grid roads in Milton Keynes) and highlights links as missing when the Redway is set back from the road (e.g. the top route along H5 Portway).

3.1.4. Future development schemes

Indicative Redways for all future development sites (Figure 3-5) have not been identified as part of the LCWIP and will need to be reviewed on a case-by-case basis. However, any known proposals have been included in the long list for completeness. Some schemes have also been suggested independent to these committed schemes which allow the supporting of future development zones. As the city is rapidly growing and the Local Plan is underway, it is recommended to review and update the new growth areas regularly and to review new development proposals individually.

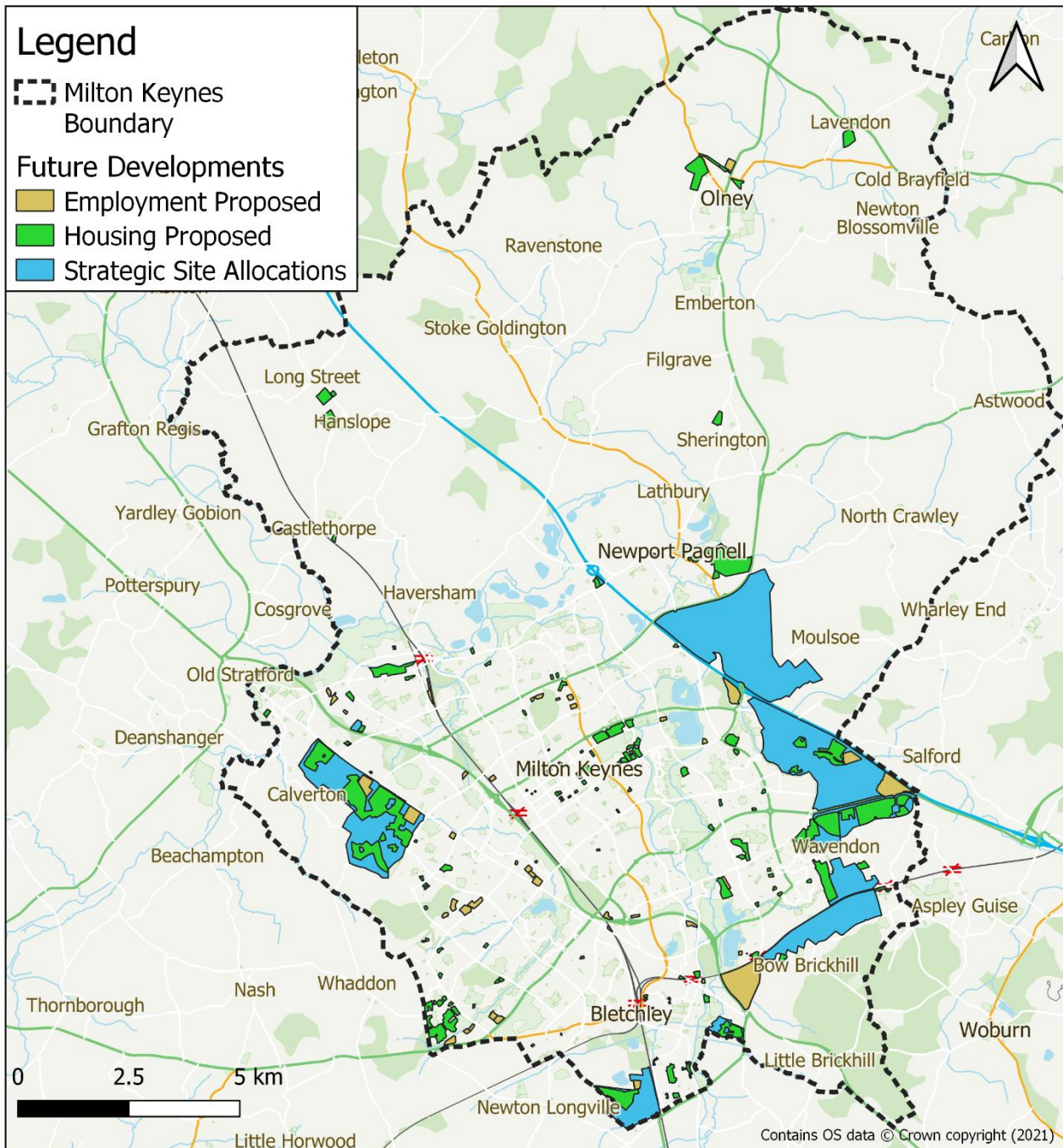


Figure 3-5: New development in Milton Keynes

3.2. Interborough Network Long List

Figure 3-6 and Figure 3-7 show the Long List of schemes forming the interborough network, developed during this stage of the LCWIP. It is important to note that the routes shown in the below maps are indicative only, specific routes will be determined at design and feasibility stage. This is particularly important for some of the grid roads within Milton Keynes where this LCWIP shows a scheme on both sides of the road. This was done to indicate a scheme is needed along such a grid road with the side of the road being less important for this stage of the process.

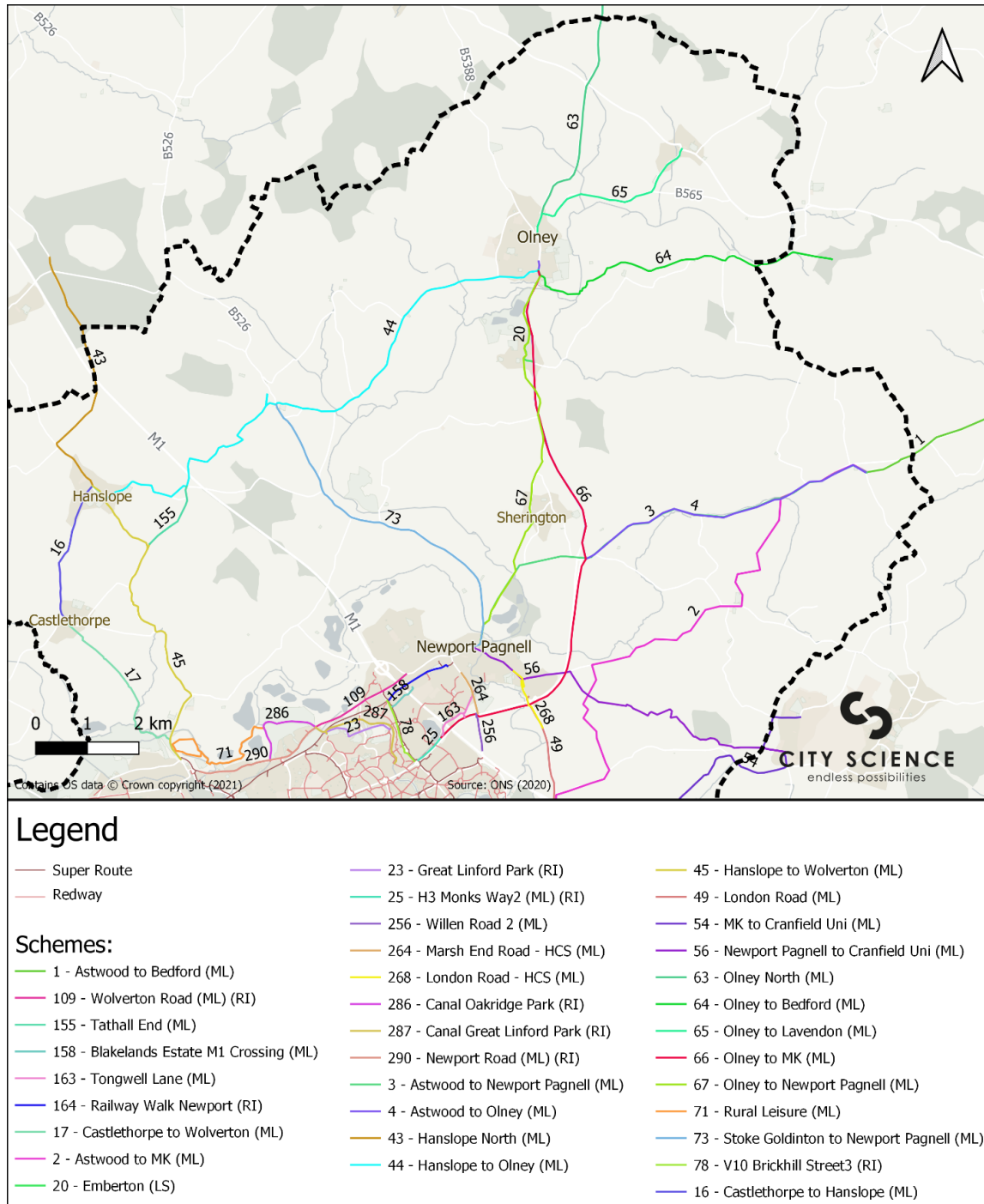
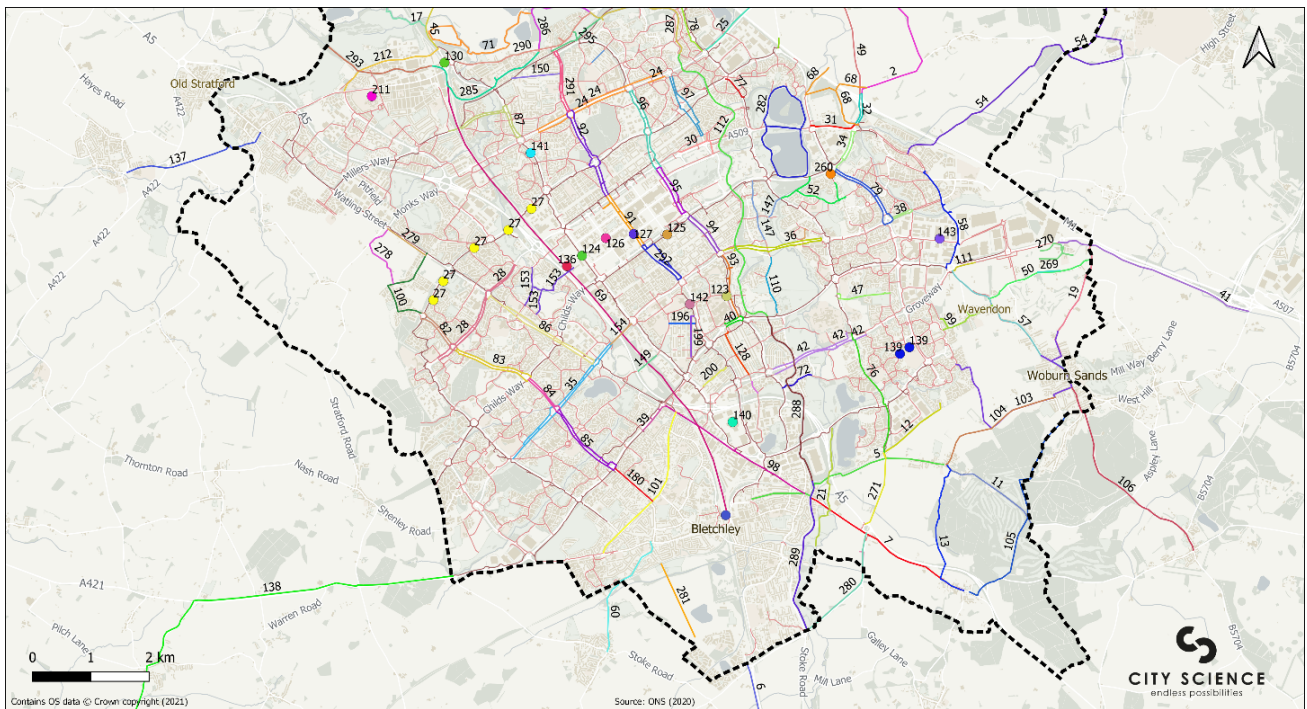


Figure 3-6: Interborough Schemes in the north of the city (ML = Missing Link, RI = Redway Improvement, LS = Local Scheme)



Contains OS data © Crown copyright (2021)

Source: ONS (2020)



Legend

- Super Route
- Redway

Schemes:

- | | | | | |
|---------------------------------------------|--------------------------------------|--------------------------------------------|--------------------------------------------------|-----------------------------------------------|
| 100 - West MK (ML) (LS) | 154 - Knowhill Railway Crossing (ML) | 285 - Canal Wolverton to Newport Road (RI) | 5 - Bletchley to Bow Brickhill (ML) | 92 - V7 Saxon Street4 (ML) (RI) |
| 101 - Whaddon Way (ML) | 16 - Castlethorpe to Hanslope (ML) | 286 - Canal Oakridge Park (RI) | 50 - Lower End Road (ML) (RI) (LS) | 93 - V8 Marlborough Street1 (ML) (RI) |
| 103 - Woburn Sands (ML) (LS) | 17 - Castlethorpe to Wolverton (ML) | 287 - Canal Great Linford Park (RI) | 52 - Milton Keynes Village (ML) (RI) | 94 - V8 Marlborough Street2 (ML) (RI) |
| 104 - Woburn Sands to Bow Brickhill (ML) | 180 - Shenley Road (ML) (LS) | 288 - Canal H8 to Railway (RI) | 54 - MK to Cranfield Uni (ML) | 95 - V8 Marlborough Street3 (RI) |
| 105 - Woburn Sands to Little Brickhill (ML) | 19 - Cranfield Road (ML) (LS) | 289 - Canal Railway to South (RI) | 57 - Newport Road1 (ML) (RI) | 96 - V8 Marlborough Street4 (RI) |
| 106 - Woburn Sands to Woburn (ML) | 196 - Coffee Hall EW1 (ML) (RI) | 290 - Newport Road (ML) (RI) | 58 - Newport Road2 (ML) (RI) (LS) | 97 - V9 Overgate1 (ML) |
| 11 - Bow Brickhill (LS) | 199 - Coffee Hall NS1 (ML) (LS) | 291 - V7 Saxon Street5 (ML) (RI) | 6 - Bletchley to Leighton Buzzard (ML) | 98 - Watling Street (ML) |
| 110 - Woughton on the Green (ML) | 2 - Astwood to MK (ML) | 292 - V7 Saxon Street3 (ML) (RI) | 60 - Newton Longville (ML) | 99 - Wavendon (ML) (LS) |
| 111 - H8 Standing Way4 (ML) (RI) | 200 - Beanhill (ML) (LS) | 293 - Canal North to Wolverton (RI) | 61 - Oakgrove (ML) | 123 - Hospital Junction (RI) |
| 112 - Canal NCN (RI) | 208 - Stantonbury (ML) | 295 - Stonepit Field Links (ML) (RI) | 68 - Pineham (ML) | 124 - MKC crossing with V6 (RI) |
| 12 - Bow Brickhill Station (ML) (RI) | 212 - Old Wolverton Road (ML) | 30 - H5 Portway3 (ML) (RI) | 69 - Railway (ML) | 125 - Pentewan Gate crossing (RI) |
| 128 - Netherfield (ML) | 24 - H3 Monks Way1 (ML) (RI) | 31 - H5 Portway4 (ML) | 7 - Bletchley to Little Brickhill (ML) (RI) (LS) | 126 - Midsummer Boulevard Crossing (RI) |
| 13 - Bow Brickhill to Little Brickhill (ML) | 25 - H3 Monks Way2 (ML) (RI) | 32 - H5 Portway5 (ML) | 71 - Rural Leisure (ML) | 127 - Gates at Avebury Blvd and V7 (RI) |
| 137 - Deanshanger (ML) | 257 - Willen Road 3 (ML) | 34 - H6 Childs Way2 (ML) (RI) | 72 - Simpson (ML) | 129 - Bletchley Station access (ML) (LS) (RI) |
| 138 - Winslow (ML) | 269 - Lower End Road - HCS (ML) | 35 - H7 Chaffron Way1 (ML) (RI) | 76 - V10 Brickhill Street1 (ML) | 130 - Wolverton Station access (ML) (LS) (RI) |
| 147 - Ouzel Valley Park (ML) | 270 - Eagle Farm (ML) | 36 - H7 Chaffron Way2 (ML) (RI) | 77 - V10 Brickhill Street2 (ML) (RI) | 136 - MKC Access (ML) (LS) (RI) |
| 148 - Ashland (ML) | 271 - V10 Brickhill Road (ML) | 38 - H7 Chaffron Way4 (ML) | 78 - V10 Brickhill Street3 (RI) | 139 - Walnut Tree (LS) |
| 149 - Bleak Hall (ML) | 272 - Eaton Leys (ML) | 39 - H8 Standing Way1 (ML) (RI) | 79 - V11 Tongwell Street1 (RI) | 140 - Stadium (ML) (LS) |
| 150 - Crispin Road (ML) | 278 - Calverton Lane (ML) | 40 - H8 Standing Way2 (ML) (RI) | 82 - V3 Fulmer Street1 (ML) | 141 - Healds Junction (RI) |
| 153 - Loughton (ML) | 279 - V4 Watling Street2 (ML) | 41 - H8 Standing Way3 (ML) | 83 - V3 Fulmer Street2 (ML) (RI) | 142 - MK Academy Junction (RI) |
| | 28 - H5 Portway1 (ML) | 42 - H9 Groveway1 (ML) (RI) | 84 - V3 Fulmer Street3 (ML) | 143 - Kingston Cycle Parking (LS) |
| | 280 - A4146 (ML) | 45 - Hanslope to Wolverton (ML) | 85 - V3 Fulmer Street4 (ML) (RI) | 211 - Radcliffe School (LS) |
| | 281 - Newton Leys New Estate (ML) | 47 - Kents Hill (ML) (RI) | 86 - V4 Watling Street1 (ML) (RI) | 260 - Broughton Fire Station (RI) |
| | 282 - Willen Lake (ML) (RI) | 49 - London Road (ML) | 87 - V6 Grafton Street1 (ML) (RI) | 27 - H4 Danstead Way1 (RI) |
| | | | 91 - V7 Saxon Street2 (ML) (RI) | |

Figure 3-7: Interborough Schemes in the south of the city (ML = Missing Link, RI = Redway Improvement, LS = Local Scheme)

4. Developing a Long List: The Local Schemes

Chapter at a Glance

This chapter summarises a more localised development of a walking and short distanced cycling network, focussing on key destinations around the city to create local network plans for each. These key destinations are Central Milton Keynes, Bletchley, Newport Pagnell, Olney, Wolverton and Stony Stratford. The local network plans are developed from Core Walking Zones (see Section 4.1.1) followed by data and gap analysis (see Sections 4.1.2 to 4.1.4). The local networks for each destination are detailed later in Section 4.2.

4.1. Methodology

4.1.1. Core Walking Zones

A Core Walking Zone (CWZ) consists of a number of walking trip generators that are located close together such as a town centre. As this LCWIP covers the whole city of Milton Keynes there are potentially many key walking trip generators. As such, eight key centres were selected to have a CWZ developed, these were:

Bletchley around Queensway

Central Milton Keynes

Milton Keynes Train Station

Milton Keynes University Hospital

Newport Pagnell

Olney

Stony Stratford

Wolverton

Core Walking Zones are identified by generating a 5-minute walk (400m) buffer zone around each of the walking trip generators as recommended by the LCWIP guidance.

Once a CWZ is defined, key walking routes into the area are identified, these routes are then analysed to determine if an audit is required and if any schemes should be suggested along these routes. During the site visit (see Section 2.3.4.), some of the key walking routes were visited, carrying out a brief audit and suggesting possible schemes to improve them. Figure 4-2 to Figure 4-6 show the CWZs for each of the above centres and the key walking routes identified into and around them.

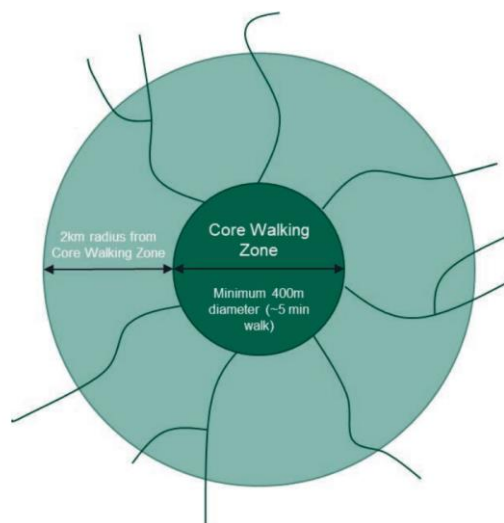


Figure 4-1: DfT Guidance for identifying a Core Walking Zone and key walking routes

4.1.2. Baseline Data Analysis

As in the previous network planning stage, evidence from the Evidence Base was used to paint a picture of the walking and cycling provision in each urban area.

Data which was particularly useful in this stage was the porosity (barrier), mesh (infrastructure) density data, collision and Strava data, as they can be split out to pedestrians and walking isochrones. The walking isochrones were created for each CWZ to highlight gaps in the infrastructure.

These isochrones were then used for each CWZ to show accessibility into the urban centre. For example, the walking isochrone for Bletchley shows there is a lack of infrastructure to the north-west and south of the town, see Figure 4-6. The walking scope in this figure represents where the isochrone is expected to reach, the gap between this and the edge of the isochrone shows there is a lack of direct route, or infrastructure in general in that direction from the town centre. There are also gaps to the east but there is little to no general infrastructure there so improved access is not necessary.

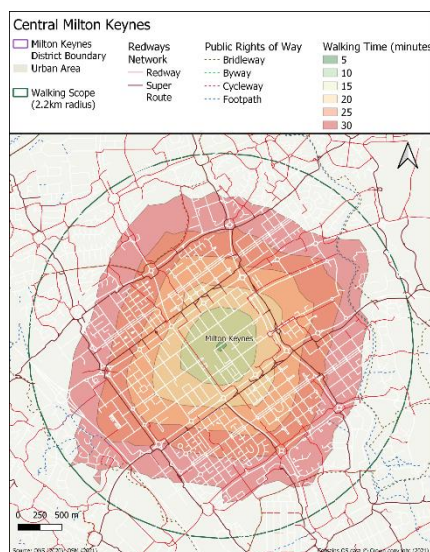


Figure 4-7: Walking Isochrone for Central Milton Keynes

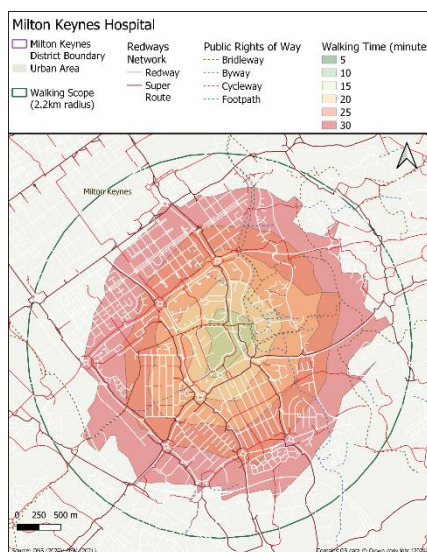


Figure 4-8: Walking Isochrone for Milton Keynes Hospital

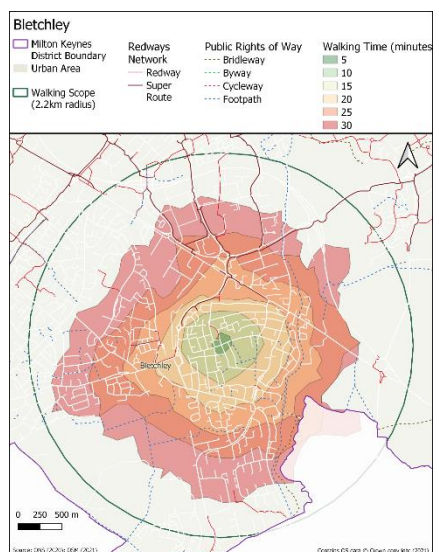


Figure 4-9: Walking Isochrone for Bletchley

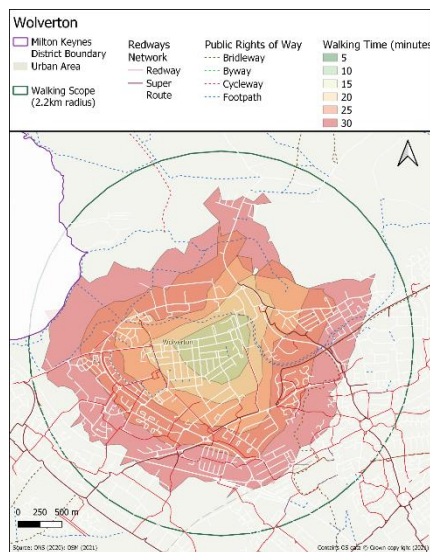


Figure 4-10: Walking Isochrone for Wolverton

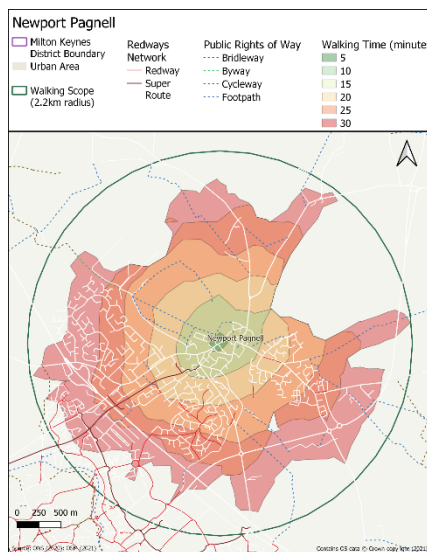


Figure 4-11: Walking Isochrone for Newport Pagnell

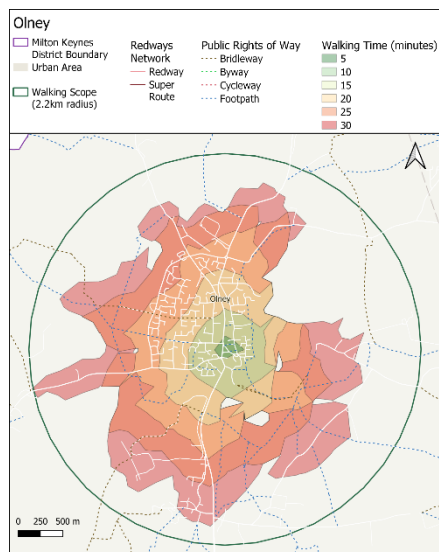


Figure 4-12: Walking Isochrone for Olney

4.1.3. Desire Lines

Having looked at the strategic desire lines, this step looked at the localised movements within urban centres. This included identifying key shopping, employment and transport areas and the connections between them. Significant movements that came out of this analysis include access to the main train stations (e.g. MK Central, Bletchley and Wolverton), access to employment hubs around Kingston and the main shopping districts in Central Milton Keynes and the retail park around MK Stadium.

4.1.4. Gap Analysis

Once the evidence was collated and desire lines identified, the existing network was analysed to highlight areas where the network is lacking. This was predominantly a desk-based exercise, comparing desire lines and high demand routes (from e-scooter data and the Propensity to Cycle Tool) to the existing infrastructure.

4.1.5. Existing Network Analysis

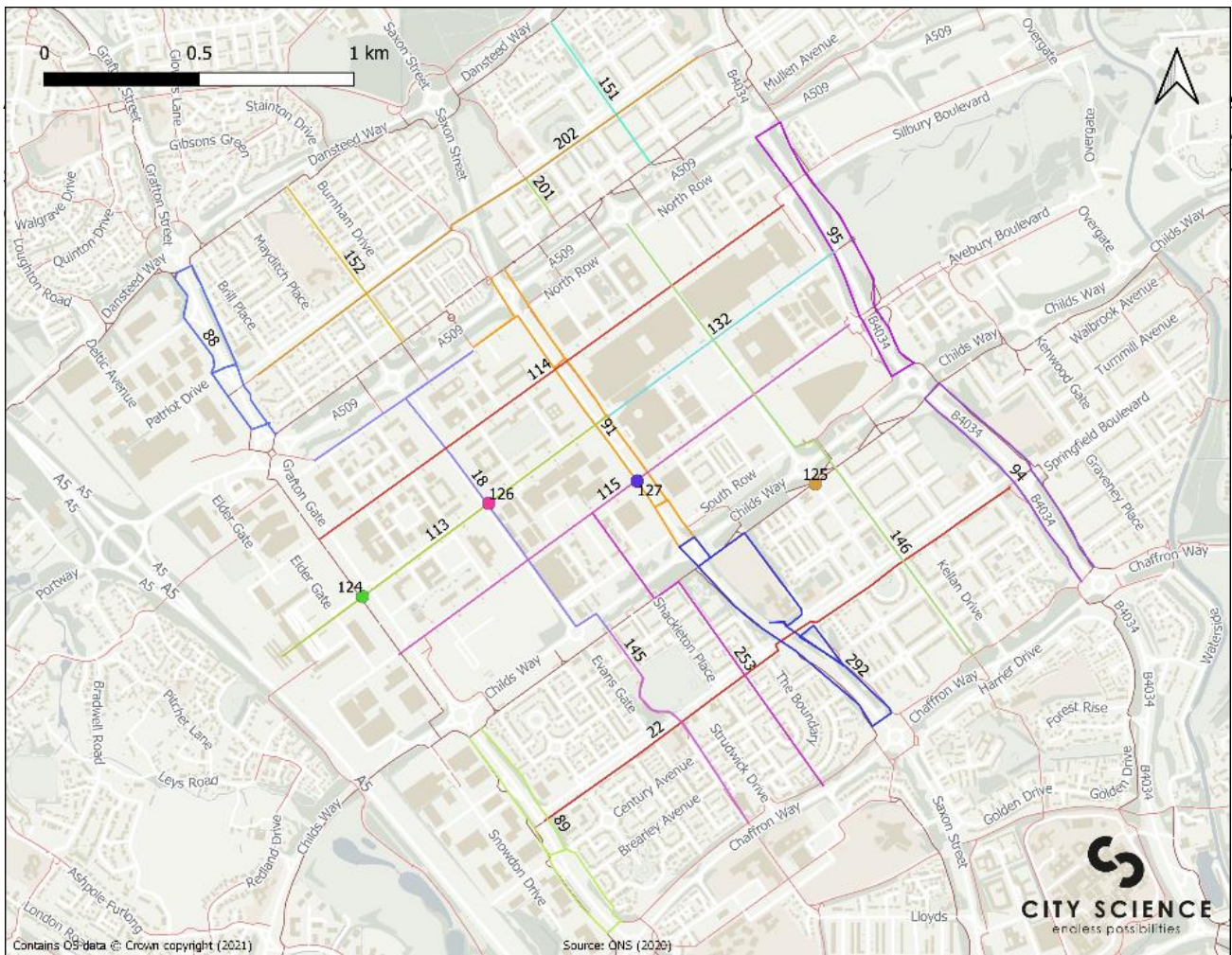
Further to identifying missing links, analysis was also carried out on the existing network using the Vaisala Pavement condition data and knowledge gained from the site visit. This identified areas of Redway in need of improvement including widening, signage, lighting and improvement of safety at road crossings.

4.2. Local Networks

The following sections detail the local networks (excluding interborough schemes) developed during this stage for Central Milton Keynes (see Figure 4-13), Bletchley (see Figure 4-14), Newport Pagnell (see Figure 4-15), Wolverton & Stony Stratford (see Figure 4-16 and Figure 4-17) and Olney (see Figure 4-18), with improvements categorised as Missing Links (ML), Redway Improvements (RI) and Local Schemes (LS).

4.2.1. Central Milton Keynes

A large number of schemes were identified within Central Milton Keynes (CMK+). These include the missing link identified by stakeholders and the site visit between the train station and central shopping district (Scheme 113). Other schemes identified include the crossing of the adjoining suburbs of Oldbrook, Fishermead, Bradwell Common & Conniburrow (e.g. Schemes 151, 152, 202).



Central Milton Keynes: All Schemes

- Super Route
- Redway

Schemes:

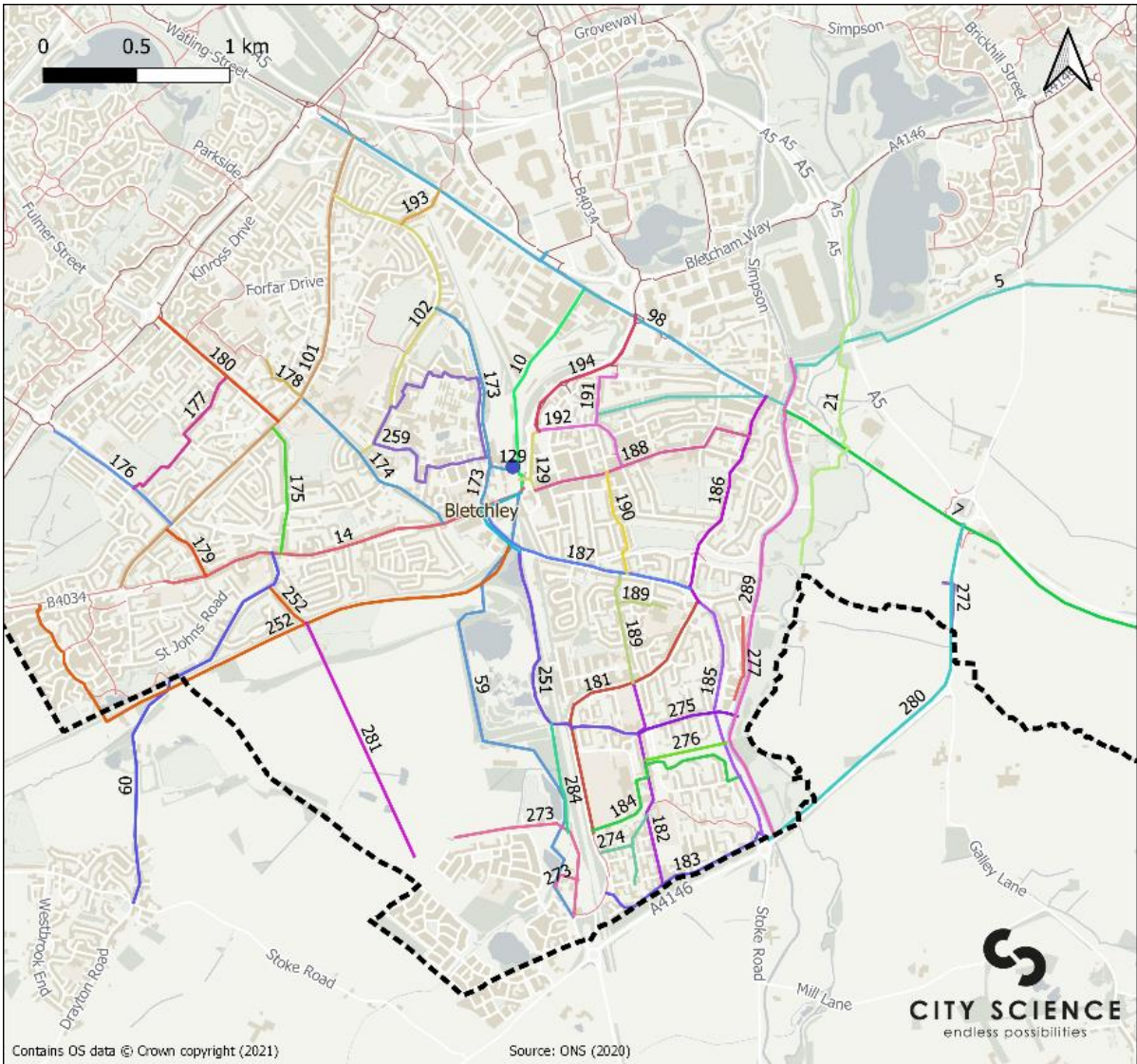
- | | | |
|---------------------------------|------------------------------------------|-------------------------------------------|
| 113 - MKC to CMK (ML) | 201 - Conniburrow Redway Gap (ML) | 89 - V6 Grafton Street3 (ML) (RI) |
| 114 - Silbury Boulevard (ML) | 202 - Bradwell Common - Conniburrow (ML) | 91 - V7 Saxon Street2 (ML) (RI) |
| 115 - Avebury Boulevard (ML) | 22 - Fishermead (ML) (LS) | 94 - V8 Marlborough Street2 (ML) (RI) |
| 132 - CMK to Campbell Park (ML) | 253 - Verity Place (ML) | 95 - V8 Marlborough Street3 (RI) |
| 145 - Oldbrook (ML) | 292 - V7 Saxon Street3 (ML) (RI) | ● 124 - MKC crossing with V6 (RI) |
| 146 - Fishermead to CMK (ML) | 88 - V6 Grafton Street2 (ML) (RI) | ● 125 - Pentewan Gate crossing (RI) |
| | | ● 126 - Midsummer Boulevard Crossing (RI) |
| | | ● 127 - Gates at Avebury Blvd and V7 (RI) |

4.2.2. Bletchley

Bletchley has the highest number of proposed schemes out of all the focus areas in this LCWIP. This is due to the lack of existing provision and potential for active travel uptake in the area as well as potential to deliver improvements for walking and cycling through the East West Rail project.

The schemes identified are predominantly missing links; notable schemes include the missing links along Buckingham Road (Scheme 14), Saxon Street (Scheme 129) & Queensway (Scheme 188). These schemes also include committed schemes to connect Newton Leys to Central Bletchley which are already in development (Schemes 251, 187, 283 & 284).

Missing links were identified through the south-east of the town around Lakes Estate and Water Eaton, with the aim to connect these areas with Central Bletchley. Another notable scheme is the proposed Bletchley Southern Bypass (Scheme 252) which aims to provide a quieter east-west route to the south of the town along the railway line.



Bletchley: All Schemes

- Super Route
- Redway

Schemes:

- 10 - Bletchley North (ML) (LS)
- 101 - Whaddon Way (ML)
- 102 - Whalley Drive (ML)
- 129 - Bletchley Station access (ML) (LS) (RI)
- 14 - Buckingham Road (ML)
- 173 - Sherwood Drive (ML) (RI)
- 174 - Rickley Lane (ML)
- 175 - Shenley Drive (ML)
- 176 - Tattenhoe Lane (ML) (RI)
- 177 - Far Bletchley (ML)
- 178 - Cornwall Grove (ML)
- 179 - Tattenhoe Lane Part 2 (ML)
- 180 - Shenley Road (ML)
- 181 - Drayton Road (ML)
- 182 - Lakes Estate N-S (ML)
- 183 - Lamond Drive (ML)
- 184 - Lakes Estate E-W (ML)
- 185 - Stoke Road (ML)
- 186 - Manor Road (ML)
- 187 - Water Eaton Road (ML)
- 188 - Bletchley High Street (ML) (RI)
- 189 - Water Eaton (ML)
- 190 - Westfield Road (ML)
- 191 - North Street (ML)
- 192 - Princes Way (ML) (RI)
- 193 - Bletchley North Rail Crossing (ML)
- 194 - V7 Bletchley North (RI)
- 21 - Fenny Stratford (ML) (RI)
- 251 - Blue Lagoon (ML)
- 252 - South Bletchley Bypass (ML)
- 259 - Bletchley Park (ML)
- 272 - Eaton Leys (ML)
- 273 - Furzey Way (ML)
- 274 - Lakes Estate SW (ML)
- 275 - Lakes Estate EW (ML)
- 276 - Waterhall Park (ML)
- 277 - Lakes Estate E (ML)
- 280 - A4146 (ML)
- 281 - Newton Leys New Estate (ML)
- 283 - Water Eaton Road Link (ML)
- 284 - Blue Lagoon to Newton Leys (ML)
- 289 - Canal Railway to South (RI)
- 5 - Bletchley to Bow Brickhill (ML)
- 59 - Newton Leys (ML)
- 60 - Newton Longville (ML)
- 7 - Bletchley to Little Brickhill (ML) (RI) (LS)
- 98 - Watling Street (ML)
- 129 - Bletchley Station access (ML) (LS) (RI)

Figure 4-14: Local Network over Bletchley

4.2.3. Newport Pagnell

Although there is already some good infrastructure in Newport Pagnell, the majority of proposed schemes in Newport Pagnell are missing links due to the lack of existing Redways in the area. Schemes in this local network are focussed on joining up the existing sections of Redway in the town and providing access across the different neighbourhoods, see Figure 4-15.

Other schemes include improvements to the High Street to make more accessible to walking and cycling (Scheme 162) and improving access to Ousedale School (Scheme 261). Some schemes were also proposed to support upcoming future development to the east and south of the town (Schemes 267 and 255 respectively).

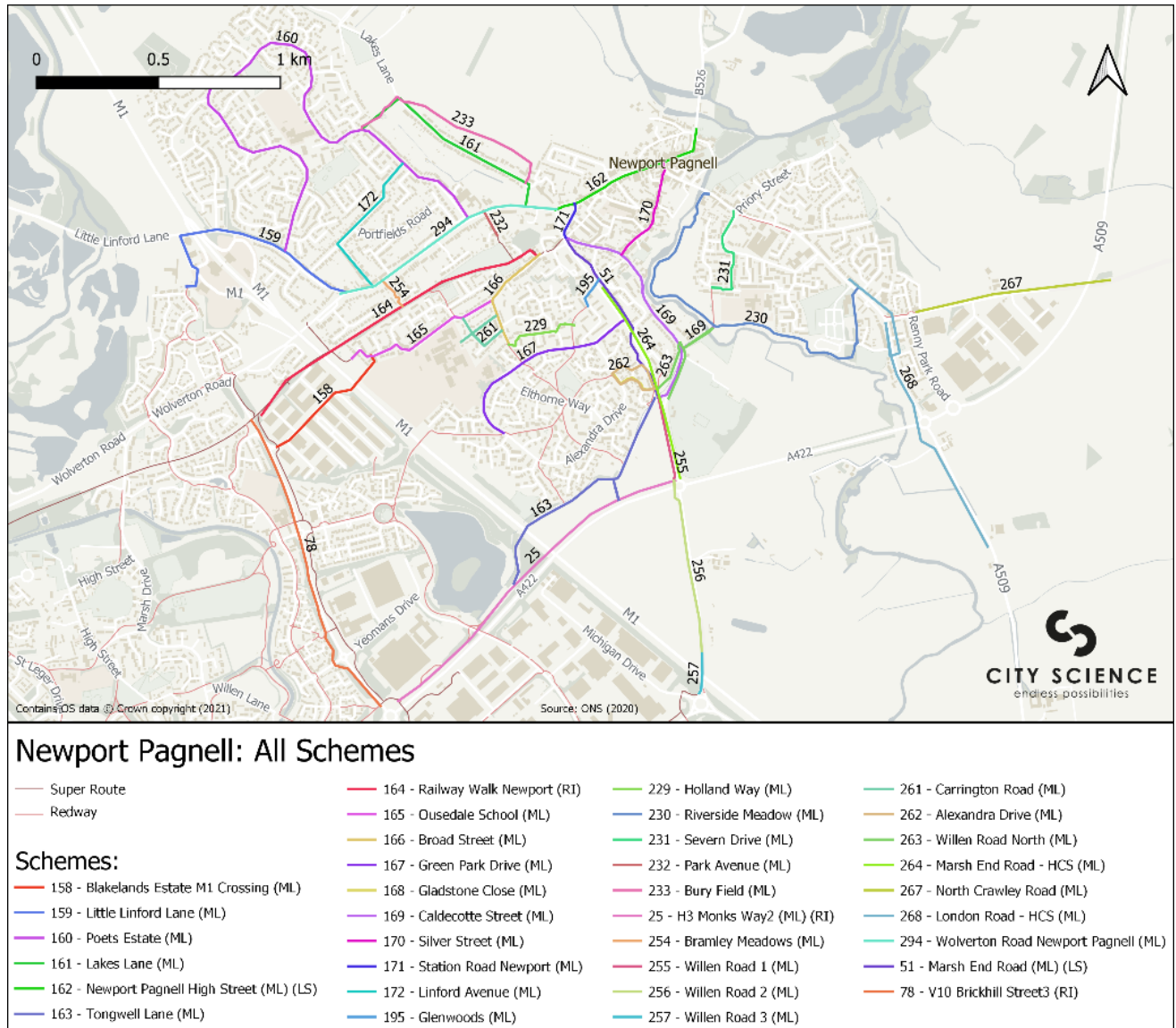


Figure 4-15: Local Network over Newport Pagnell

4.2.4. Wolverton

A large number of schemes were proposed by stakeholders in Wolverton, with the aim of creating a network of quiet routes through the old, terraced streets south of the high street. The most viable of these have been included in the proposed local network for Wolverton (see

Figure 4-16) and include Church Street and some garage access roads which run behind houses as there is limited space on the roads for Redways to be retrofitted.

A scheme has been proposed around the Radcliffe School to improve access for students (Scheme 211). Schemes have also been proposed around Wolverton Station to improve access by active modes. Scheme 131 links the existing Redway to the east of the town to the station and beyond into Wolverton.

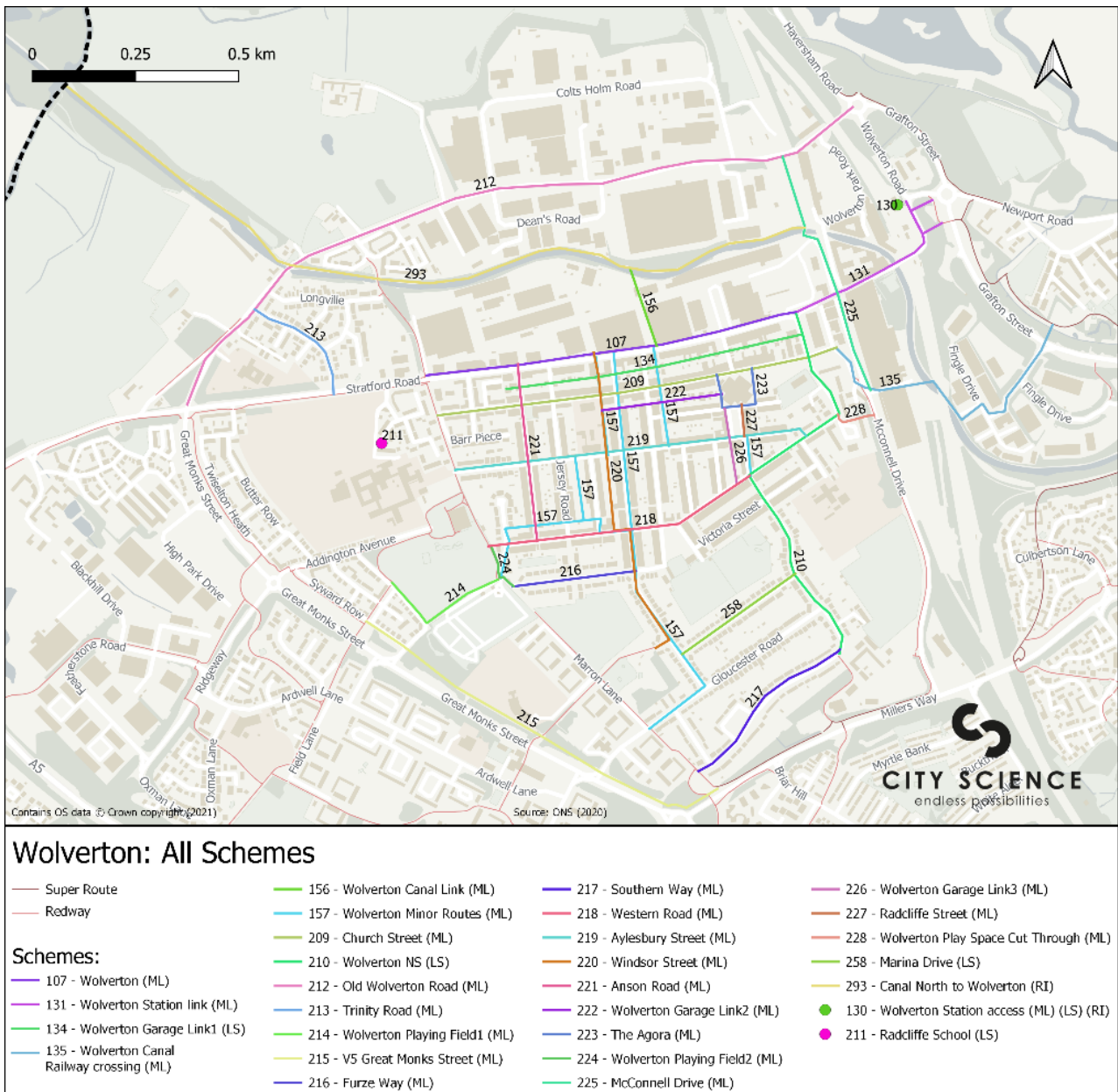


Figure 4-16: Local Network over Wolverton

A key issue in Wolverton is the lack of crossing points over/under barriers such as the railway line, railway works and the canal. Schemes have been proposed to increase the number of crossings, including Scheme 156 across the railway works and Scheme 135 across the railway line and canal.

4.2.5. Stony Stratford

Three schemes have been proposed in Stony Stratford (see Figure 4-17), including access to Old Stratford (Scheme 144) and a link around Queen Eleanor Street to provide a quiet route around the town and improve access to St Mary and St Giles C of E School (Scheme 75).

The most significant scheme in Stony Stratford is linking the Redway to the east and south which stop just before the town along London Road and Wolverton Road (Scheme 74). Ideally this scheme would carry along these two roads to provide access to the high street also, however a secondary option for a route has been proposed along Clarence Road to provide a quieter option for through journeys.

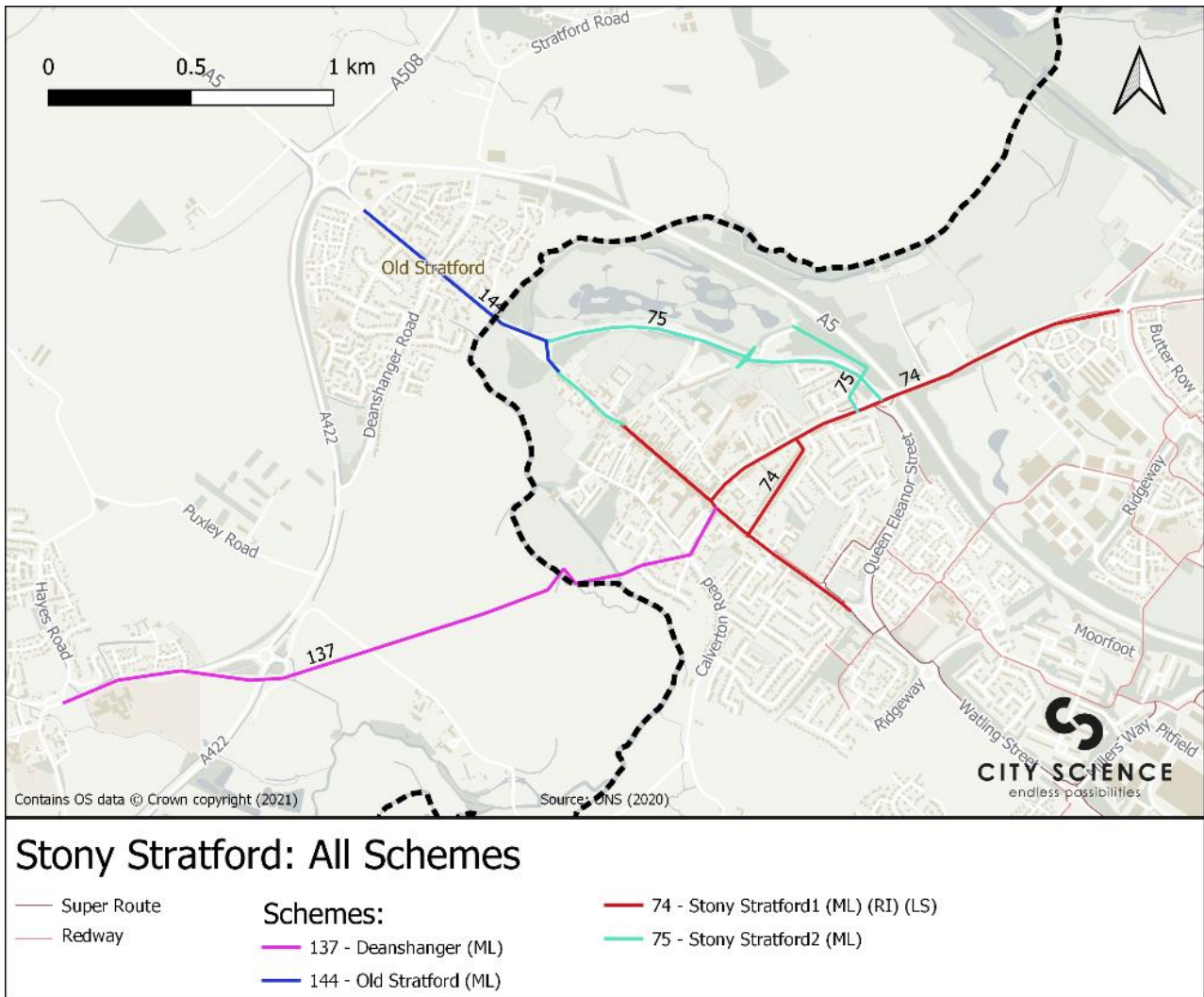


Figure 4-17: Local Network over Stony Stratford

4.2.6. Olney

There is already a good network of paths through the residential estates of Olney so the majority of the schemes proposed would be upgrading these paths to Redways. Schemes proposed in Olney (see Figure 4-18) focus around the residential areas to the west of the town, predominantly providing links between the infant, middle and secondary schools (e.g. Schemes 243, 240 & 237). Other schemes include improving access along the High Street (Scheme 234) and the roads heading out of the town to the north, east and south (Schemes 249, 245 & 246 respectively).

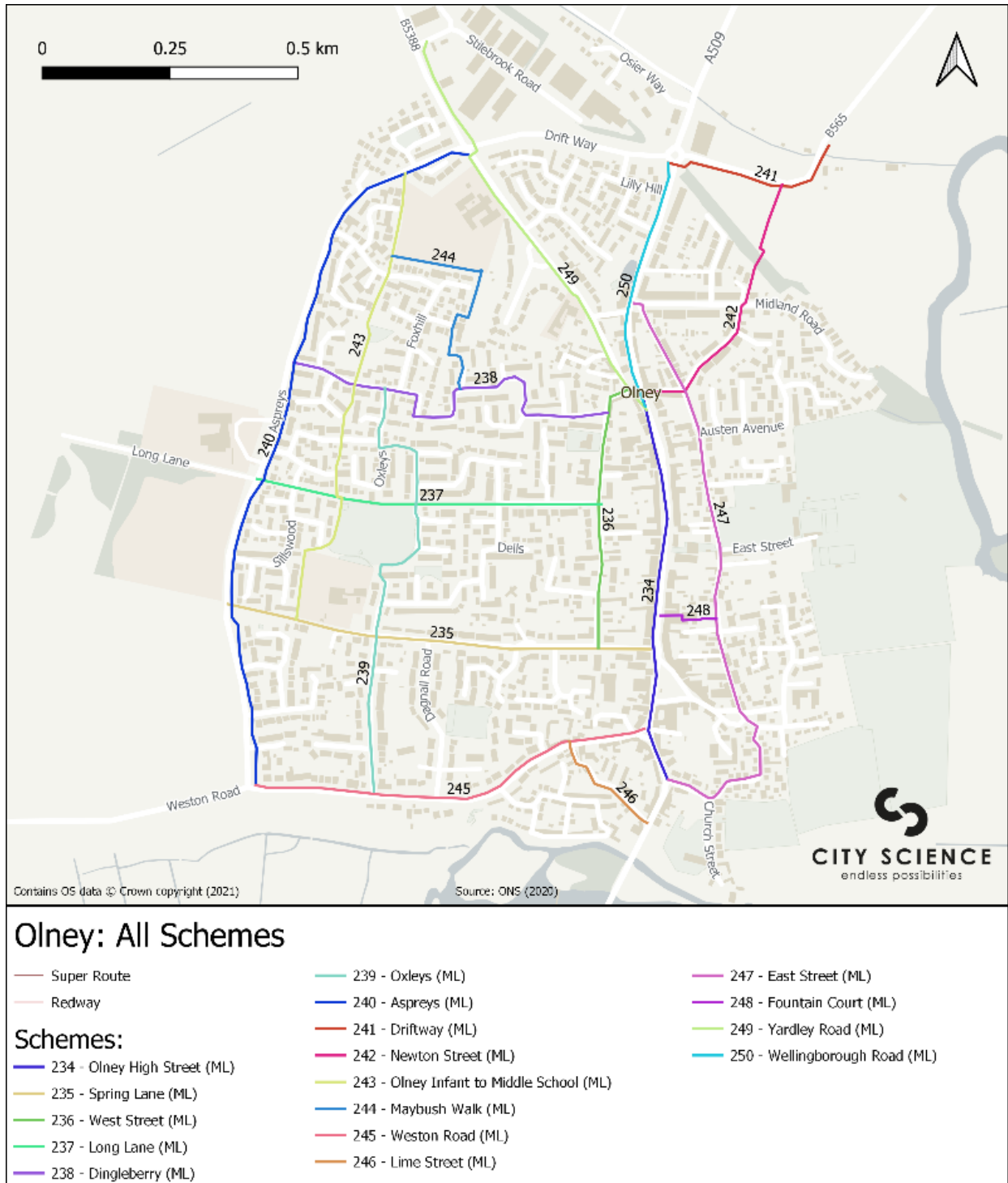


Figure 4-18: Local Network over Olney

4.3. Low Traffic Neighbourhoods

The nature of the road network in Milton Keynes is compatible with Low Traffic Neighbourhoods, which by installing ‘modal filters’ aim to reduce motorised traffic on residential streets, thereby improving safety, reducing noise and air pollution and making these streets more pleasant places to live. A ‘modal filter’ is a temporary or permanent barrier that prevents certain vehicles from passing down a street. For example, a planter can prevent motorised vehicles from passing but allow pedestrians and cyclists through, or a camera operated bollard can bar through-traffic but allow residents full access.

As part of the LCWIP, example locations to consider for Low Traffic Neighbourhoods were identified and are aligned with the findings of the Government’s Gear Change: one-year-on review and the benefits of these schemes seen across the UK. Example locations to consider for Low Traffic Neighbourhoods are shown below for Bletchley, Wolverton and Olney (see Figure 4-19 to Figure 4-21). Local engagement is recommended to investigate these proposals and identify additional locations in other local communities.

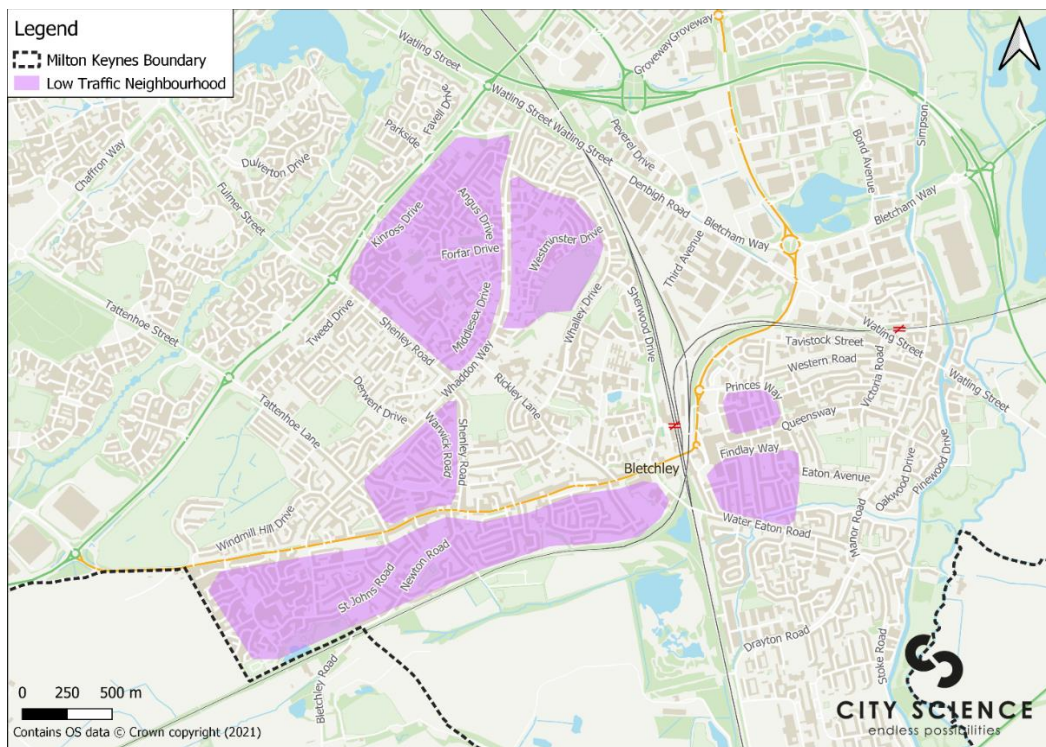


Figure 4-19: Example Low Traffic Neighbourhoods in Bletchley



Figure 4-20: Example Low Traffic Neighbourhoods in Wolverton

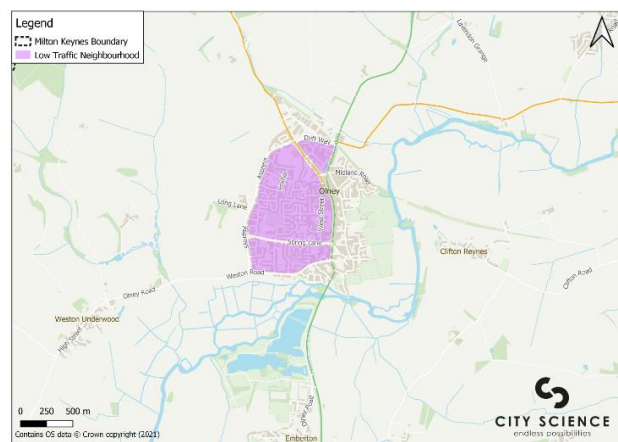


Figure 4-21: Example Low Traffic Neighbourhoods in Olney

5. Appraising and Prioritising Schemes

5.1. The Long List

After carrying out the above network planning stages, the results of the Interborough and Local Network stages were combined to produce a long list of 294 schemes. This sets out an ambitious network of schemes to improve the walking and cycling infrastructure within the city (see Figure 5-1).

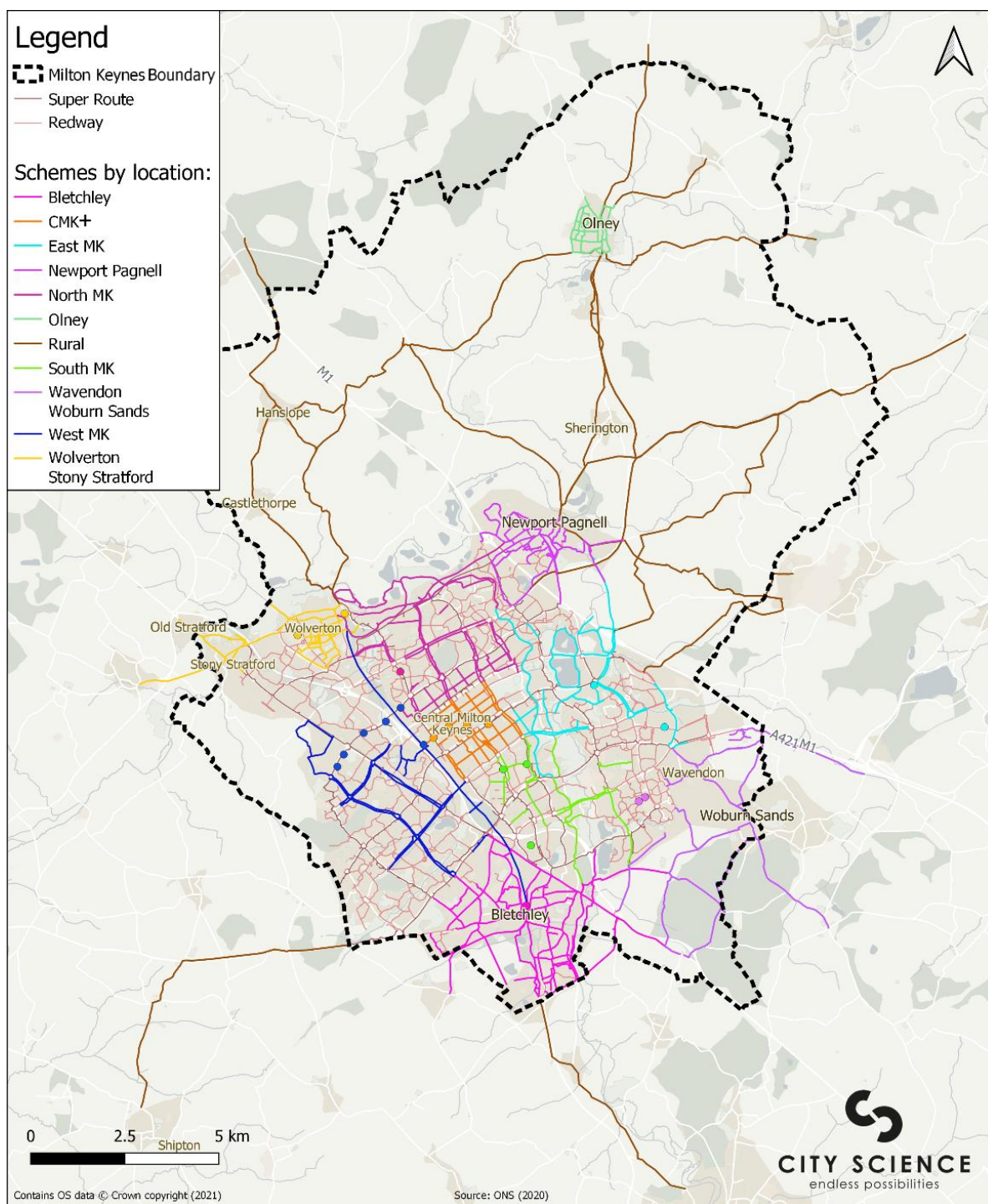


Figure 5-1: Long-list schemes over the city



Figure 5-2: Breakdown of Long-List Schemes by Location

The schemes were categorised as:

- **Missing links:** a new section of infrastructure (e.g. a Redway) which bridges a gap in the network
- **Redway Improvements:** Improvements to an existing Redway (e.g. widening, segregation, crossing improvements)
- **Local Schemes:** Non-Redway based interventions (e.g. Low Traffic Neighbourhoods and cycle parking)

Due to the corridor approach that was taken when developing the schemes, it is possible for schemes to have multiple classifications. For example, if a corridor is identified between A and B and already has some low quality Redway along it but more infrastructure is needed to link it into the wider network, this scheme would be classed as both a Missing Link and Redway Improvement.

A breakdown of the classification of schemes is shown in Figure 5-3.

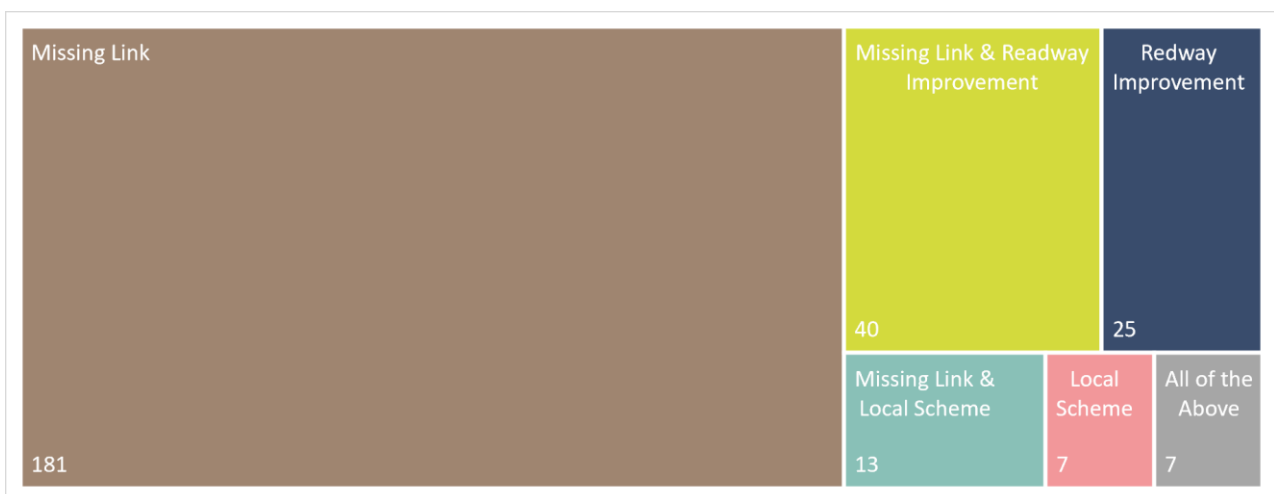


Figure 5-3: Breakdown of Long-List Schemes by Type

5.2. Appraisal Metrics

Category	Metric	Weight	Scoring		
			Low	Medium	High
Socio-Economic	Deprivation Index	6%	Scheme in area of low deprivation, index between 8 th -10 th decile	Scheme in area of medium deprivation, index between 5 th -7 th decile	Scheme in area of high deprivation, index between 1 st -4 th decile
	Physical Activity Levels	6%	Area of low physical inactivity (< 20%)	Area of medium physical inactivity (between 20-30%)	Area of high physical inactivity (>30%)
	Access to Education	6%	Scheme further than 5-minute walk from educational facility	Scheme within 5-minute walk from educational facility	Scheme within 100m of an educational facility
	Access to Health Services	4%	Scheme further than 10-minute walk from health care facility	Scheme within 10-minute walk from health care facility	Scheme within 5-minute walk from health care facility
	Access to Employment	6%	Scheme further than 5-minute walk from employment zone	Scheme within 5-minute walk from employment zone	Scheme within 100m of an employment zone
Infrastructure Standards	Standard of Infrastructure Compared to Guidance	6%	Potential scheme not wide enough for 3-5m or able to provide segregation from road	Some of the proposed route has space for 3-5m and/or segregation from the road	Majority of the proposed route has space for 3-5m and/or segregation from the road
	Density of Surrounding Infrastructure	8%	High density of surrounding infrastructure	Some surrounding infrastructure but lower density	Low density / no surrounding infrastructure
	Expansion of Existing Network	6%	Scheme does not connect to existing Redway Network	Scheme within 400m of existing Redway Network	Scheme directly connects to existing Redway Network
Policy	Strategic Cycle Route	6%	Does not connect to a Strategic Cycle Route	Joins to a Strategic Cycle Route	Lies along a Strategic Cycle Route
	Supporting of Future Development	8%	No future development within 400m of scheme	Future development within 400m of scheme	Future development within 100m of scheme
Effectiveness	Potential Population Benefitting from Scheme	8%	Estimated population of less than 1,500 within 5-minute walk from scheme	Estimated population of between 1,500-2,500 within 5-minute walk from scheme	Estimated population of more than 2,500 within 5-minute walk from scheme
	Potential Improvement to Road Safety	6%	Less than 4 collisions per km within 400m of scheme	Between 4 and 10 collisions per km within 400m of scheme	More than 10 collision per km within 400m of scheme
	Current Active Travel Demand	6%	On a PCT route with low demand (< 15) AND not on an e-scooter route	On a PCT route with medium demand (15-30) OR on an e-scooter route with below average demand	On a PCT route with high demand (> 30) OR on an e-scooter route with above average demand
	Access to Public Transport Hubs	8%	No Public Transport Hubs within 800m of scheme	Public Transport Hub within 800m of scheme	Public Transport Hub within 400m of scheme
	Access to Bus Stops	4%	No bus stops in scheme area OR bus stops in scheme area all have frequency < 1 bus per hour	Bus stops within scheme area have a max frequency between 1-3 bus per hour	Bus stops within scheme area have max frequency > 3 bus per hour
Dependency	Dependency on Other Schemes	6%	Little to no benefit from scheme unless	Maximum benefit delivered if connected to other schemes	No dependency on other schemes

Table 5-1: Milton Keynes LCWIP Scheme Appraisal Framework

5.3. Appraised Long-List Summary

The Appraisal Metric created scores for all identified schemes. The top 100 scoring scheme can be found in Table 5-2. The majority of top scoring schemes were located within either Milton Keynes Centre+ or Bletchley, with a selection of the top performing schemes for each displayed in Figure 5-4 and Figure 5-5. Details of a selection of the top scoring schemes in the wider urban area are also provided in Figure 5-6 to highlight well performing schemes outside of these two urban centres. Please see [Appendix B](#) and [Appendix C](#) for full list of maps and lists of these schemes respectively.

Number	ID	Scheme Name	Score (%)	Number	ID	Scheme Name	Score (%)
1	186	Manor Road	88	51	174	Rickley Lane	71
2	194	V7 Bletchley North	87	52	134	Wolverton Garage Link1	71
3	251	Blue Lagoon	86	53	57	Newport Road1	71
4	42	H9 Groveway1	83	54	127	Gates at Avebury Blvd and V7	70
5	173	Sherwood Drive	83	55	75	Stony Stratford2	70
6	115	Avebury Boulevard	82	56	5	Bletchley to Bow Brickhill	70
7	181	Drayton Road	82	57	102	Whalley Drive	70
8	292	V7 Saxon Street3	81	58	54	MK to Cranfield Uni	70
9	191	North Street	81	59	142	MK Academy Junction	69
10	289	Canal Railway to South	81	60	96	V8 Marlborough Street4	69
11	59	Newton Leys	81	61	202	Bradwell Common - Conniburrow	69
12	98	Watling Street	80	62	79	V11 Tongwell Street1	69
13	188	Bletchley High Street	80	63	95	V8 Marlborough Street3	69
14	14	Buckingham Road	79	64	212	Old Wolverton Road	69
15	107	Wolverton	79	65	169	Caldecotte Street	69
16	187	Water Eaton Road	79	66	259	Bletchley Park	69
17	10	Bletchley North	79	67	274	Lakes Estate SW	68
18	74	Stony Stratford	78	68	28	H5 Portway1	68
19	129	Bletchley Station access	78	69	35	H7 Chaffron Way1	68
20	91	V7 Saxon Street2	77	70	183	Lamond Drive	68
21	86	V4 Watling Street1	77	71	282	Willen Lake	68
22	92	V7 Saxon Street4	77	72	185	Stoke Road	68
23	146	Fishermead to CMK	77	73	46	Hospital	67
24	189	Water Eaton	77	74	139	Walnut Tree	67
25	192	Princess Way	77	75	100	West MK	67
26	24	H3 Monks Way1	76	76	165	Ousedale School	67
27	252	South Bletchley Bypass	76	77	56	Newport Pagnell to Cranfield Uni	67
28	283	Water Eaton Road link	76	78	145	Oldbrook	67

29	17	Castlethorpe to Wolverton	75	79	253	Verity Place	67
30	209	Church Street	75	80	164	Railway Walk Newport	66
31	18	CMK	74	81	21	Fenny Stratford	66
32	125	Pentewan Gate crossing	74	82	153	Loughton	66
33	131	Wolverton Station link	74	83	193	Bletchley North Rail Crossing	66
34	27	H4 Dansted Way1	74	84	53	MK Academy	65
35	69	Railway	74	85	124	MKC crossing with V6	65
36	71	Rural Leisure	74	86	241	Driftway	65
37	76	V10 Brickhill Street1	74	87	279	V4 Watling Street2	65
38	113	MKC to CMK	73	88	112	Canal NCN	65
39	114	Silbury Boulevard	73	89	41	H8 Standing Way3	65
40	157	Wolverton Minor Routes	73	90	215	V5 Great Monks Street	65
41	273	Furzey Way	72	91	180	Shenley Road	64
42	101	Whaddon Way	72	92	190	Westfield Road	64
43	184	Lakes Estate E-W	72	93	109	Wolverton Road	64
44	220	Windsor Street	72	94	135	Wolverton Canal/Railway Crossing	64
45	58	Newport Road2	72	95	45	Hanslope to Wolverton	63
46	94	V8 Marlborough Street2	72	96	66	Olney to MK	63
47	132	CMK to Campbell Park	72	97	147	Ouzel Valley Park	63
48	22	Fishermead	72	98	39	H8 Standing Way1	62
49	88	V6 Grafton Street2	72	99	205	Springfield EW	62
50	290	Newport Road	72	100	97	V9 Overgate1	61

Table 5-2: Top 100 scoring schemes in this LCWIP

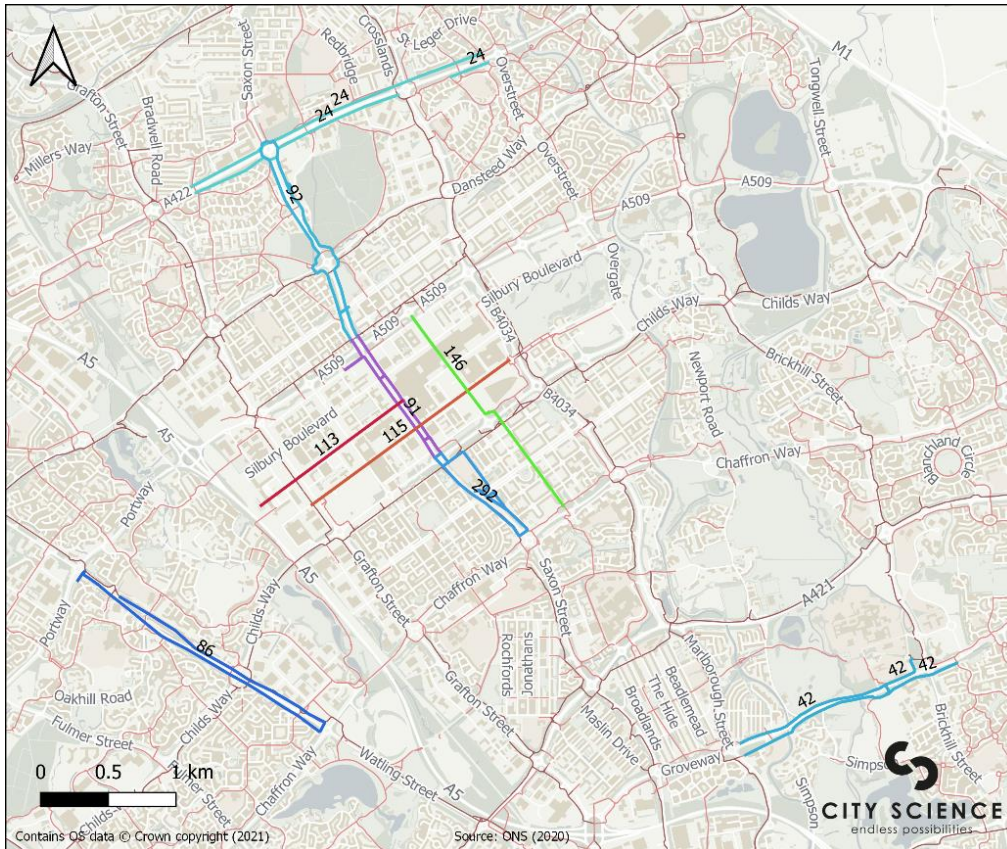


Figure 5-4: Selection of the Top Schemes in urban Milton Keynes

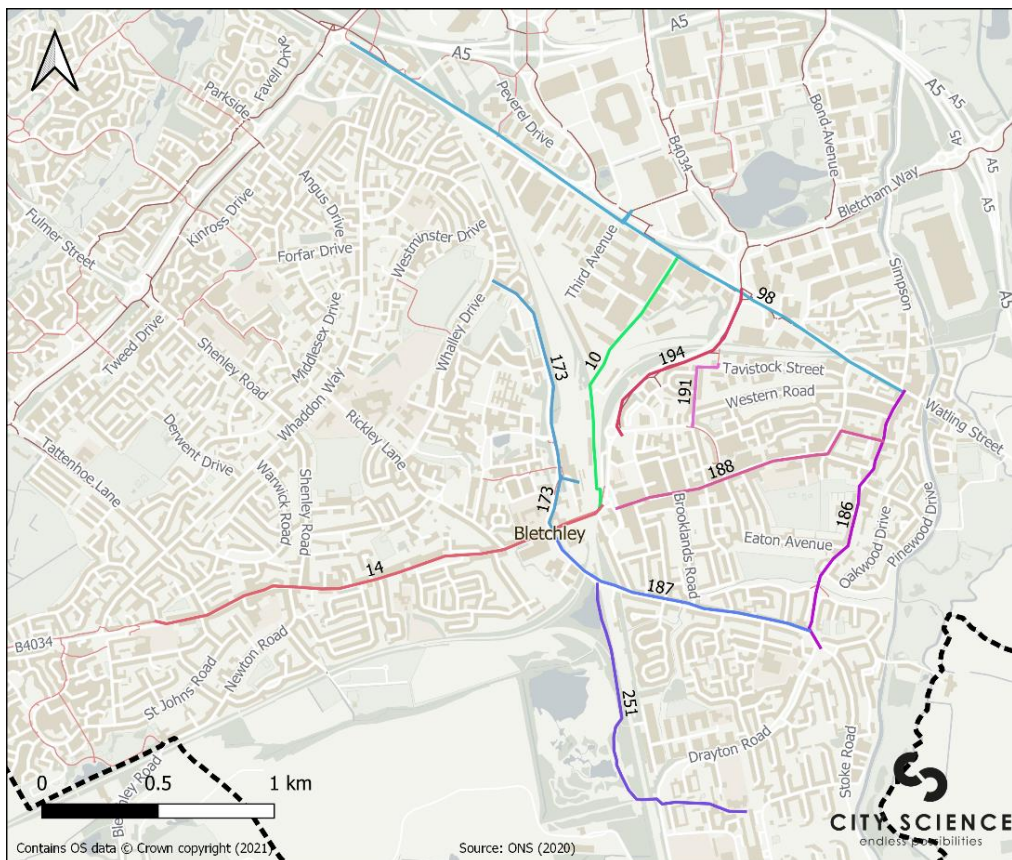


Figure 5-5: Selection of the Top Schemes in Bletchley

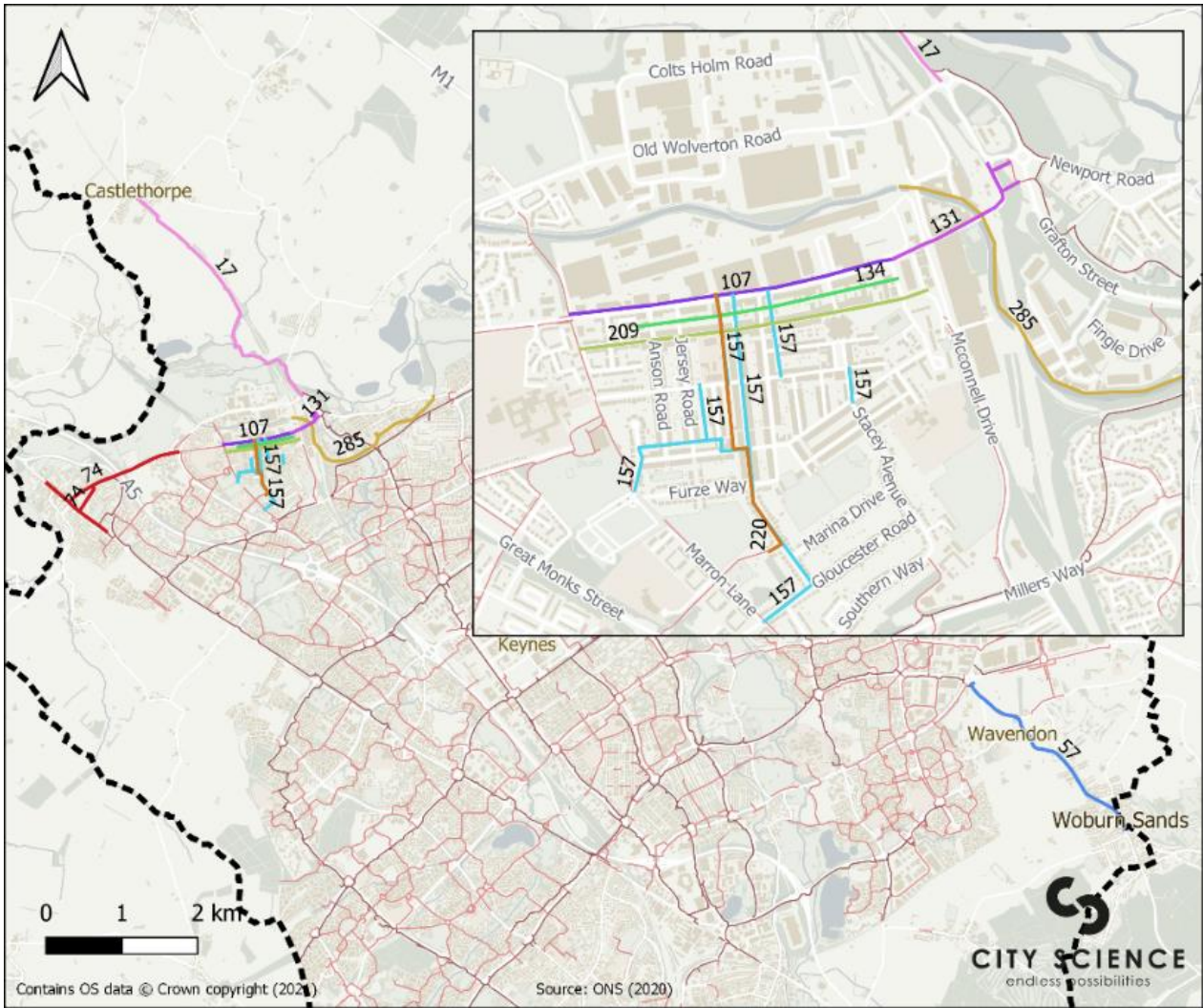


Figure 5-6: Selection of the Top Schemes in the wider Milton Keynes urban area

5.4. Prioritisation of Long List Schemes

As outlined in Section 1.4, to inform further prioritisation of scheme development and delivery, aligned to the Council’s ambitions to address missing links in the Redways and support economic growth, this section allocates the Long-Listed schemes into categories shown in Figure 5-7.

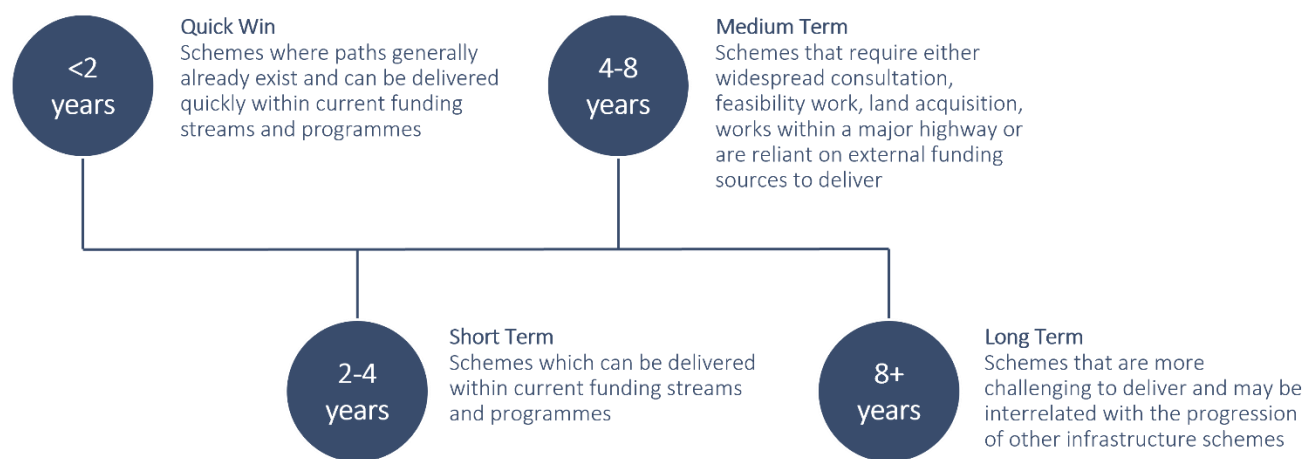


Figure 5-7: Network improvements delivery timescale

5.4.1. Delivery Timeframes of Schemes

Prioritisation of the Long List of schemes was based on the appraisal approach, where the top third (or so) of schemes were allocated across the four categories, based on indicative cost and deliverability. The remaining two thirds of schemes were allocated either Medium or Long Term, depending on indicative cost, deliverability and perceived benefit in that timescale.

	Quick Wins	Short Term	Medium Term	Long Term
Top 100 Scoring Schemes	26	29	20	25
Lower Scoring Schemes	n/a	n/a	125	48
Total	26	29	145	73

Table 5-3: Delivery Timeframes of Schemes

5.5. Prioritised Long List

Figure 5-5 shows the prioritised schemes. A full, ordered, prioritised long-list is provided in Appendix C – Full Long List of LCWIP Schemes (Table) which details the scheme name, scheme location, description of scheme, weighted scores for each of the appraisal metrics and their total combined score. This long list has largely been superseded by the delivery plan (see Chapter 7) but will continue to inform future updates to this plan. As will other supporting documents, such as Sustrans work into new infrastructure for Castlethorpe and Hanslope.

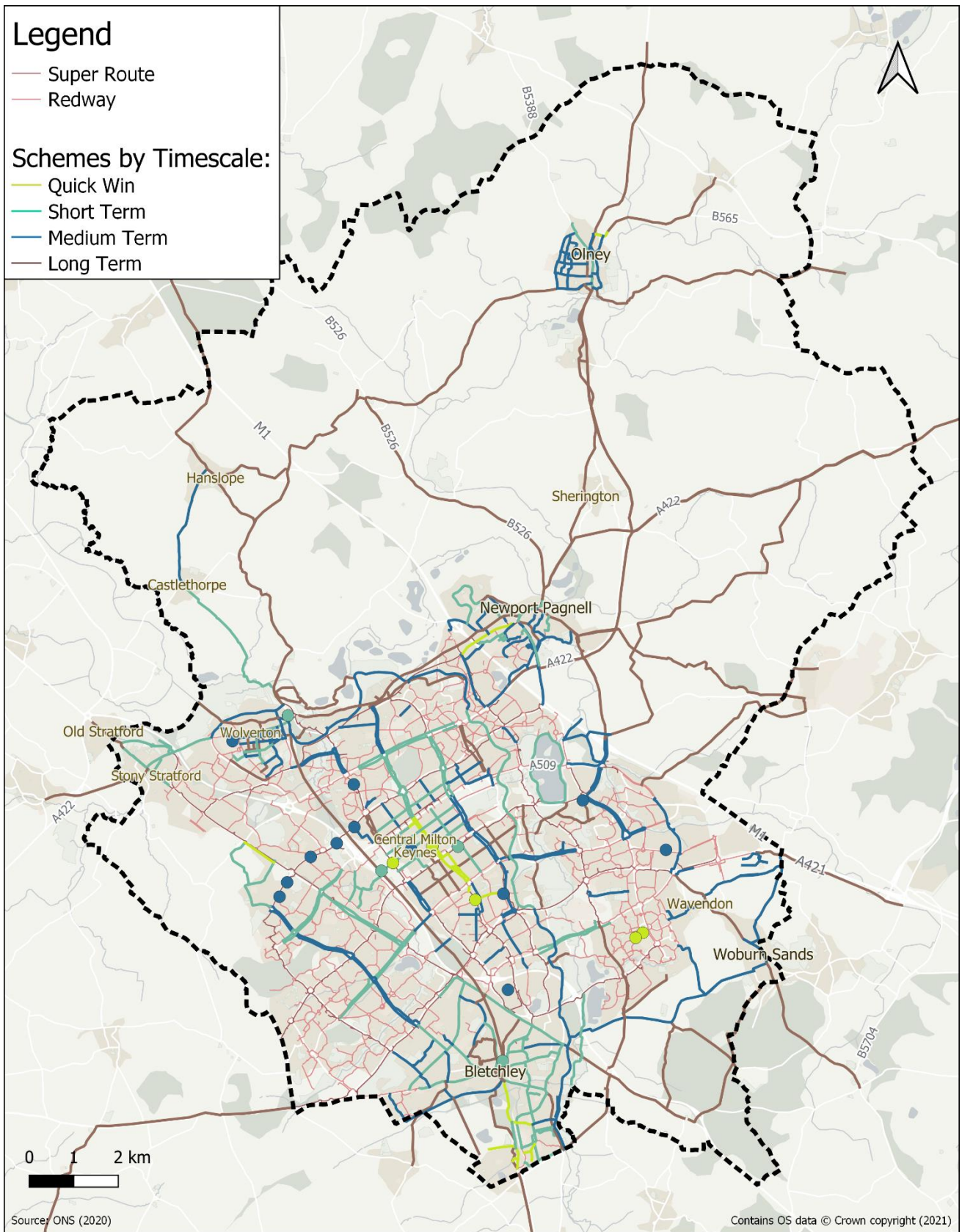


Figure 5-8: Delivery Timeframes of Schemes

5.6. Wider Recommendations

In addition to producing an ambitious plan for the expansion and upgrade of the existing Redway network, over the course of developing this LCWIP, wider recommendations were made to address other issues with the Redway network. To deliver these wider recommendations, they will be integrated and adopted within other supporting policies and projects.

5.6.1. Redway Design Specifications

The council had already commenced updating the Redway design guidance, which had not been updated since 1991, and had undertaken consultation on this when updated national design guidance (LTN 1/20) was published in mid-2020. The new *Redway Design Manual* is expected to be adopted alongside this LCWIP and seeks to advance Redway design standards in line with LTN 1/20, and improvements suggested as part of this LCWIP process. This will include a greater emphasis on segregating pedestrians from cyclists on busier Redway routes, in the interests of inclusivity, safety and making active travel an attractive travel choice.

5.6.2. Wayfinding and Signage

Signage over the network is inconsistent and can cause confusion for users of the Redways. This LCWIP recommends the creation of a network signage plan that can be integrated across the network.

LTN 1/20 - Principle 10: Schemes must be legible and understandable

Cyclists, pedestrians and motorists alike must be in no doubt where the cycle route runs, where the pedestrian and vehicle space is and where each different kind of user is supposed to be. Some schemes deliberately create confusion or ambiguity with, for instance, only minimal signs in a paved area to show that cycling is permitted. This is another way of managing cyclist-pedestrian interactions that inhibits cycling and is not suitable for places with large numbers of cyclists and pedestrians (DfT, 2020)

It is advised that key routes such as the Redway Super Routes and links to key destinations (such as the hospital and Stadium MK) be prioritised, as well as improved signage to bus stops and public transport hubs to better integrate the active travel and public transport networks. A range of signage options should be considered, including colour coding of areas to create dementia friendly spaces and the addition of journey time estimates for both pedestrians and cyclists.

LTN 1/20 - Principle 11: Schemes must be clearly and comprehensively signposted and labelled

Users must feel like they are being guided along a route. They should not have to stop to consult maps or phones. Directions should be provided at every decision point and sometimes in between for reassurance. Signs should be clear, easily visible and legible (DfT, 2020)

As part of any wayfinding or signage implementation along the network, it is recommended to increase the number of cycle counters. This would allow an improved understanding of the network and would help to direct priority routes for maintenance or upgrading as part of the Super Routes programme.

5.6.3. Underpasses

There are a large number of underpasses along the Redway network to help cross the large grid roads in the city. They are functional, with a few maintenance issues but the predominant issue is that they create a perception of poor safety. Responses during the stakeholder engagement in this LCWIP

underlined that people, predominantly women, do not feel safe walking through the underpasses, especially at night. As removing them entirely is an unrealistic solution, it is proposed that the underpasses should be enhanced through the use of increased lighting, local art and local engagement, some of which is already being investigated and carried out. It is recommended that, where possible, future schemes should follow routes that are well overlooked to improve safety.

5.6.4. Identity

This LCWIP recommends creating a stronger identity for the Redway network, so public trust in the network can be improved and the uptake of active travel increased. One element of achieving a stronger identity is creating a “brand” for the Redway network. This brand should be used consistently on the ground and on public facing materials relating to the Redway network. For example, the signage in any London Underground station matches the Tube Map in style.

On the Redways, standardised signage and surface colour, as well as consistent use of street furniture such as yellow bollards can be used to convey a brand. Public facing material such as network maps, online information, cycling proficiency booklets, etc, should also be designed with the brand in mind. The phrase “Respect, Protect, Enjoy” forms the backbone of the Redway Code. This caption could be incorporated into the branding of the Redway itself, appearing on signage, maps and cycling proficiency certificates.

Making the Redway network a cultural asset is another effective way of improving the identity of the Redways. The installation of artwork by local artists and school children is one example of how the spaces on the Redways could be improved as well as linking them with their surrounding communities. Incorporating elements of local history or nearby land use could also help to improve sense of place. For example, introducing a railway theme along the old railway corridor or linking the theme on the Redways in Bletchley with Bletchley Park.

5.6.5. Accessibility and Inclusivity

There are some accessibility issues currently over the Redway network including parked cars creating a barrier to accessing the Redways. It is recommended that a review of on-street car parking is carried out near junctions with the Redways to ensure that a car cannot obstruct either the path or the visibility at the junction.

5.6.6. Wider Placemaking improvements

It has been noted that some schemes, in particular high streets in older towns, would require a more integrated transport approach to be taken. Instead of simply delivering a Redway through the town centre, it is advisable to look at wider placemaking improvement and wider transport improvements such as speed or parking reduction to ensure that the area benefits from these significant changes. Examples of such schemes are Stony Stratford, Queensway Bletchley, Newport Pagnell, Wolverton, Woburn Sands and Olney.

5.6.7. Maintenance

Although maintenance is out of scope of this LCWIP, it was an issue which was brought up multiple times throughout the project. As such, it was deemed relevant to comment on the maintenance plan for new and existing infrastructure.

Bringing all the current Redways up to a consistent standard would improve user experience and encourage habitual use. It is advised that there is consistent upkeep of the following:

- Surface quality
- Street furniture such as lighting, bins, bollards and benches
- Accuracy of signage which often appears worn out or defaced
- Litter picking
- Planting

Stakeholder engagement and site visits revealed that a lot of private properties back onto the Redways and there is a problem with overhanging vegetation partially obstructing the routes. There is a need to work with the highway inspection team to undertake enforcement under the Highways Act 1980 to resolve this issue. This is out of the strategic scope of this LCWIP but recommended for investigation, however it is preferable that future developments front onto Redways, rather than back onto them to remove dispute around responsibility for maintenance and improve user experience.

It is also recommended that a comprehensive maintenance plan is created as part of the creation of any new infrastructure to ensure that it is suitably maintained to enhance its benefits.

6. Public Consultation

6.1. Public Consultation Feedback

A twelve-week consultation period for the draft LCWIP ran from 17th January 2022 until the 13th March 2022. The draft could be viewed via links on the council's website, which also housed a self-completion questionnaire to capture feedback. Those who wished to respond could also email the Transport team. Feedback was requested on whether the draft LCWIP provided a clear strategy for future investment if they agreed with the appraisal method and the results of the appraised long list. Comments were also invited on the LCWIP overall and any individual concerns.

Eighty-three questionnaire responses and seven detailed written responses were received. Overall, most respondents were supportive of the ambitions shown in the LCWIP, believing the plan would help increase the uptake of cycling and walking in the city. There was praise for the scope and the purpose of the infrastructure plan.

One of the themes that emerged from the LCWIP consultation exercise was unhappiness with the maintenance, including landscaping and waste clearance, of the existing Redway network being out of scope of the LCWIP. This LCWIP recognises the importance of maintenance of the existing infrastructure and its role in encouraging active travel amongst the residents of Milton Keynes, however this is not new infrastructure and therefore out of scope of the LCWIP. Despite this, Section 5.7.6. provides recommendations for improving the maintenance of the existing network.

The appraisal method was criticised for there being only two rural schemes in the top fifty, with respondents believing there is a bias against rural schemes. Areas, such as Hanslope, Castlethorpe and Olney to Emberton, were deemed to not have scored as highly as they should. Some respondents have requested certain schemes have their scores adjusted. The size of the long list makes it clear that there is very large and costly potential programme of infrastructure improvements. Coupled with the maintenance needs and upgrades needed to the existing Redway network, there is a large resource requirement, which Milton Keynes City Council cannot possibly service. Prioritisation is essential and the LCWIP will guide what the council chooses to spend scarce resources on. The higher priority schemes are in urban areas, as these are the schemes that will generate the most use, serve the most destinations and areas of deprivation.

Despite receiving responses praising the high quality of the content of the draft LCWIP, it emerged that a proportion of respondents found it difficult to access and/or read the LCWIP documents. Therefore, the structure of this LCWIP has been updated to make it more accessible for readers, with the final version being made clearer. A delivery plan has also been included for selected higher priority schemes to show the pipeline of infrastructure improvement Milton Keynes City Council will be focusing on in the years ahead. The Plan will be regularly reviewed in response to funding and development opportunities.

Several suggestions have been incorporated into the final LCWIP. Four minor amendments to the final documents, which included providing additional information in scheme description boxes. In addition, there were numerous suggestions for additional schemes. Although not all were accepted, eight new schemes have proved to be obvious missing links and sensible suggestions (see Figure 61). These schemes include additional dangerous crossing points, extending proposed schemes and fixing missing links. The LCWIP appraisal criteria will be applied to these and added to future iterations of the prioritised scheme list, and delivery plan where appropriate.



Figure 6-1: Public consultation long list additions

6.2. Peer Review

The draft LCWIP was reviewed by Cycling UK. The main objective of this peer review was to ensure that the plan captured the different infrastructure and unique challenges of Milton Keynes, ensuring this LCWIP meets national standards and DfT requirements. Overall, the peer review confirmed that Milton Keynes' LCWIP is a well-designed document with strong technical evidence that is fit for purpose.

Cycling UK recommended the inclusion of a governance section in the main document and suggestions were made for the proposed governance structure. A governance section has been added, with reference to stakeholder input, to guide the delivery of this LCWIP. Further information can be found in Section 7.1.

In addition, due to the quantity of schemes suggested, Cycling UK suggested including a clear programme for scheme delivery which can take advantage of various funding opportunities. A clearer delivery plan has been developed and added to Chapter 7 of the main report.

Although stakeholder input was present throughout the LCWIP process and had useful inputs, Cycling UK would have liked to have seen more widespread stakeholder engagement at the beginning of the process, in particular from people with disabilities, drivers, public transport users and other groups or individuals who may have wanted to take part. When designs for schemes identified in this LCWIP are being advanced, further stakeholder engagement will be undertaken and increased effort will be made to broaden engagement.

In terms of design of the proposed schemes, greater emphasis on segregation, especially with reference to the Super Route network, was requested. Section 5.7.1 highlights that work is being undertaken to integrate Redway designs with LTN 1/20 guidance, with specific recommendations for segregated infrastructure. In reference to LTN 1/20, Cycling UK suggested removing repeating sections of the topic and make a policy commitment for new infrastructure to be built to this standard. Sections on LTN 1/20 have been simplified and more detailed integration of policy and clarity of required standards will be included in the new *Redway Design Manual*.

Cycle UK were especially happy to see the inclusion of Low Traffic Neighbourhoods in this LCWIP, with a clear, logical process identified. MKCC will seek to explore the introduction of Low Traffic Neighbourhoods, where suitable and where they benefit from stakeholder support.

7. Delivering this LCWIP

This chapter presents the scheme delivery plan for the next 10 years, the recommended governance to effectively deliver the plan and briefly covers potential delivery mechanisms.

7.1. Delivery plan

Using the prioritised scheme list, a delivery plan of schemes has been developed. This is informed by the prioritised LCWIP long list, as well as consideration of the scheme's deliverability and likely funding availability. Collectively the schemes help deliver a coherent active travel network. This scheme pipeline will be regularly reviewed and includes a number of schemes which either have funding or have been developed for recent funding bids. They also include a number of schemes which were developed during this LCWIP process or are actively being developed currently. The majority are subject to future funding availability but may also come forward as part of new developments. Costings and delivery timescales shown are indicative, and subject to further design work.

LCWIP Reference	Scheme name and location (e.g. postcode and road/street address)	Scheme length	Indicative Cost (£m)	Delivery timescale (1, 3 or 10 years)	LCWIP Score (% , higher score=higher priority)	Funded	Status
251	Blue Lagoon Link (sections 3&4)	1.25km	2.0	1	86	Y	Detailed design
129	V7 Saxon Street, Bletchley south	0.4km	0.32	3	78	Y	Feasibility
284	Blue Lagoon to Newton Leys	0.57km	0.7	3	60	N	Preliminary design
79	V11 Redway Upgrade	2km	3.0	3	69	N	Feasibility
38	H7 Extension to Broughton Gate	0.43km	1.0	3	56	N	Feasibility
14	Buckingham Road, Bletchley	2km	1.6	10	79	N	Feasibility in Development

101	Whaddon Way, Bletchley	2.88km	2.3	10	72	N	Feasibility in Development
39	Standing Way, Bletchley	0.5km	0.4	10	62	N	Feasibility in Development
173	Sherwood Drive, Bletchley	1.2km	0.9	10	83	N	Feasibility in Development
174	Rickley Lane and Church Green Road, Bletchley	1km	0.80	10	71	N	Feasibility in Development
194	V7 Saxon Street, Bletchley north	0.8km	0.64	10	87	N	Feasibility in Development
191,192, 190, 189	North Street, Bletchley (Princess Way, West Field Road, Hunter Drive)	2.2km	1.60	10	81	N	Feasibility in Development
42	H9 Groveway, Central Milton Keynes	3.3km	2.4	10	83	N	Feasibility in Development
46,142	Hospital Redway, Central Milton Keynes - Mk Academy Junction, Central Milton Keynes	0.7km	0.75	10	69	N	Feasibility in Development
146	Fishermead to Central Milton Keynes	2km	1.6	10	77	N	Feasibility in Development
24	Monksway, Central Milton Keynes	3.9km	3.2	10	76	N	Feasibility in Development
291	Saxon Street, Central Milton Keynes	2km	1.6	10	69	N	Feasibility in Development
74	Stratford Road, Highstreet, Wolverton Road, London Road, Stony Stratford	3km	2.4	10	78	N	Feasibility in Development

75	Highstreet, Queen Eleanor Street, Stony Stratford 2	2.5km	2.2	10	70	N	Feasibility in Development
107	Stratford Road, Wolverton	1km	0.8	10	79	N	Feasibility in Development
220	Windsor Street, Wolverton	0.75km	0.7	10	72	N	Feasibility in Development
164	Railway Walk, Newport Pagnell	1.4km	1.2	10	66	N	Feasibility in Development
162,171	High Street, Newport Pagnell - Station Road, Newport Pagnell	0.8km	0.6	10	62	N	Feasibility in Development
234,249	High Street, Olney - Yardley Road, Olney	1.2km	0.9	10	50	N	Feasibility in Development
113	CMK to Shopping Centre, Midsummer Boulevard	1.2km	0.9	10	73	N	Feasibility
98	Second Avenue to Victoria Road, Watling Street, Bletchley	1km	0.8	10	80	N	Feasibility
131	Wolverton Station Access, Stratford Road, Wolverton	0.5km	1	10	74	N	Feasibility
125	Pentewan Gate crossing	0.02km	0.05	10	74	N	Feasibility

Table 7-1: LCWIP Delivery Plan Pipeline

7.2. Governance

It is recommended that a project board is established to oversee the delivery of this LCWIP and to ensure progress in completing the suggested recommendations. The LCWIP project board will oversee the pipeline of work stated in the delivery plan, but also the actions resulting from the wider LCWIP recommendations, which could include oversight of the Super Routes upgrade project and other Redway maintenance and improvement activity.

The Head of Highways and Transportation will act as the project sponsor. Representatives from the Highways team and the Transport Policy and Planning team will make up the core of the board. The Board/sponsor will work closely with the relevant MKCC Cabinet member(s) and should agree a stakeholder management plan to guide ongoing engagement on active travel network improvements, scheme selection and development.

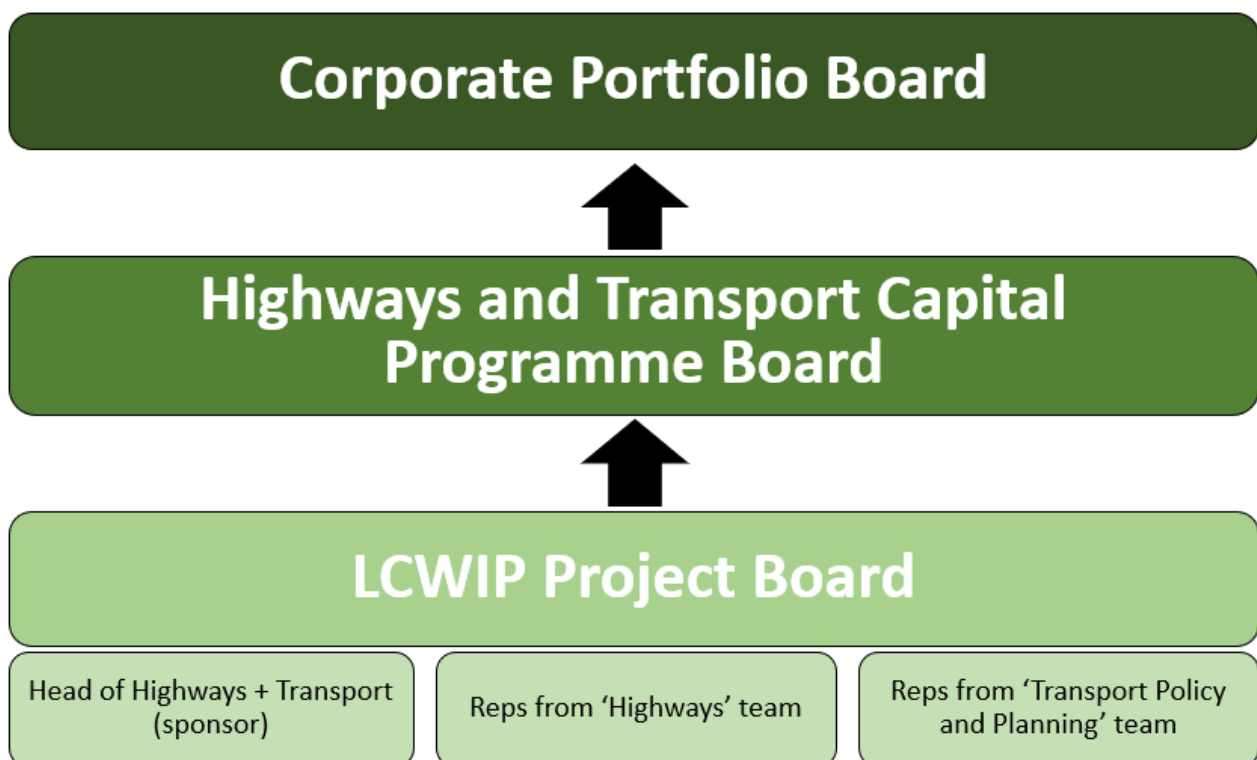


Figure 7-1: LCWIP Governance Structure

7.3. Local policies

It is essential that this LCWIP is supported by relevant Council policies, in particular future updates to the Local Plan and Local Transport Plan. This will accelerate the delivery of the plan as the city grows.

7.4. Delivery mechanisms and funding sources

While Local Authorities have been primarily encouraged to prepare LCWIPs to help them bid for future funding rounds, such as Department for Transport and Active Travel England streams, there are several alternative delivery mechanisms that can support the delivery of this plan:

- New development and planning obligations
- Other government funding sources not exclusively for transport projects (such as the Levelling Up Fund, or funding streams focussed on Public Health, Public Realm and Environmental objectives)
- Through Milton Keynes Council's own capital works programme

8. List of appendices:

Appendix A - Evidence Base

Appendix B - Full long-list maps

Appendix C - Full long-list table

Appendix D - Scheme Appraisal Technical Note

9. References

- DfT. (2017). *Local Cycling and Walking Infrastructure Plans: Technical Guidance for Local Authorities*. Retrieved from .GOV.UK:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/908535/cycling-walking-infrastructure-technical-guidance-document.pdf
- DfT. (2020). *Cycle Infrastructure Design: Local Transport Note 1/20*.
- DfT. (2020). *Gear Change: A bold vision for cycling and walking*.
- DfT. (November 2020). *Statistics on transport use during the coronavirus pandemic*.
- Lime. (2021). *Milton Keynes Update March 2021*.
- Milton Keynes Council. (2011). *A Transport Vision and Strategy for Milton Keynes, Local Transport Plan 3 - 2011 to 2031*.
- Milton Keynes Council. (2017). *Population Bulletin 2016/17*.
- Milton Keynes Council. (2018). *Lifelong Wellbeing: Our ten year health and wellbeing strategy*.
- Milton Keynes Council. (2018). *Mobility Strategy for Milton Keynes 2018-2036 (LTP4)*.
- Milton Keynes Council. (2018). *Mobility Strategy for Milton Keynes 2018-2036; Detailed Context and Evidence Base*.
- Milton Keynes Council. (2019). *Plan:MK 2016-2031*.
- Milton Keynes Council. (2019). *Transport Infrastructure Delivery Plan*.
- Milton Keynes Council. (2020). *Health Impact Assessment - Supplementary Planning Document*.
- Milton Keynes Council. (2020). *Mobility Strategy (LTP4): Road Safety, Walking & Cycling and Smarter Travel Strategy*.
- Milton Keynes Council. (2020). *Strategy for 2050*.
- Milton Keynes Council. (2020). *Walking and Cycling Position Paper, Technical Report*.
- Milton Keynes Council. (2021, January). *Population Statistics*. Retrieved from <https://www.milton-keynes.gov.uk/your-council-and-elections/statistics/population-statistics>
- Office for National Statistics. (2018). *Population projections for local authorities: Table 2*. Retrieved from
<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/datasets/localauthoritiesinenglandtable2>
- The Parks Trust Milton Keynes. (2021). *Canal Broadwalks*. Retrieved from theparkstrust.com.

Transport for Quality of Life and TRL. (2016). *Meta-analysis of Outcomes of Investment in the 12 Local Sustainable Transport Fund Large Projects: Interim Report.*

Contact details

Email – transport.policy@milton-keynes.gov.uk

Website - www.milton-keynes.gov.uk

Postal address – Civic Offices, 1 Saxon Gate East,
Central Milton Keynes, MK9 3EJ