Local Cycling and Walking Infrastructure Plan

2023-2033

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Luton

Foreword

The way we travel is more than just getting from A to B, it's an experience in itself. Supported by the right conditions, switching the car in favour of cycling and walking can benefit the whole of Luton.

Active travel offers door-to-door transport in a way which makes us healthier, happier and safer. It brings communities closer together, helping tackle issues of poor air quality and congestion.

Travelling sustainably is one of the most important ways we can make Luton carbon neutral by 2040, 10 years ahead of the legally binding target. To do this will require us to think differently about how we plan transport; focusing more on people than cars. The pandemic showed us first-hand people's propensity to cycle and walk more often when there is less traffic. This demonstrates that there is an appetite to do things differently, there is the potential for permanent change.

We recognise that we can't expect people to cycle and walk to places when it's easier and faster by car. In order for active travel to become the natural choice for local journeys, we will provide a network of safe, direct, attractive pedestrian and cycle routes that integrate seamlessly with things such as green infrastructure and our rights of way network. This Local Cycling and Walking Infrastructure Plan will act as the vehicle for this change.

To achieve this, the quality of the town's cycling and walking infrastructure needs to improve. Infrastructure has to be more than white paint on road or treated as an afterthought. For people to feel confident to cycle or walk, active travel needs to be placed at the top of the travel hierarchy. This means future improvements to cycling and walking will, in many cases, require us to repurpose our road network in favour of sustainable transport.

This long-term plan sets the wheels in motion for Luton to become a cycling and walking friendly town. The plan complements the investment already being made in local bus services and will shape the way in which new development is brought forward.

This vision is unashamedly bold and we do not underestimate the challenges delivering this scale of change will bring. To help us manage this transition, we will continue to work intensively with our communities and businesses, ensuring the whole of Luton moves forward actively together. I am proud to present this LCWIP and determined to give it momentum with our first high quality exemplary schemes.

Cllr Javid Hussain
Inclusive Economy, Sustainable Development and Highways
Luton Council

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Introduction

What is an LCWIP?

As set out in Government's Cycling and Walking Investment Strategy (2017) and Gear Change policy (2020), a Local Cycling and Walking Infrastructure Plan (LCWIP) is a strategic, long-term plan to enhance local cycling and walking networks.

The LCWIP identifies improvements to our cycling and walking network over a 10-year period (2023-2033). The plan includes:

- vision and objectives which ensure consideration is given to cycling and walking across the council's, planning, transport, environmental, health and greenspace related policy
- a report which sets out the underlying analysis carried out and provides a narrative which supports a holistic approach to identified improvements to the network
- a network plan for cycling and walking which identifies safer and more attractive routes and areas for further development
- a prioritised programme of infrastructure improvements for future investment
- a plan which helps Luton make the case for future funding to improve cycling and walking infrastructure.

Why do we need an LCWIP?

We want Luton to be a healthy, fair and sustainable town, which is carbon-neutral by 2040. More people travelling by active travel is front and centre to realising this ambition. Increasing the number of people cycling and walking in Luton will have a transformational impact. It will improve air quality, increase health and wellbeing, strengthen social cohesion and stimulate economic growth.

We predict that our population will grow to over 230,000 people by 2031.[1] We need to reduce car dependency now, particularly for local journeys, otherwise there is a risk the volume of vehicle traffic rises to unacceptable levels. This plan sets out a programme of improvements that will help make sure cycling and walking is the natural choice for local journeys and that by 2033, half of all journeys in our town are cycled or walked.

The council is also working with the Institute of Health Equity to become the first Marmot Town. One of the eight 'Marmot principles', aimed at reducing health inequalities is to create and develop healthy and sustainable places and communities. Increasing levels of active travel will contribute towards achieving this recommendation.

Who is this LCWIP for?

Everyone benefits from living or working in a cycling and walking friendly town. Active travel improves individuals' health and wellbeing, but it also leads to increased trade for street-front shops, less noise, safer and more interesting streets and more wildlife. As such, this plan is for everyone, regardless of cycling and walking abilities, whether they are a resident, employee, business owner or visitor of our town.

[1]This is Luton 2021: Available: https://www.luton.gov.uk/Community_and_living/Lists/LutonDocuments/PDF/observatory/jsna-this-is- Luton.pdf

Where does this LCWIP cover?

This LCWIP covers the Luton Unitary Authority boundary shown in Figure 1.

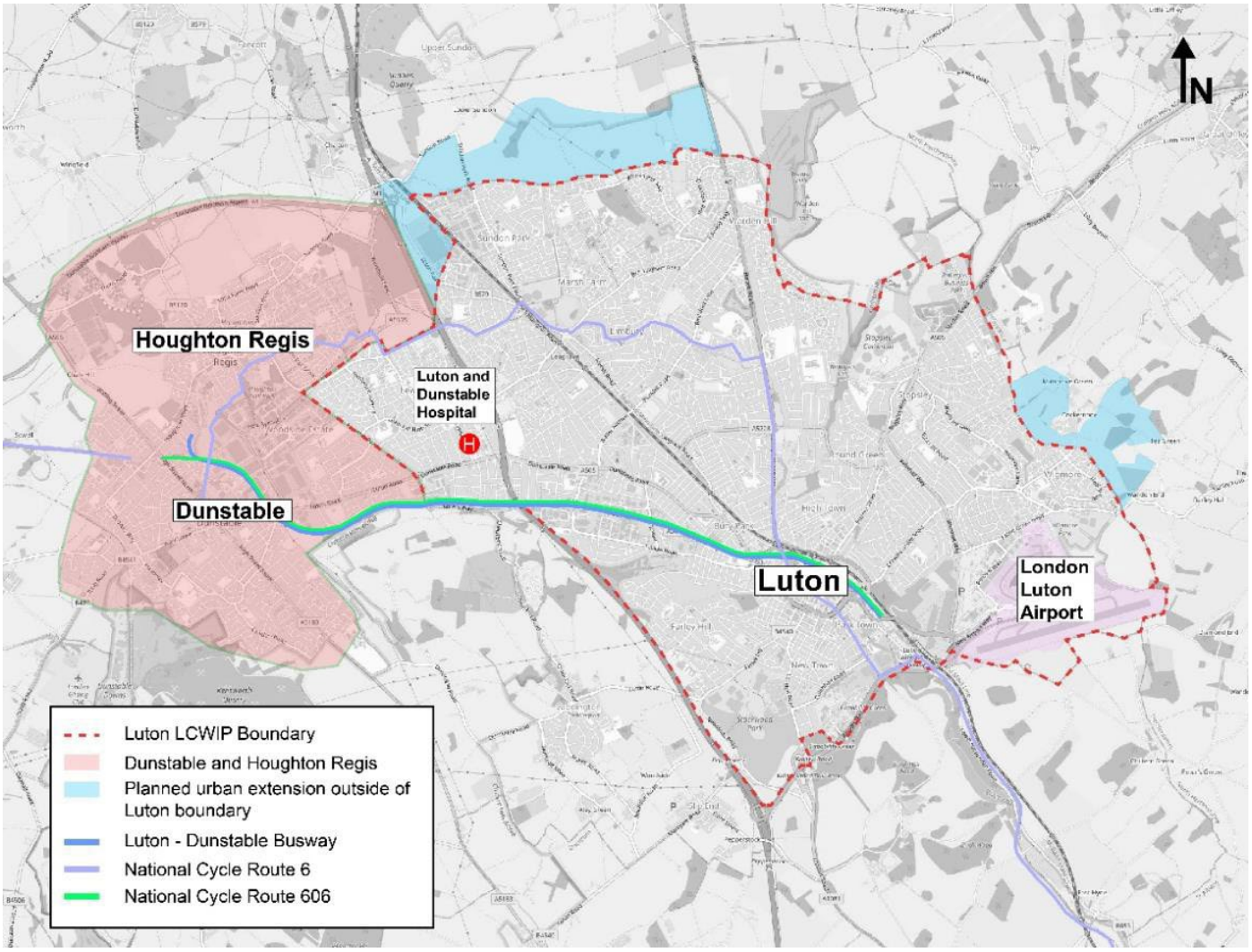


Figure 1: The LCWIP boundary and areas of influence

The plan considers links to Dunstable and Houghton Regis which form an integral part of Luton's wider conurbation. The two areas are connected through the Luton-Dunstable Busway and National Cycle Network 6 and 606. Luton and Dunstable Hospital is also a key trip generator for residents of both places. Central Bedfordshire is planning to develop an LCWIP for these areas and the council has worked with them to ensure both plans are complementary.

Our neighbouring authorities are planning urban extensions in the north and east of Luton. These developments will generate demand for new journeys across our transport system and create opportunities to ensure cross-boundary links benefit local communities. Integrating these developments in this plan will help embed sustainable travel behaviour from day one of site occupation.

How does this LCWIP work?

The plan is consistent with the latest government policy that underpins cycling and walking infrastructure. This means all proposed improvements take account of the latest cycle design guidance.[2] The plan is strategic, covering the whole of Luton over a ten-year planning horizon. Consequently, we aren't able to produce exact designs or costings for each improvement we are proposing. Instead, we have undertaken audits of each route along which improvements are located. This has made sure improvements are feasible and provide value for money. Schemes will be subject to consultation and detailed design before they're delivered.

The plan is a live document and will be updated every four years to reflect significant changes in local circumstances. This might include the publication of new policies or strategies, major new development sites or new sources of funding. Subsequent work will be required to identify new routes and infrastructure opportunities.

The plan is divided into seven sections. Section 1 sets the scope of the strategy and its aims and objectives. Section 2 provides information on existing travel conditions in Luton. Section 3 is an appraisal of the existing cycling and walking network. Section 4 explains how we developed our future active travel network. Section 5 maps the infrastructure improvements we intend to deliver and Section 6 prioritises them to develop a programme of future investment. Finally, Section 7 provides the detail on how the plan will be integrated into local policy and discusses other supporting measures that are required. Further supplementary documents that support this plan are included on the council's website.

[2]Cycle Infrastructure Design. Local Transport Note 1/20 (2020)

Section 1:
Aims and objectives

Local Transport Plan 4 context

This plan supports a number of wider corporate policies. Luton's 2040 vision sets out the town's shared ambition over the next 20 years. Its vision is to build an inclusive economy and enhance the wellbeing of our population so that Luton is a healthy, fair and sustainable town where everyone can thrive and no-one has to live in poverty. Increasing cycling and walking by residents, workers and visitors in the town is a key outcome.

Luton's Local Transport Plan 4 (LTP4) travel hierarchy places the needs of those that cycle and walk before those that drive. Policy 2 of LTP4 sets out a commitment to implement a high quality, direct, convenient and safe cycle and pedestrian network of both on and off-road routes. Table 1 shows how the LCWIP meets the key objectives of LTP4.

Table 1: How the LCWIP meets the key objectives of Local Transport Plan 4

Local Transport Plan 4: 2022-2040 objective	How the LCWIP will help achieve the objective
Enabling people to choose more sustainable transport habits	The plan identifies the key active travel infrastructure necessary to reduce car dependency
Promote equitable opportunities and access to services for all members of the community	The plan recognises that active travel provides affordable, accessible, door-to-door journeys
Create and preserve an attractive natural/built environment, heritage and living conditions	The plan supports a place-based approach to active travel, which provides opportunities to improve green infrastructure and enhance biodiversity
Improve access to jobs, skills and training through the provision of improved or new transport infrastructure	The plan proposes cycling and walking routes to key employment centres, transport hubs, schools, colleges and universities

What are the aims and objectives of the LCWIP?

The aims and objectives of the plan have been shaped by Luton's 2040 Vision, Local Transport Plan 4 and respond to engagement with the public and key stakeholders.

Aim: A greener, healthier more sustainable town with a connected, safe and inclusive active travel network that integrates effectively with wider sustainable transport options to create a town with cleaner air, increased mobility and more opportunities for all

Objective 1: Provide routes to key locations that are direct and convenient to decrease the number of journeys by private vehicles

Objective 2: Plan active travel infrastructure that delivers high quality access to jobs and services

Objective 3: Create an attractive network that makes active travel the natural choice for journeys under 5km

Objective 4: Deliver inclusive infrastructure that protects those who are most vulnerable whilst improving the safety and security of all road users

Objective 5: Enhance Luton town centre by connecting it with the surrounding borough through permeable active travel infrastructure

Objective 6: Enable every child, young person and student to travel to their educational setting in an inclusive, safe and sustainable way

The national policy context

The global pandemic changed how and where people travelled in towns and cities. The first national lockdown in March to June 2020 saw a significant reduction in vehicle trips across the country. This reduction in motorised traffic was replaced with sharp increase in cycling and walking.[3] Since then, traffic has begun to return to pre-pandemic levels, compounded by a fall in the number of journeys made by cycling and walking. Evidence suggests that many people that felt safe cycling on roads with fewer cars now feel unable to mix with higher volumes of traffic. To reverse this trend, we need to draw strength from our response to the pandemic, which showed there is nothing irreversible about car dominated travel behaviour. Key government policies that underpin this plan are summarised overleaf:

[2]DfT Official Statistics. Available at: https://www.gov.uk/government/statistics/transport-use-during-the-coronavirus-covid-19-pandemic

The second cycling and walking investment strategy (2022)

- Aim to make cycling and walking the natural choices for shorter journeys, or part of a longer journey by 2040
- Ambition to double cycling, where cycling activity is measured as the estimated total number of cycle stages made each year, from 0.8 billion in 2013 to 1.6 billion in 2025
- Increase walking activity, where walking activity is measured as the total number of walking stages per person, per year, to 365 stages per person per year in 2025
- Increase the percentage of children aged 5 to 10 that usually walk to school from 49% in 2014 to 55% in 2025
- Recommends that local transport authorities prepare LCWIPs

Active Travel England (2022)

- A new executive agency created by the Department for Transport with overall responsibility for Active Travel
- Will manage the national active travel budget, award funding for projects which meet design standards and inspect schemes as part of its function
- Assumes the role as a centre of excellence and will collaborate with core stakeholders to promote best practice and guidance on how to achieve the highest standard in active travel provision

Heathy Streets Design Checklist (2021)

- A tool developed for the Department for Transport to support practitioners to measure how healthy streets are
- The methodology is based on 10 'healthy street' indicators, each describing an aspect of the human experience of being on streets
- The approach is a people-centred framework for embedding public health in transport, public realm and planning

Gear change: a bold vision for cycling and walking (2020)

- Cycling to become mass transit and treated as such. Routes must be designed for larger numbers of cyclists, for users of all abilities
- Puts cycling and walking at the heart of transport, placemaking and health policy

Cycle Infrastructure Design: Local Transport Note 1/20 (2020)

- Provides national design standards for the design of active travel infrastructure
- Cycling networks should be Coherent; Direct; Safe: Comfortable and Attractive
- Sets a default position where high quality cycle infrastructure is provided as standard through 22 summary principles that guide technical standards

The local policy context

Reducing CO_2 emissions in Luton is central to our decision making. In 2020, Luton Council declared a climate change emergency and made a commitment to ensure Luton is carbon neutral by 2040, ten years ahead of the Government's own target. Since then, the council is making significant progress in reducing CO2, by improving energy efficiency and promoting sustainable transport.

Figure 2 illustrates that roughly a quarter of the town's CO_2 comes from surface transport[4], an area of policy that the council can influence. Creating places and streets that encourage cycling and walking will significantly reduce our carbon footprint.

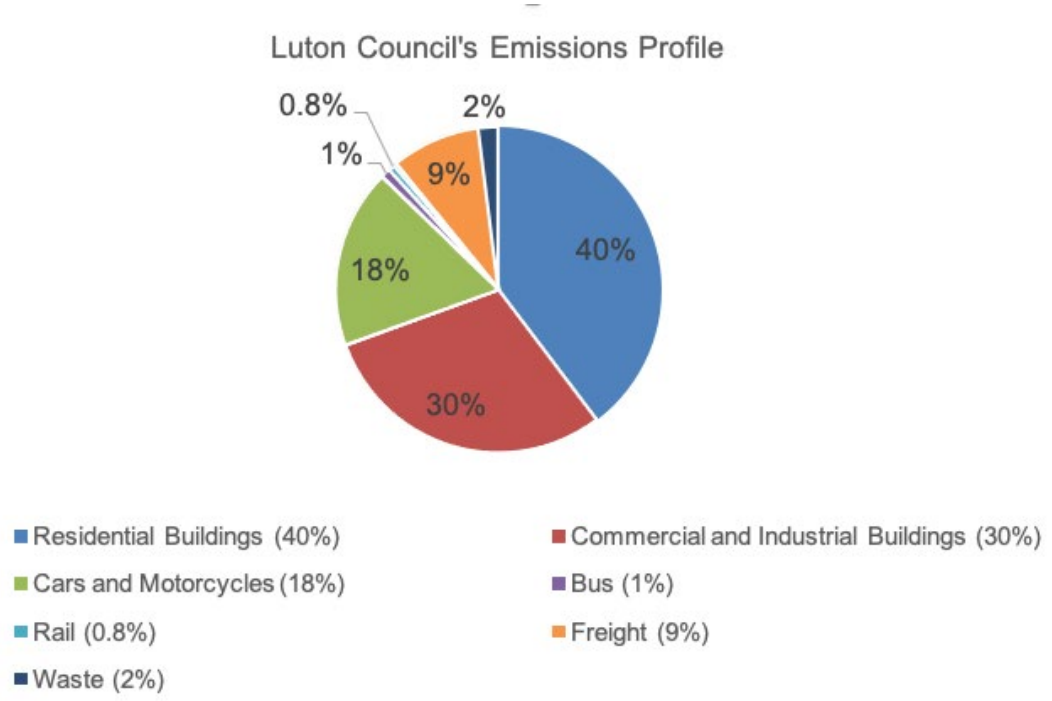


Figure 2: Luton Council's emissions profile, 2019 (aviation emissions excluded)

[4]Luton Council's Emerging Net Zero Roadmap (2022)

Section 2:
Cycling and walking conditions in Luton

Using information to develop the plan

This plan has analysed a range of information to make sure it is fit for purpose. The data gathered has been qualitative and quantitative, which has helped us understand the challenges and opportunities for more cycling and walking in Luton. The sources of information used are provided in Figure 3, some of which are expanded on in more detail in relevant sections of this plan.

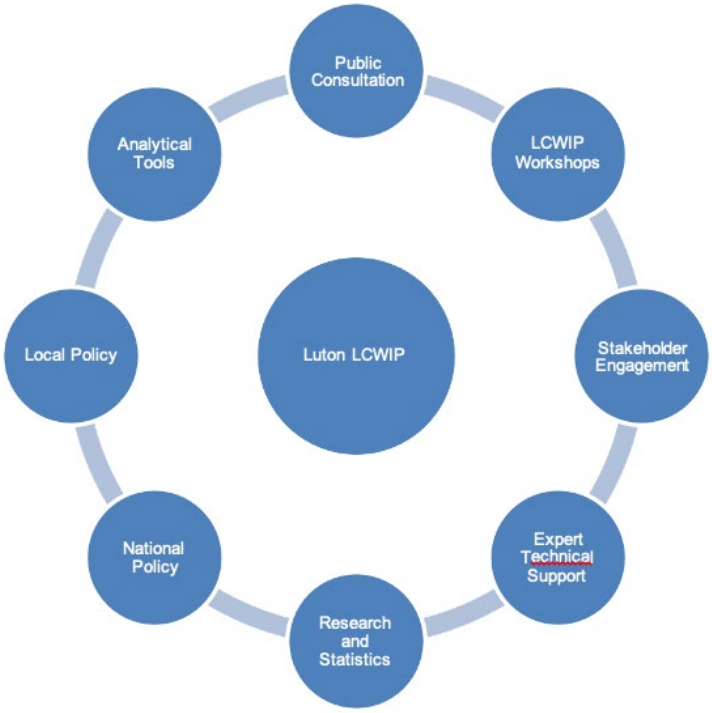


Figure 3: Sources of information used to inform the LCWIP

LCWIP Travel perception survey

Luton Council undertook a travel survey to promote and inform the development of the plan. The survey ran between 17 January and 4 March 2022, receiving over 700 responses. It asked people where they typically travel to/from, what they think of cycling and walking in Luton, what encourages them to cycle or walk and what prevents them.

The feedback told us that comparative to cycling, rates of walking in Luton are higher and people mainly walk for reasons of health, cost and the environment. Obstructed pavements, vehicles blocking the footway and personal safety, e.g. fear of harassment and incidents with e-scooters are some of the key reasons that discourage residents to walk more.

Survey data showed that our cycling rates were comparatively lower than walking. Lack of safe cycling infrastructure between the places people want to go has given rise to concerns of being hit by a motor vehicle, theft is also discouraging people to purchase bicycles The findings of the survey have informed our proposed cycling and walking network and a consultation analysis report is included on the council's website.

Existing travel patterns

Luton is a highly populated, dense,[5] urban town connected by a network of roads that radiate out from the town centre. Its compact mesh of streets is highly conducive to more cycling and walking, but in reality the opposite is true. Most of Luton's streets and spaces offer little sanctuary for pedestrians and cyclists to enjoy the town safely.

This imbalance in our transport network, biased towards motorised travel, has manifested itself in the way people choose to move around, to the detriment of the town's urban quality. Our research has told us that people either drive or are driven for almost of all types of trips, regardless of distance. Figures 4-6 illustrate the extent of this issue.

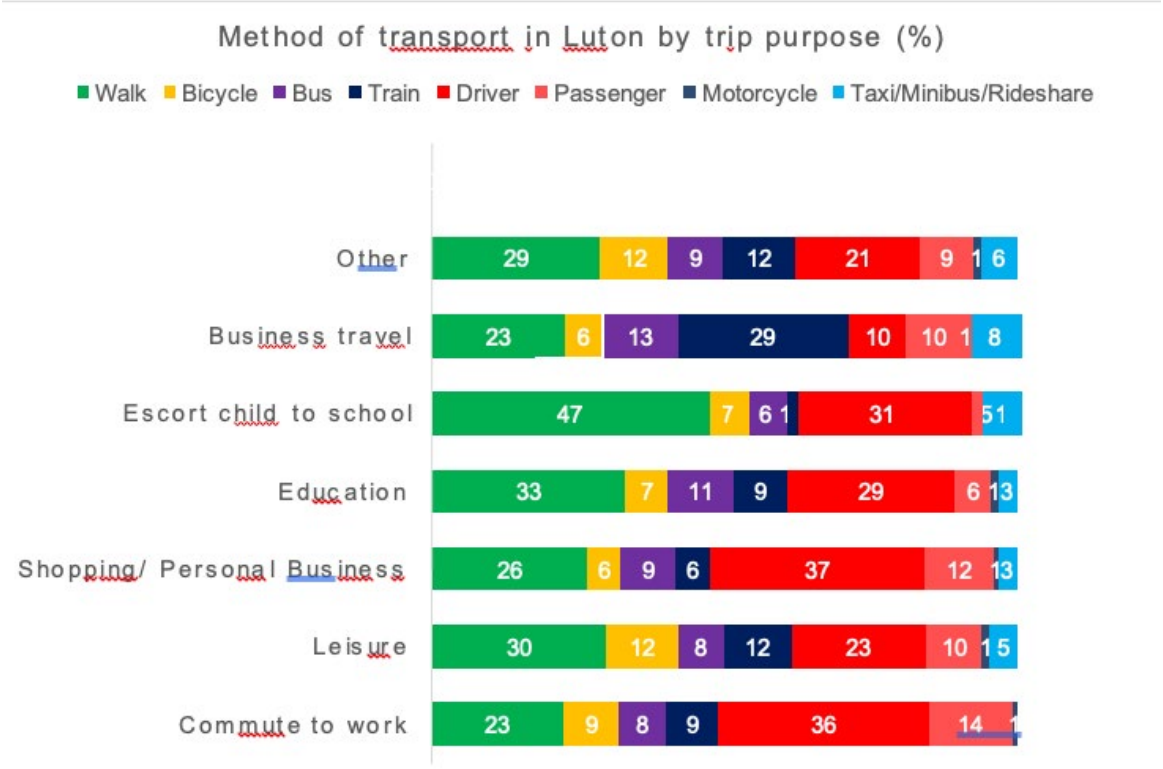


Figure 4: Method of transport in Luton by trip purpose (%)[6]

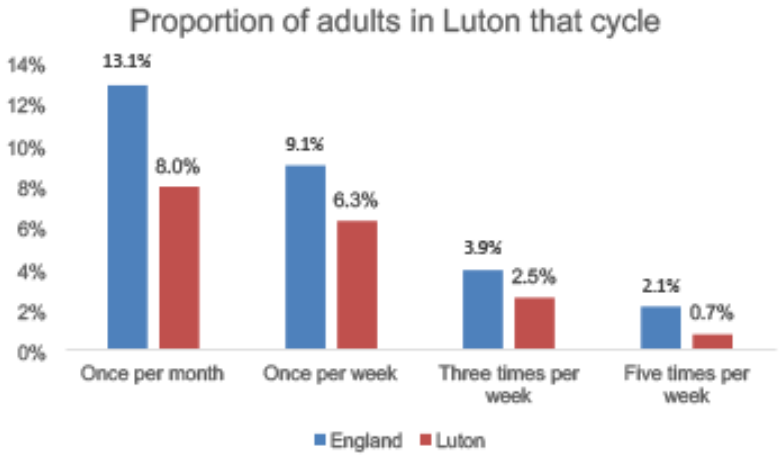


Figure 5: Proportion of adults in Luton who cycle by frequency[7]

[5.] Luton Borough Profile (2011). Available at: https://www.luton.gov.uk/Environment/Lists/LutonDocuments/PDF/Planning/Census/2011%20census%20data/LUTON%20BOROUGH%20PROFILE.pdf

[6.] Luton Cycling and Walking Survey (2022): Consultation Analysis

[7.] DfT Walking and Cycling statistics: Table CW0302. Available at: https://www.gov.uk/government/statistical-data-sets/walking-and-cycling-statistics-cw

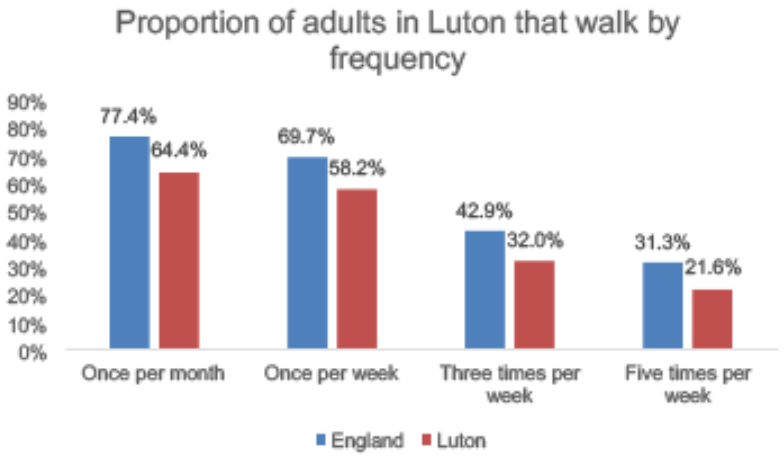


Figure 6: Proportion of adults in Luton who walk by frequency[8]

Cycling and walking provide realistic alternatives for shorter journeys that are currently made by car. This plan regards any journey less than 5km that is driven, as being ideally placed to switch to active travel. Research shows that a significant number of local trips are being driven,[9] by providing the right infrastructure, supported by other policy solutions, we can realise a future where half of the journeys in our town are cycled or walked.

Figure 7: Method of travel to work by distance

Population density

Luton is home to around 225,300 people[10], living in 79,300 homes, covering an area of 43 square kilometres. [11] As a result, it's one of the most densely populated places in the UK, with a density of 49 people per hectare, similar to that found in many London Boroughs.[12] The town also has a younger than average population, [13] which provides the opportunity to help 'lock-in' sustainable travel behaviour and reduce levels of childhood obesity.

8. DfT Walking and Cycling statistics: Table CW0303. Available at: https://www.gov.uk/government/statistical-data-sets/walking-and-cycling-statistics-cw
9. Census (2011) Method of Travel to work by distance.
10. Luton Population (Census 2021)
11. Luton Transport Strategy and Local Transport Policies (2020), p18
12. https://www.luton.gov.uk/Community_and_living/Lists/LutonDocuments/PDF/observatory/jsna-this-is-Luton.pdf
13. 220 mid-year population estimate, Office for National Statistics

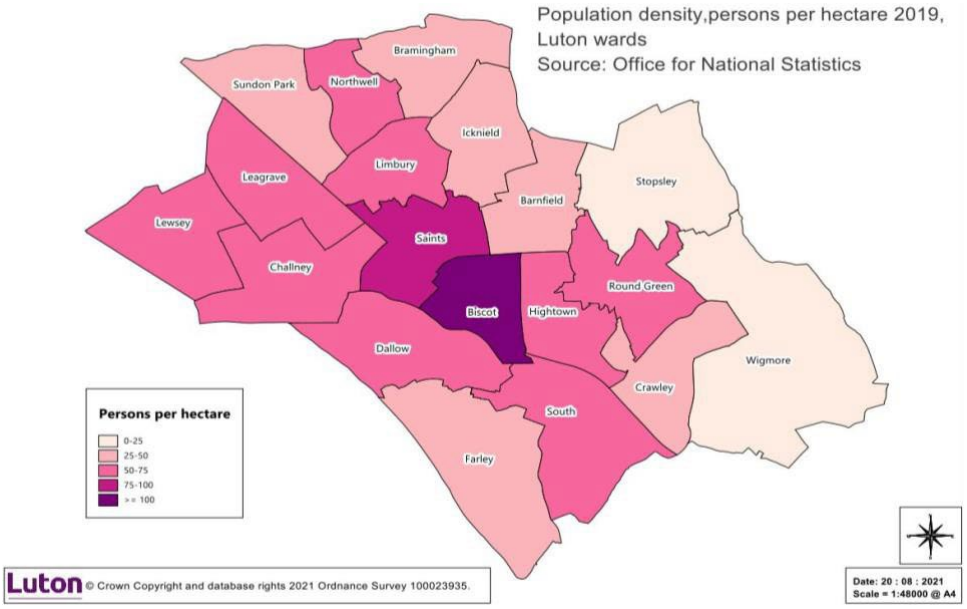


Figure 8: Luton population density per hectare by ward

Access to cars and vans

Over a quarter of our residents (27.4%) do not have access to a car,[14] a slight rise since 2001, when it was 26.4%. As suggested, non-car ownership is highest in wards forming and surrounding the town centre, such as Biscot and Dallow (37.1%), High Town (42%) and South (53.2%).[15]

Whilst the whole of Luton will benefit from high quality active travel infrastructure, residents in areas of lower car ownership are more likely to be reliant on public transport and cycling and walking to access goods and services. Such factors make these areas the prime location for active travel infrastructure. Figure 9 shows areas of low car ownership, primarily concentrated around the town centre. In developing this plan, we've considered the ways in which our cycle and walking routes provide sustainable access to residents and communities that have the most to gain from them.

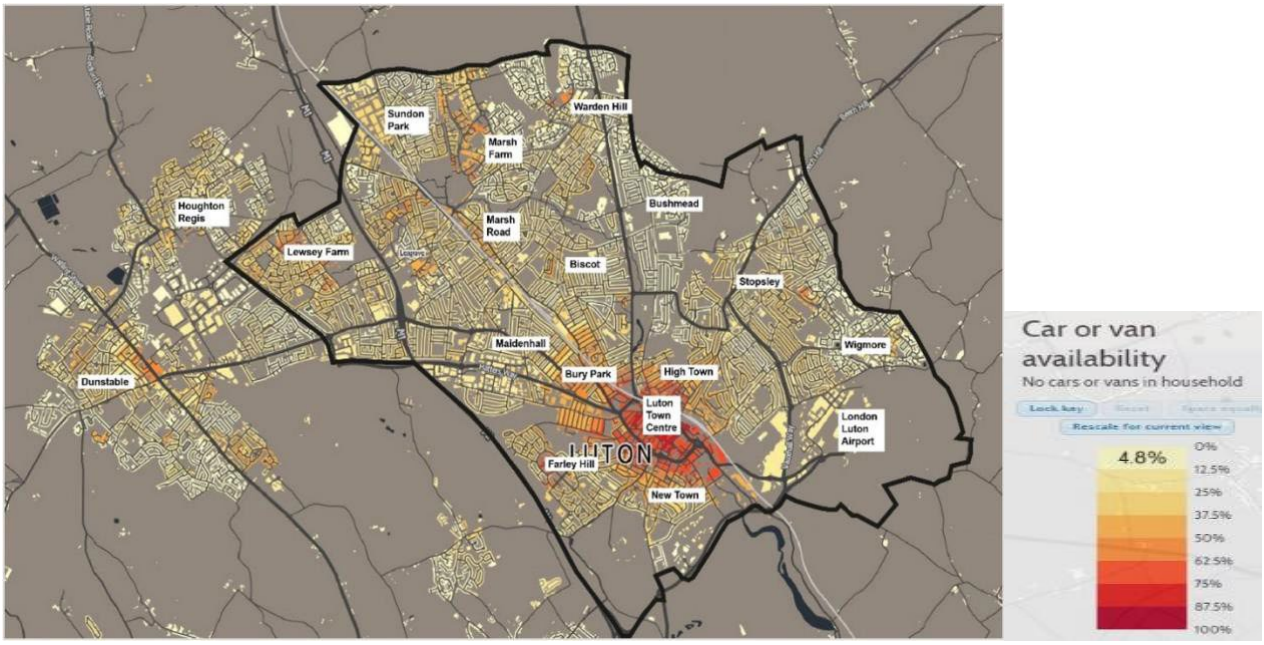


Figure 9: Luton's car or van availability per household[16]

[14] 2011 Census Car or Van Availability (KS404EW)

[15] Source: Luton Transport Strategy and Local Transport Policies, p15

[16] Base Map Source: Available at https://datashine.org.uk/#table=QS201EW&col=QS201EW0002&ramp=YlOrRd&layers=BTTT&zoom=12&lon=- 2.2282&lat=53.4807

Natural landscape

Luton's location within the Chiltern Hills means it has a varying topography. The town centre is generally flat with a rise in elevation of around 20m moving north and west to neighbourhoods such as Marsh Farm and Marsh Road, Lewsey Farm and Sundon Park. To the northeast, the elevation rises approximately 60m to the neighbourhoods of Stopsley and Wigmore. To the southwest the elevation increases about 60m to the neighbourhoods of New Town and Farley Hill. Dunstable is approximately 30m higher than Luton town centre but the travel corridors between the two areas such as Dunstable Road and the Luton-Dunstable Busway are of gentle gradients.

The relatively flat topography from the town centre to the northwest presents the opportunity for routes with little need to consider gradients. However, the rise in steepness between the town centre and neighbourhoods to the northeast and southwest of the town centre present a challenge when planning active travel routes to locations such as Stopsley, Farley Hill, and Wigmore. In developing this plan, we've proposed cycling and walking routes which balance the need for directness, with opportunities to follow more gentle gradients.

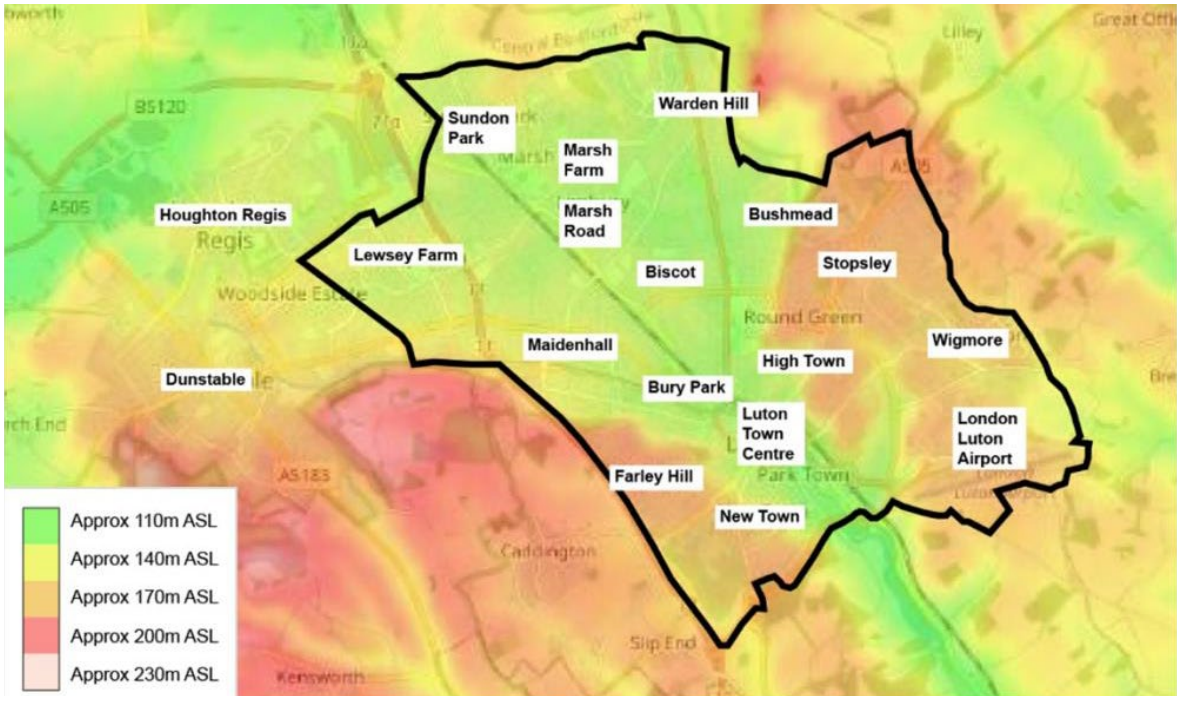


Figure 10: The topography of Luton (ASL= height above sea level[17]

Areas of deprivation

Luton is ranked as the 70th most deprived local authority out of 317 in the country. It has higher than average levels of unemployment and qualification rates lower than the national average.[18] Combined with other socio-economic factors, some parts of the town are within the top 20% most deprived nationally.[19] Figure 11 illustrates that western areas in Luton are on average more deprived than the east. The highest levels of deprivation are found in and around the town centre area, such as Bury Park and High Town, to the south in the Farley Hill and New Town neighbourhoods and in the North West around the Marsh Farm and Lewsey Farm neighbourhoods. Stopsley to the northeast of the town centre has higher than national average levels of deprivation too.

[17] Basemap source: https://en-gb.topographic-map.com/maps/1z/Luton/

[18] Joint Strategic Needs Assessment (2022). Available at https://www.luton.gov.uk/Community_and_living/Lists/LutonDocuments/PDF/observatory/jsna-this- is-Luton.pdf

[19] Source: Luton Transport Strategy and Local Transport Policies, p95

Many of the streets and spaces in Luton exacerbate levels of deprivation and health and wellbeing. The road network presents a significant barrier to sustainable movement, particularly those in more deprived areas. Further, those without access to cars are more reliant on high quality public transport and active travel links. In developing this plan, we've set out cycling and walking improvements that will help improve social and health outcomes in some of our most deprived wards.

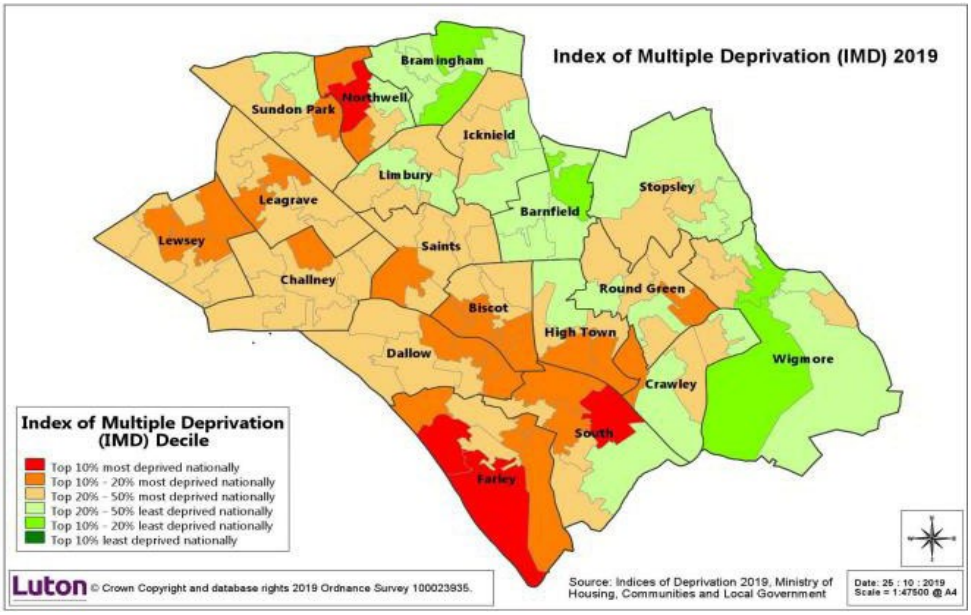


Figure 11: Index of multiple deprivation 2019

Active travel access to Luton town centre

Route 6 of the National Cycle Network runs through Luton Town Centre, taking much the same route as the River Lea. It provides a strategic connection between Milton Keynes in the north and Harpenden and St Albans in the south. Figures 12 and 13 illustrate the area accessible within a 10 and 20 minutes' cycle and walk from Luton town centre, if the existing highway and footpath network is utilised.

However, the town centre ring road creates a significant barrier for cycling and walking which discourages local trips made by active travel. Further, where cycling and walking infrastructure is provided, much of it is substandard. This means, that despite most of Luton being accessible by bike, levels of cycling remain very low. In developing this plan, we've put forward proposals that reduce or manage the severance caused by highway infrastructure.

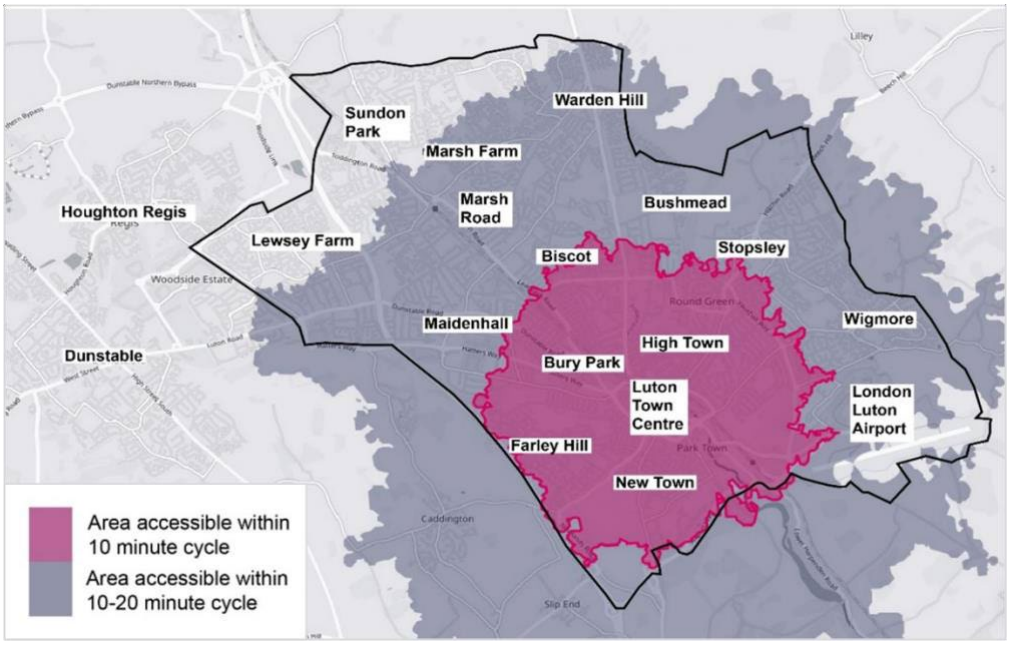


Figure 12: 10 minutes and 20 minutes cycle from Luton town centre

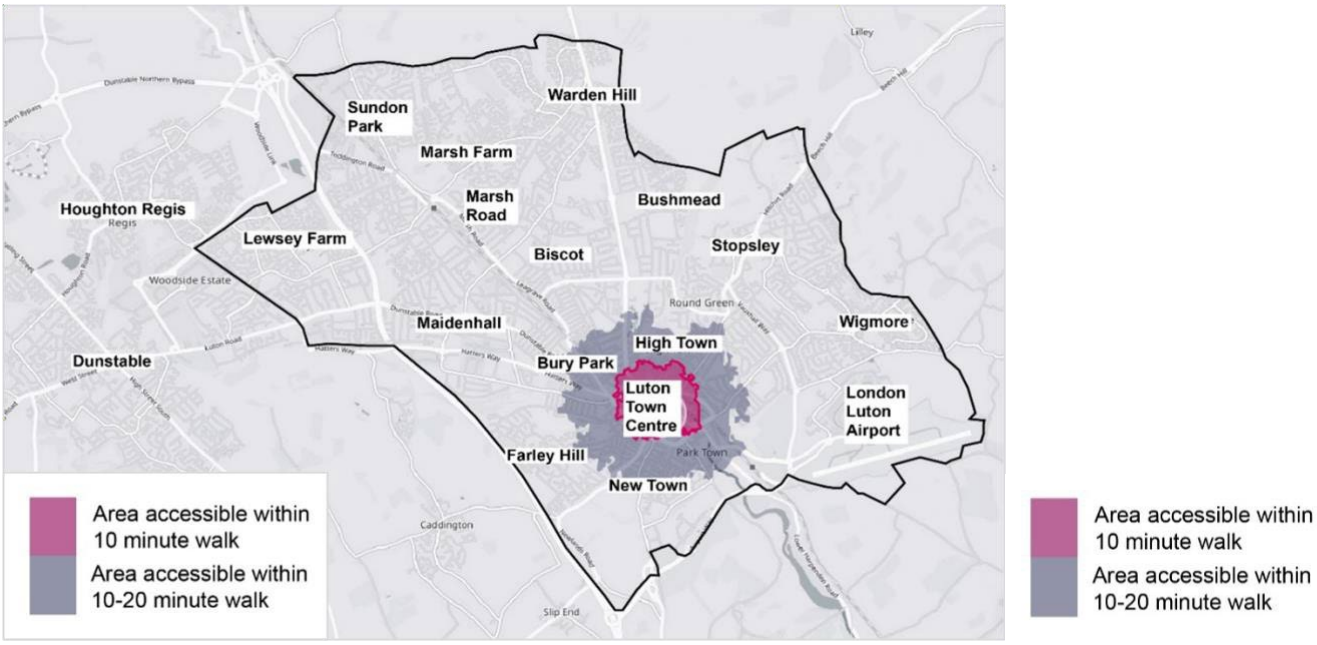


Figure 13: 10 minutes and 20 minutes' walk from Luton town centre

Luton's key trip attractors

To help understand where our cycling and walking improvements will have the biggest impact, it is important to identify key locations where people are, and will in the future, make trips to and from. In this plan, these locations are referred to as 'trip attractors'. Using feedback received from our workshops, stakeholder engagement and travel perception survey, we have plotted some of our most important trip attractors. We've mapped significant places in Luton as well as other key locations outside of our boundary.

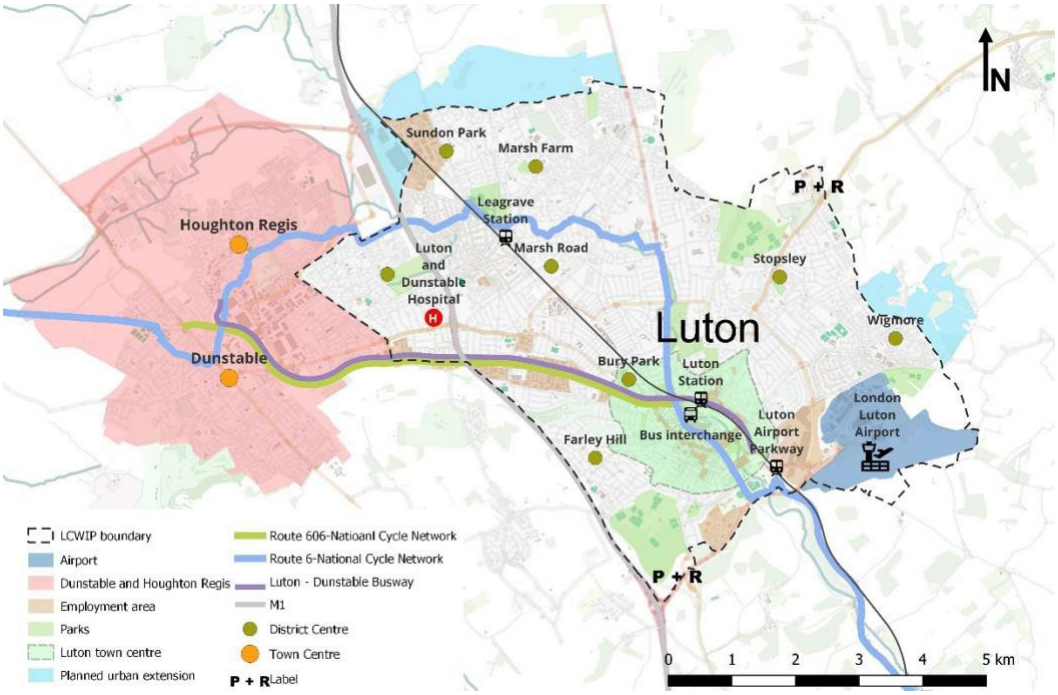


Figure 14: Luton's key trip generators

The town centre is the main hub of activity in Luton, with its mixture of employment, retail, leisure and educational facilities. To unlock its full potential, the council has embarked on a series of regeneration schemes that will help reinstate the town centre as a focal point for community and commercial life. Design of 'The Stage' a mixed-use development that will provide community space, improved public realm and a new cycle hub is underway, complemented by works that have started to open up the River Lea and a pocket park on Silver Street.

There is a network of important district and neighbourhood centres across the area, as defined by policy LLP21 of Luton Local Plan.[20] Luton and Dunstable University Hospital is a major trip attractor for the area, located 4.5km North West of Luton town centre and 3km east of Dunstable town centre. Existing and planned major employment areas within Luton are focused around the Airport to the east of Luton, west along the Luton-Dunstable Busway, at Sundon Park Industrial Estate northwest of the town centre and at Capability Green in the south of Luton. This land use pattern and associated activity contributes to a 24-hour economy.

Improving cycling and walking conditions can help make public transport journeys door-to-door, matching the convenience of the car. In Luton, the town's key public transport hubs include the three railway stations, at Leagrave, Luton Town Centre and Luton Airport, which also acts as a bus station interchange. In 2023, Luton Airport Parkway will benefit from a seamless transfer to Luton DART (Direct Air-Rail Transit), transporting passengers from the railway station to the airport terminal every four minutes, taking less than four minutes. Strengthening sustainable connectivity to these hubs will create an opportunity for active travel to form, the first and last stage of longer journeys by public transport.

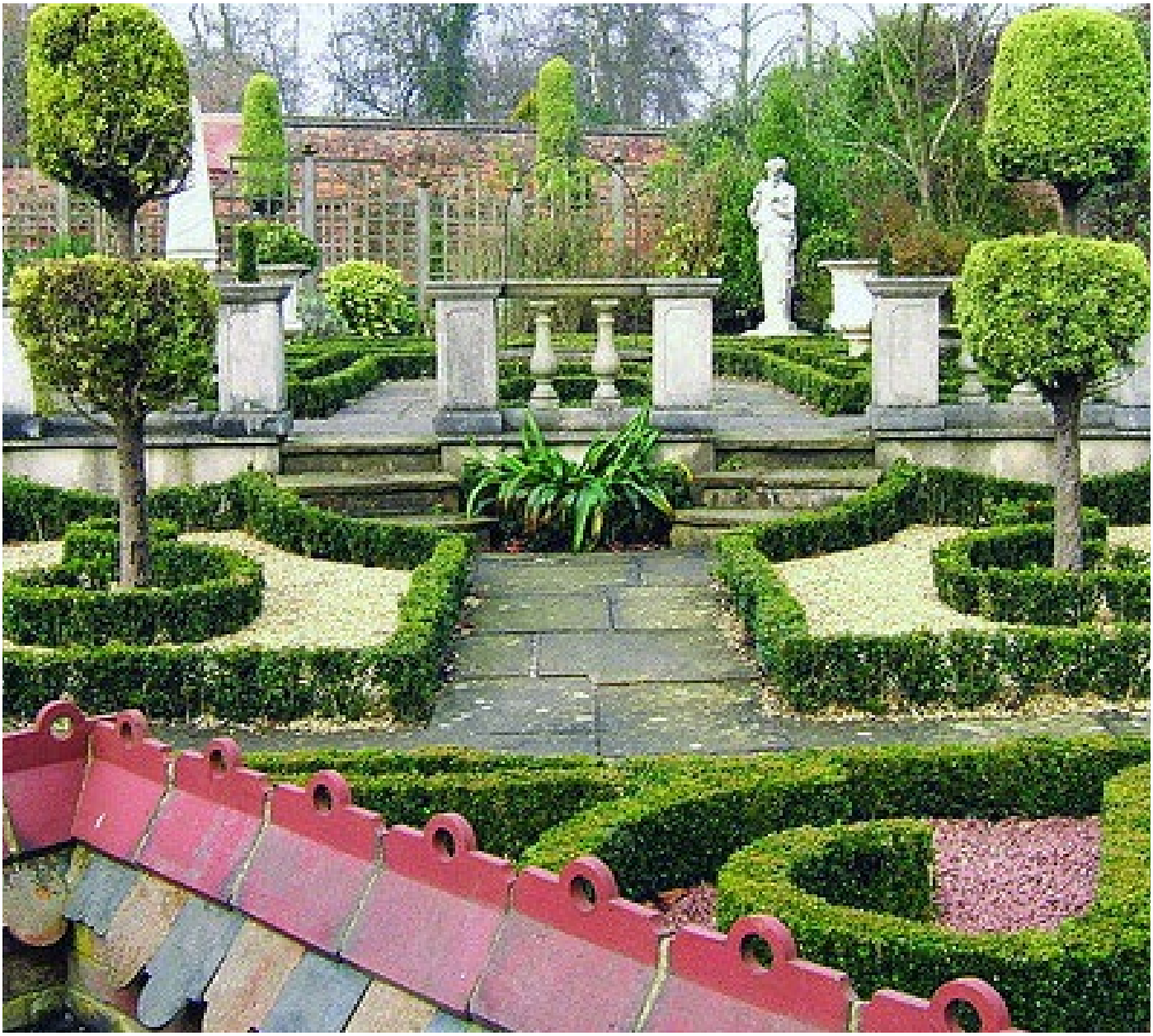
[20] Luton Local Plan 2011-2031

The airport itself acts as a strategic gateway to the rest of the country and the world. It is one of the fastest growing airports over the last eight years [21] and has plans to expand from its permitted 18 million passengers per year to 32 million passengers per year. Land for the use of park and rides

/travel hubs are safeguarded in the local plan. These are located on land south of Stockwood Park and Butterfield Business Park, shown in Figure 14. Promoted in our Bus Service Improvement Plan, the park and ride/travel hub facilities are intended to intercept car trips destined for the town centre. This will also allow the council to redevelop existing town centre car parks for other uses including commercial, retail and residential, and opening up land for new public squares and parks.

Greater access to green space will often lead to higher levels of cycling and walking. [22] Conversely, more cycling and walking can free up the space needed to plant more trees and vegetation.

Despite some parts of the town being deprived of green space, [23] many parts of the town lie on the edge of countryside, supported by a network of public rights of way. Luton also has more than 100 parks, six of which now hold a Green Flag Award, the national quality standard.



[20] Luton Rising: Getting to and from the airport, our emerging transport strategy
[22] Evidence of Green Areas, Cycle Infrastructure and Attractive Destinations Working Together in Development on Urban Cycling
[23] https://policy.friendsoftheearth.uk/sites/default/files/documents/2020-10/Green_space_gap_full_report_1.pdf

Section 3:
Walking and cycling network appraisal

Existing active travel infrastructure

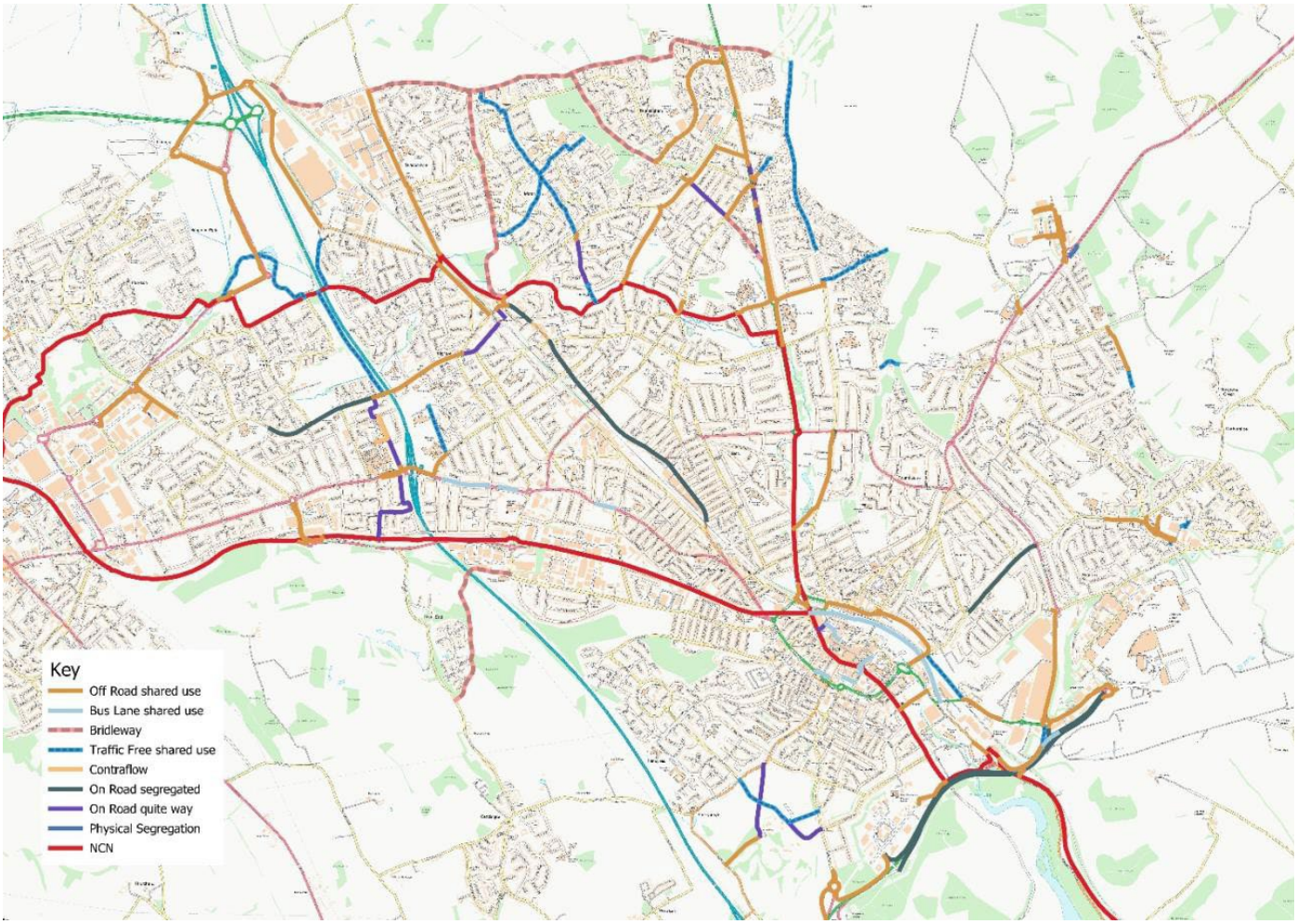


Figure 15: Luton's existing active travel network

Luton's cycle network

Through engagement with stakeholders, auditing active travel conditions and reviewing survey feedback has revealed that much of Luton's cycle network is fragmented. Currently, cycling infrastructure falls behind the levels of service necessary to achieve the ambitions of this plan. In many cases, unintuitive arrangements, lack of priority, insufficient space and uncomfortable transitions on and off the road put cyclists in direct conflict with vehicles crossing their path, often at speed.

Figure 16: Car-centric junction design

Figure 17: Vehicles parked on on-road cycle lane

Luton's walking network

A network of footways and paths across the town provides access to key locations, amenities and district parks. This includes a strategic route through the River Lea Linear Park that connects London to the source of the River Lea in Leagrave, Luton.

However, there are numerous street level issues across the town. These include dangerous crossing points, narrow footways, and severance created by busy roads. Cars inappropriately parked on the footway is a common and critical issue. Footway parking like this inhibits the independence of everyone and particularly vulnerable or disabled people.

Access by foot to the town centre is a particular issue. Many important pedestrian routes are compromised by vehicle dominated streets, as well as the severance created by lack of safe and convenient crossings across the inner ring road from surrounding neighbourhoods.

Figure 18: Inner ring road constraining access to the town centre

Figure 19: Pavement parking restricts ease of movement

Public perceptions of luton's active travel network

Attitudes and perceptions of our active travel network have been gathered to understand views on walking and cycling in Luton. This adds a layer of richness to the data, building on the local conditions and assessment of the network explored previously. To understand views, we undertook a Travel Perception Survey (discussed in Section 2). The survey asked people what discouraged them to cycle or walk and what would encourage them to do it more. Figures 20-23 show the key findings.

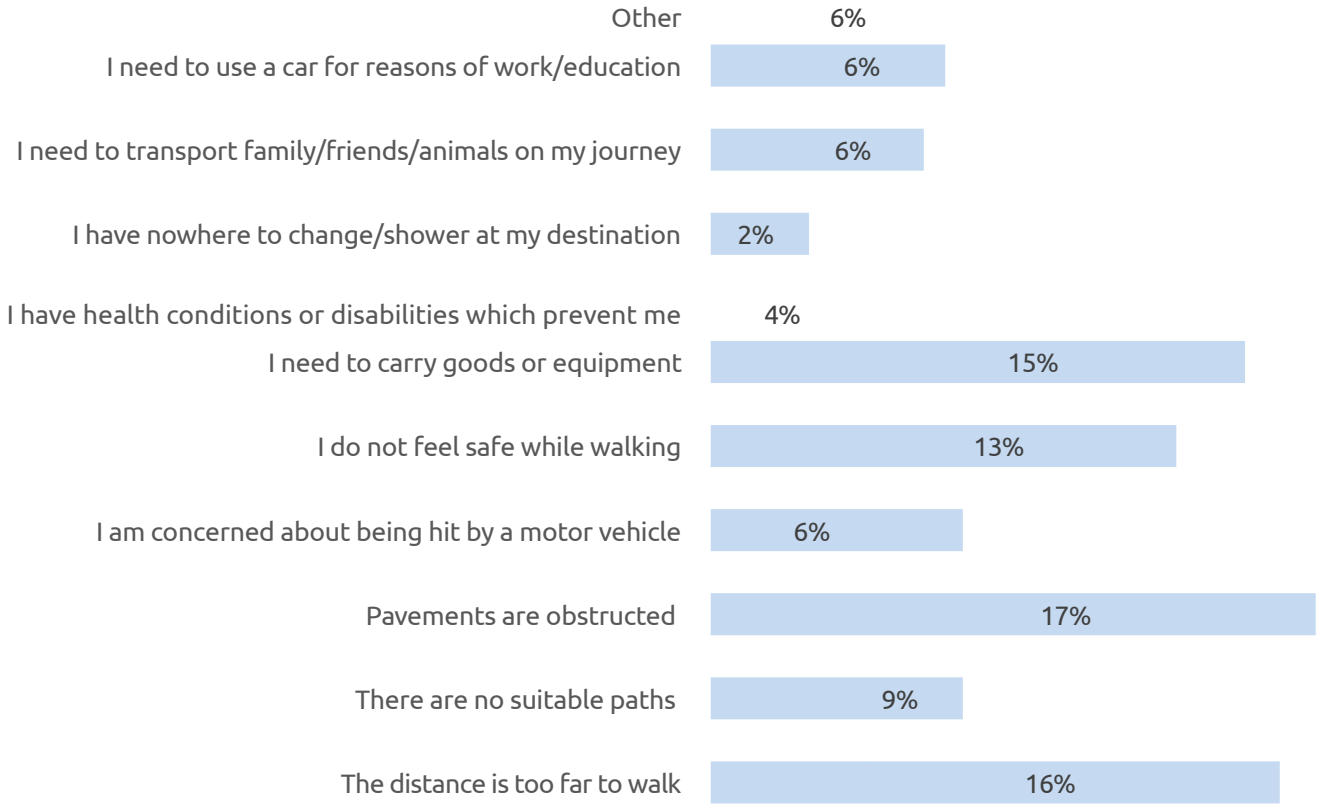


Figure 20: Factors that discourage walking in Luton

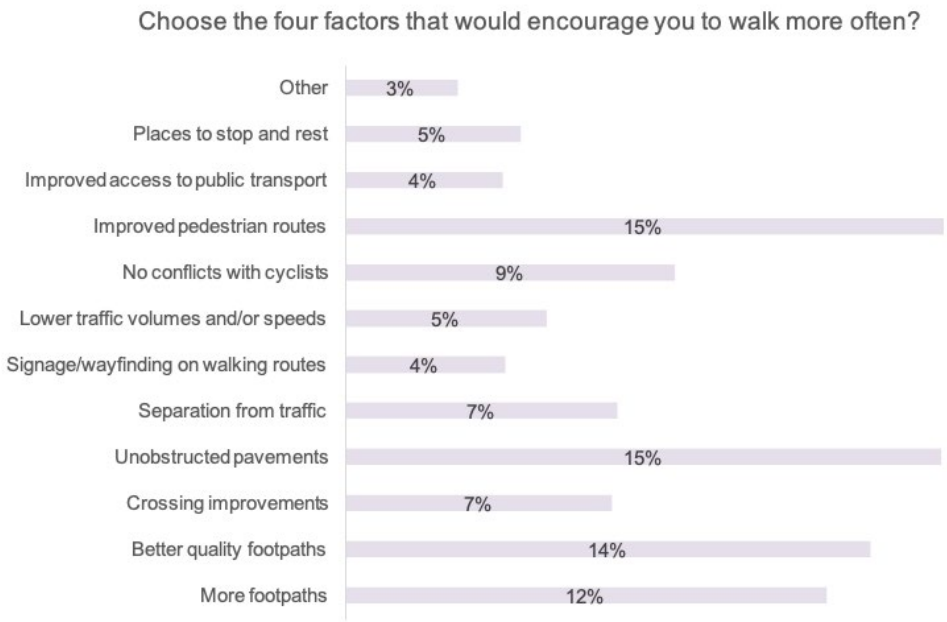


Figure 22: Factors that discourage cycling

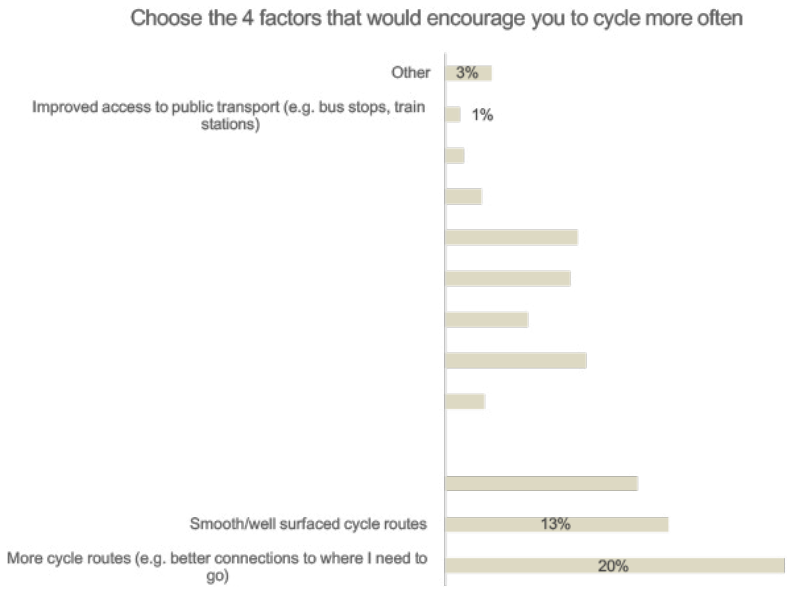


Figure 23: Factors that encourage cycling

Active Travel SWOT analysis

Table 2 uses the baseline evidence of Luton's existing travel conditions (Section 2) and the assessment of the town's active travel network (Section 3) to appraise the relative strengths and weaknesses of cycling and walking in Luton.

Strengths

- Many residential areas have high population density and low car ownership, conducive to active travel
- The topography of the town is generally flat in the town centre and north and west of the borough
- The town centre is compact and mixed use, containing a high number of key locations within a 20 minute cycle
- National Cycle Network 6 and 606 provide high quality interurban cycle connections

Weaknesses

- Existing cycle network is fragmented and sections do not meet LTN 1/20 standards
- Lack of direct, protected cycle routes between places people want to go
- Fear of intimidation and theft prevents people from cycling
- Inner ring road constrains access to the town centre
- Pavement parking prevents people from walking freely

Opportunities

- Luton is well connected to strategic road and rail corridors, active travel can enable first/ last stage journeys to travel hubs and stations
- Rationalisation of town centre parking, through developments such as 'The Stage', will reduce vehicle traffic, creating safer, more pleasant active travel links
- Areas with high levels of deprivation will benefit from active travel connections to education and employment facilities

Threats

- Major development to the north and east of the town have the potential to increase the volume of cars if unsupported by infrastructure that encourages active travel
- Direct cycling and walking routes are often the most constrained in terms of available space, where appropriate, we will need to reduce the width of traffic lanes and remove parking to facilitate them

Section 4:
Planning the cycling and walking network

Active travel principles

To deliver a comprehensive cycling and walking network for Luton, new infrastructure must be guided by key principles. The council has developed a set of active travel principles that will shape the way in which our cycling and walking improvements are delivered. These principles are listed below, separated by areas of focus.

A walkable town

- Access and Connectivity: reducing the severance created by the inner ring road and railway station. Enhance connections to surrounding neighbourhoods that are pleasant, safe and attractive, increasing footfall for business and vibrancy
- Activity and Liveability: building on the pedestrianisation of the town centre, expand these benefits to areas on its periphery through more green landscaping, lighting, seating and shade requirements with things to see and do; making people feel safe, particularly for vulnerable groups at night
- Improved wayfinding and signage: making the town centre and access to it, easier to navigate for those not familiar with the area
- Cycle parking/hubs: Providing a sufficient level of safe, protected, overlooked and high-quality cycle parking to accommodate existing and future demand in easy to access locations.

Sustainable movement corridors

- Routes should provide high quality infrastructure: Cycling and walking routes that connect our town should be safe, direct, coherent, comfortable and attractive; maximising opportunities for health and fitness
- Allocating appropriate space: Where feasible, the infrastructure network in Luton will provide efficient use of space that more fairly considers the needs of cyclists and pedestrians and the potential for improvements to green space and biodiversity
- Availability of resting places: Where it is possible to introduce them without a disproportionate loss of footway, resting places (e.g. benches) will be introduced to enable everybody to use our streets
- Better crossing points: Introducing more dropped kerbs, footway buildouts, tactile paving and crossings, located away from conflict points that encourage modal shift and support vulnerable user groups

Healthy neighbourhoods

- Low Traffic Neighbourhoods: Where there is local support, we can reduce through- traffic in neighbourhoods by using barriers that prevent cars from using quiet roads as shortcuts, supported by other complementary active travel measures
- 15-20 minute neighbourhoods: Improve active travel connections to services and key trip attractors within a neighbourhood, through more, and better cycling and walking provision
- School Streets: Transform roads outside of our schools by creating temporary pedestrian and cycle zones at set times. This will create a more pleasant environment for everyone, whilst making sure residents, businesses, pedestrians still have access.
- Speed reduction measures: Introducing more measures that calm traffic such as narrowing junction entries, speed humps, wider footways, surface treatments, 20mph zones and public realm interventions that manage traffic speed

Integrated transport

- Mobility Hubs: Integrating the active travel network with other forms of transport, such as bus and rail, creates opportunities to develop mobility hubs. These hubs co-locate public, shared and active travel modes to provide convenient interchange
- Aligning Housing Growth with Active Travel: The location and design of housing influences how people travel. The design of new homes that supports cycling and walking will be an essential part of planning new developments
- Integrated cycle parking: Different types of secure cycle storage at public transport hubs, in new development, in the town centre and in other key trip attractors will be provided in sufficient amounts, helping to allay fears of theft
- A cohesive and connected network: Increase the use and enjoyment of public rights of way, bridleways, parks and other open green space through a walking and cycling network that supports all types of active travel journeys

Applying the latest design guidance

The improvements proposed in this strategy comply with Local Transport Note 1/20, the Department for Transport's cycle infrastructure design guidance. This guidance raises the bar for active travel infrastructure, setting a comprehensive national standard for design of new cycling and walking improvements. Through upskilling opportunities provided by the Department for Transport and Active Travel England, Luton Council will ensure active travel improvements in this plan adhere to these standards in order to receive government funding. Table 3 sets out the core design principles that underpin these standards.

Table 3: LTN 1/20 design principles

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.	**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 streetscape.

Developing the future active travel network

The future cycling and walking network marks a significant first step in the development of an ambitious, long-term active travel plan for Luton. The network has been developed using the feedback from our baseline analysis of active travel conditions in Luton (Section 2), appraisal of the current walking and cycling network (Section 3) and our key active travel principles (Section 4). In addition, we supplemented this evidence with data taken from cycling analytical tools, such as Strava and the propensity to Cycle Tool, which report cycle movement.

Planning the future cycle network

To develop a cycling network, the first step is to identify the key places that people want to travel to and from, these are referred to as 'desire lines'. These are not routes in themselves but broad corridors that connect to key trip attractors across the borough. These desire lines, supported by our survey data, create the primary corridors from which specific route alignments have been assigned. Figure 24 shows these desire lines, future iterations of this plan will define a denser mesh of secondary routes to identify more local improvements that connect primary routes to each other.

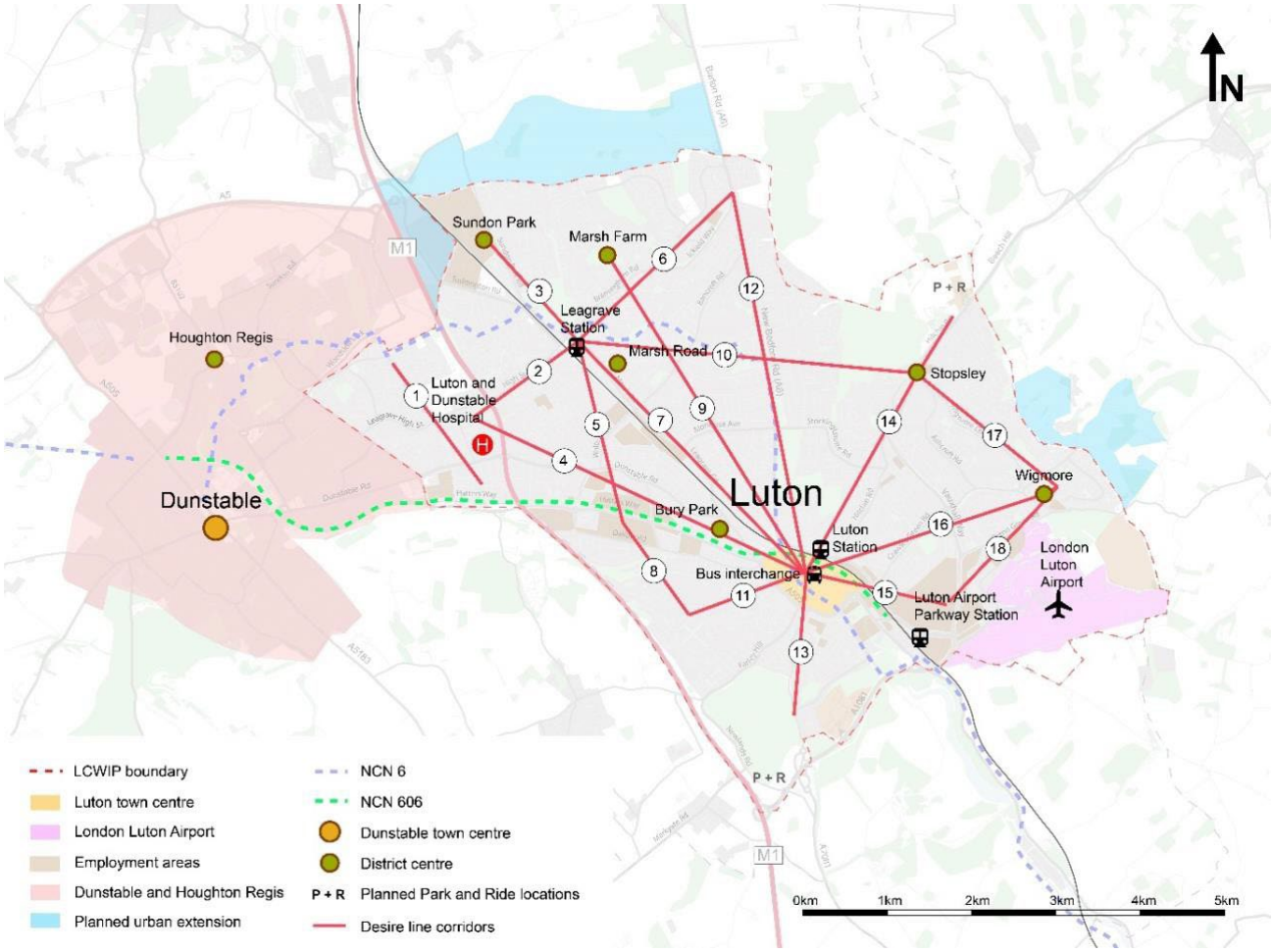


Figure 24: Key desire Line corridors in Luton

The analysis shows significant demand between district centres identified in section 2. Journey pairings also connect existing and planned employment areas, planned development, schools transport hubs and travel hub locations at Stockwood Park and Butterfield and parks. Desire lines which were close to each other were amalgamated to simplify the analysis and create an appropriate density of potential routes. In a joined up urban cycle network people, should typically not have travel more than 400m to get between routes of similar quality.[24] However, as this plan is in its initial stages of development, a lower density, initially, makes most sense.

The town centre is recognised as the main trip attractor in Luton, with cycling activity gravitating to the town's concentration of different land use types and public transport interchanges. The result is that most of the desire lines are radial. However, this plan recognises that many trips are very local in nature. Consequently, orbital desire lines, that connect places around the town rather than to it, have also emerged from this process.

A route selection process was completed to convert the desire lines into cycling routes. This process was iterative and shaped by engagement with interest groups, technical experts, route audits and our travel perception survey. For each desire line, the most direct route was audited which include an appraisal of existing levels of cycling provision, suitability of the route and the feasibility of delivering the latest cycle design standards assessed (Figure 25 and Figure 26). In total, 19 cycle routes make up Luton's future cycle network, shown in Figure 27. Additional local 'secondary' links will be identified through public consultation and further analysis.

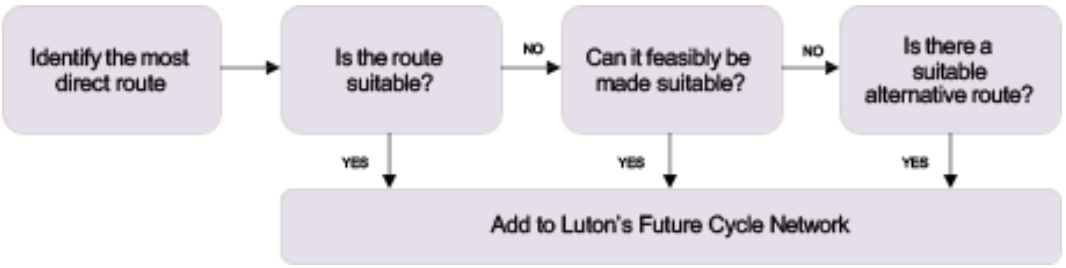


Figure 25: Luton's cycle route delection process

[24] DfT Local Cycling and Walking Infrastructure Plans Technical Guidance (2017). Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/908535/cycling-walking-infrastructure-technical-guidance- document.pdf

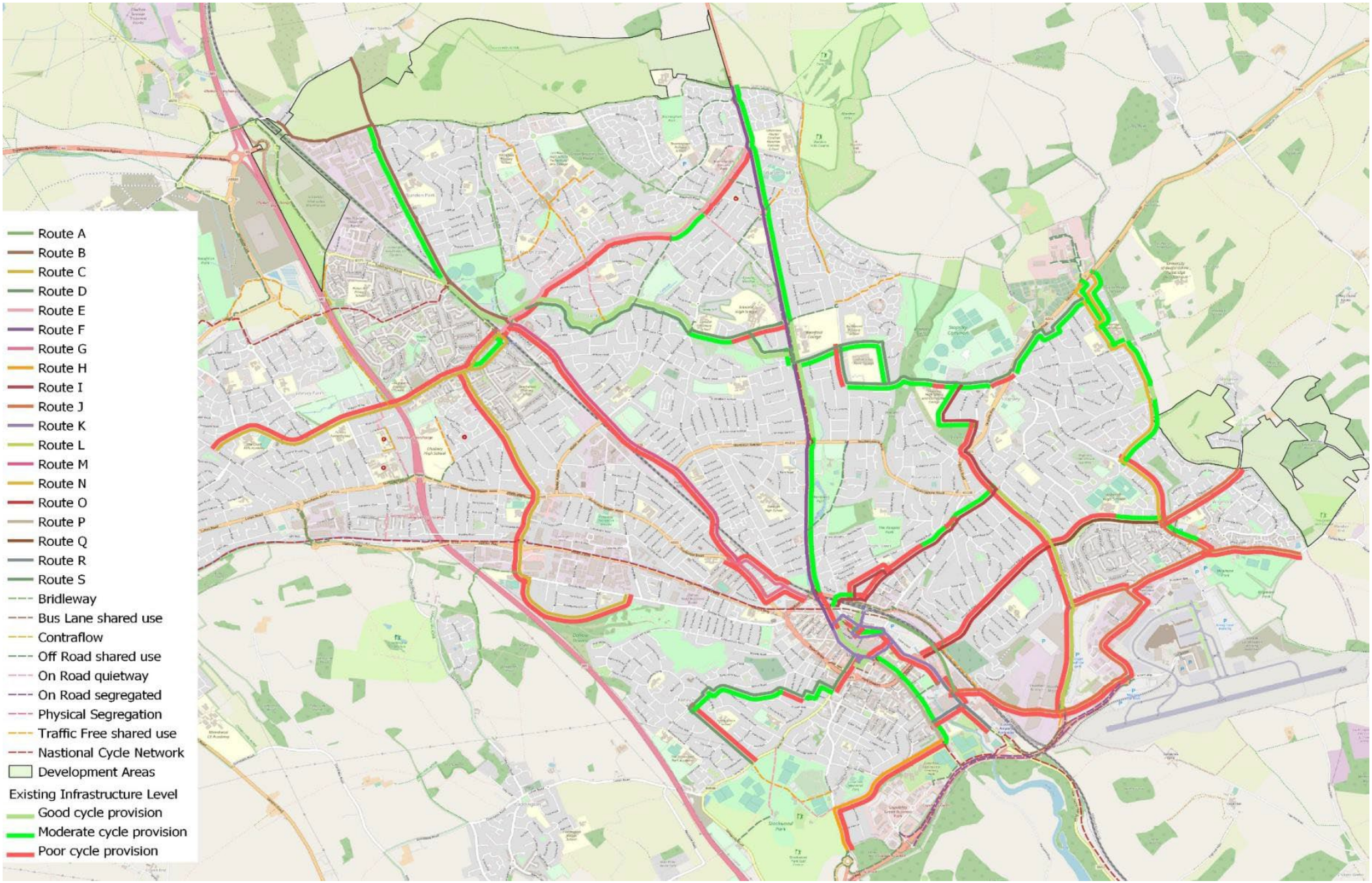


Figure 26: Quality of existing cycling provision

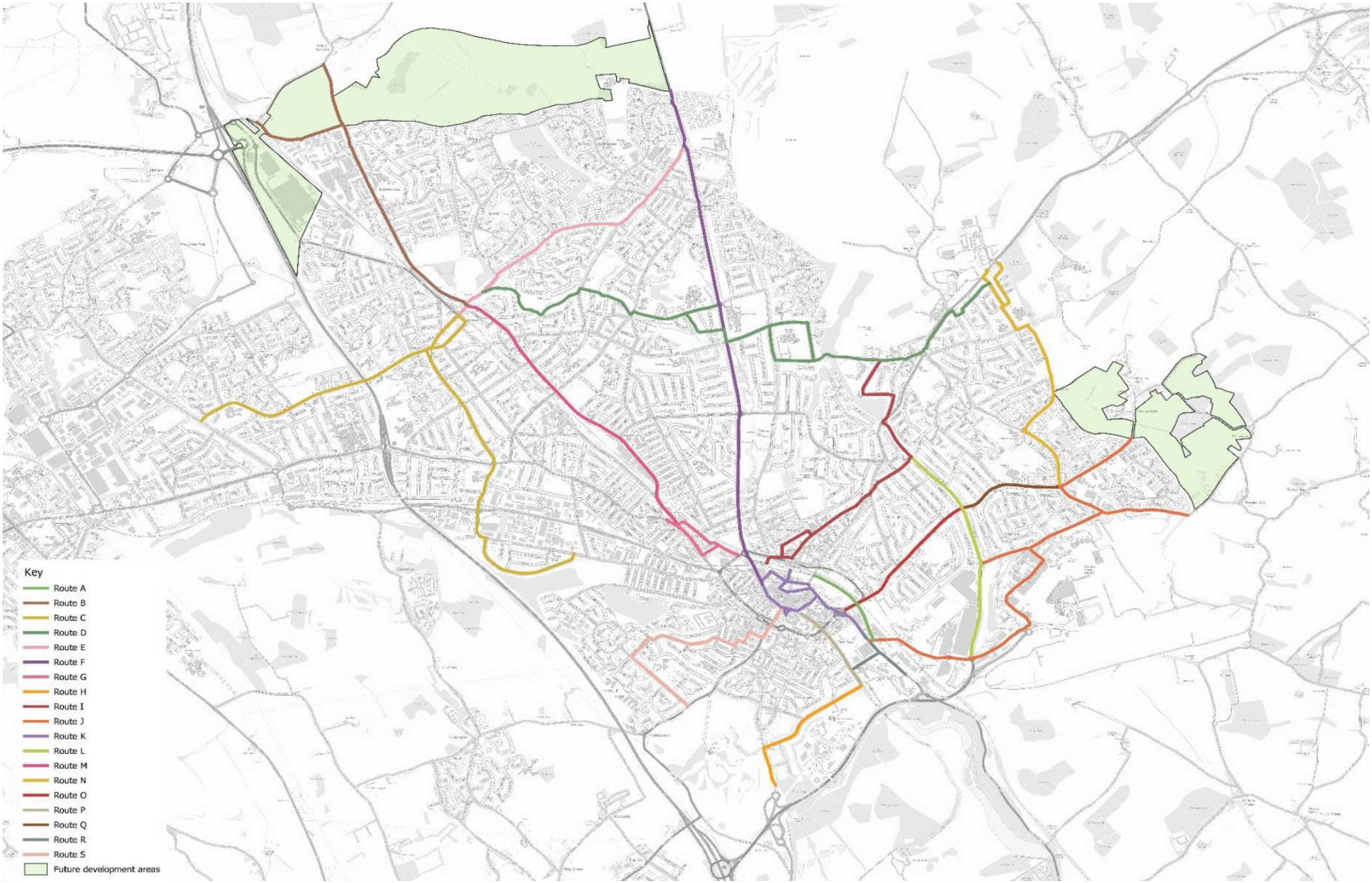


Figure 27: Luton's future cycle network

Planning the future walking network

The town centre is a thriving hub, as rich in activity as it is in culture. The clusters of business, transport hubs, retail, education, community and leisure opportunities bounded by the inner ring road generate a high volume of day-time and night-time pedestrian movement. It's important that people living here benefit from less noise and cleaner air. Luton's LTP4 recognises its unique position as the focus of a sustainable travel network, both within Luton and its wider conurbation.

To realise the ambitions of this plan, Luton town centre has been identified as the Core Walking Zone (CWZ) and is the focus of future walking improvements. The town centre is identifiable as Luton's main destination for walked trips. Currently, it is the subject of very significant investment in new development and regeneration. Therefore, for the purposes of this LCWIP, the 'core walking zone' is defined as funnel routes to the town centre and orbital streets leading from the edges of the town centre to its hinterland. This plan nonetheless strongly supports ongoing investment in the town centre. Cycling and walking improvements share many of the same benefits, so in many cases improvements to one will affect the other, where routes overlap. To avoid conflict, it's important to maintain separated space for cycling and walking.

A preliminary route selection process was undertaken by a consortium. This included council officers supported by independent technical experts. By working with stakeholders, walking routes have been identified up to 2km of nearby trip generators, such as residential areas and employment sites. For each walking route, the most direct option was audited using a Health Streets assessment to assess the suitability of the existing infrastructure and the feasibility of future walking improvements. In total, 14 walking routes make up our future walking zone, shown in Figure 28.

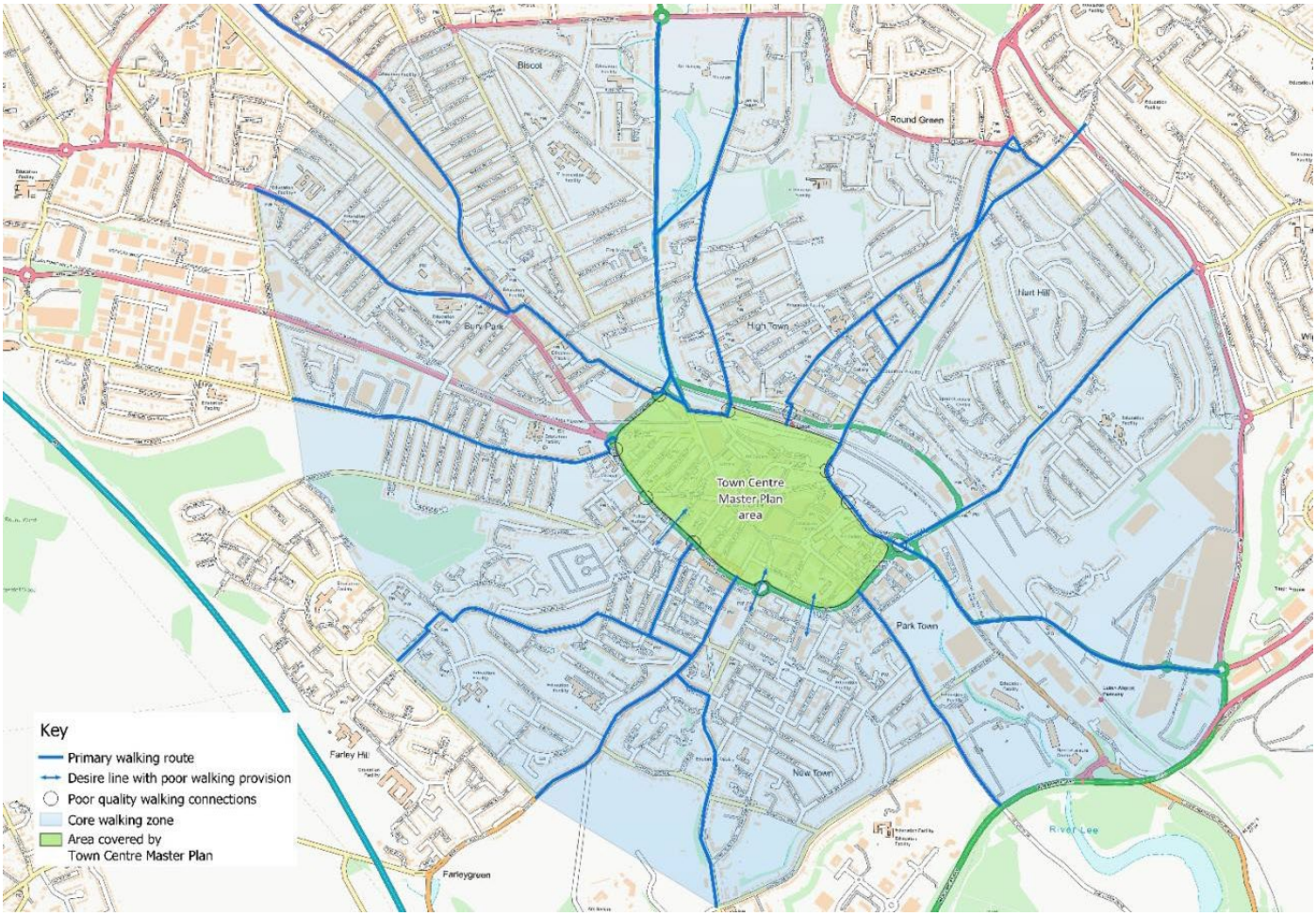


Figure 28: Luton's core walking zone

Section 5:
Cycling and walking improvements

Types of cycling and walking improvements

To make Luton a great cycling and walking town, the council will use a toolkit of different types of infrastructure improvements. The interventions proposed are a blend of those deployed previously in Luton and best practice set out in LTN 1/20 guidance. Some examples of improvements are set out in Table 4.

Table 4: Examples of cycling and walking interventions

Segregated Cycle Tracks with Parking Protection	Cycle Contraflow	Modal Filters	Continuous Crossing
			
Cyclists must be physically separated and protected from high volume motor traffic, both at junctions and on the stretches of road between them. Dependent on local conditions, types of physical segregation can vary, e.g. wands, stepped kerbs, planters.	Infrastructure that allows cyclists to ride in the opposite direction to one-way motorised traffic, bringing more flexibility and convenience to this mode. It is best implemented by raising the route to footway level or via a protected lane at the road level	A road design feature thatrestrictsaccessto through-traffic for motorisedvehiclesbut allows the passage of walking and cycling, usually by means of planters or bollards.	Continuous or blended footways encourage drivers to turn into side roads with caution. The design includes changing the layout of the junction by setting the crossing back from and often raising crossing points to ensure that drivers slow down and turn at low speeds.
Toucan Crossing	**Parallel Crossing**	**Public Realm Improvements**	**Street Amenities**
			
An unsegregated signal-controlled crossing for pedestrians and cyclists, linking cycle track and footway systems on opposite sides of a carriageway.	A crossing facility for pedestrian and cyclists which has priority over the road which it crosses, marked as a zebra crossing with a parallel priority cycleway	Measures to enhance the visual aesthetic and feel of an area. This includes greenery, street art, seating and other features to make the spaces more enjoyable	Features that improve the experience of the dwelling and moving through a street. They can include hard and soft infrastructure which brings functional, aesthetic ecological value

Resting Points	Footway build outs	Footway widening	Way finding and Signage
			
A space for pedestrians and cyclists to rest without disrupting existing movement patterns. They are usually provided at regular intervals and can include seating, shelters, drinking fountains	A section of footway extended out into the carriageway to reduce the crossing distance and improve visibility for pedestrians. It is also helps reduce the speed of vehicles	Localised widening of the footway/cycle infrastructure. This can help allocate new street functions (e.g. seating, cycle parking, greenery and shade etc.) and create space for additional movement.	Wayfinding can be provided through user-friendly maps (including walking distance ranges and key landmarks), as well as through distinctive paving and other public realm interventions along key routes.
Speed Reduction	**Quietway**	**Dropped Kerb and tactile paving**	**Traffic Calming**
			
A section of carriageway or zone with a lower speed limit than the statutory speed limit	Strategic walking and cycling routes which link key destinations using less heavily trafficked local streets, through parks, and along waterways or tree-lined streets. Usually supported by traffic calming measures (e.g. speed limits, and other design interventions).	Dropped kerbs facilitate non stepped access, usually between the footway and carriageway. These should be accompanied by tactile paving, which provides a distinctive, raised surface profile to be detected by both sighted and visually impaired users.	Physical design (e.g. lane narrowing, speed bumps) and psychological measures (e.g. different surface material) which encouragemotoristsand cyclists to slow down along a specific section of road.

Improving the future cycling network

To deliver transformational change, the council is proposing infrastructure improvements across Luton's future cycle network. We've done this by reviewing each route and identifying points along it where upgrades are needed. Improvements fall into two categories, improvements to existing cycling facilities or the provision of new cycle routes. They can also be broadly categorised into 'junction improvements' or 'link improvements', shown as circles and lines in Figure 29 respectively. Improvements to the cycling network include things such as new crossing, cycle friendly junction improvements and segregated cycle tracks. A description of each improvement is provided in Appendix 1 and all improvements included will be subject to detailed design and consultation before they are delivered.

The council recognises that introducing some improvements quickly will help deliver benefits now, whilst others are longer-term aspirations, better supported by policy changes we expect to see materialise in the future. Planned improvements range in their complexity, some are fairly straight forward interventions whilst others will trigger substantial changes to our road network; reallocating road space more fairly. The way in which we balance these differing issues and prioritise improvements is discussed in Section 6.

[25] Lucy Saunders (2022). Available at: https://www.healthystreets.com/

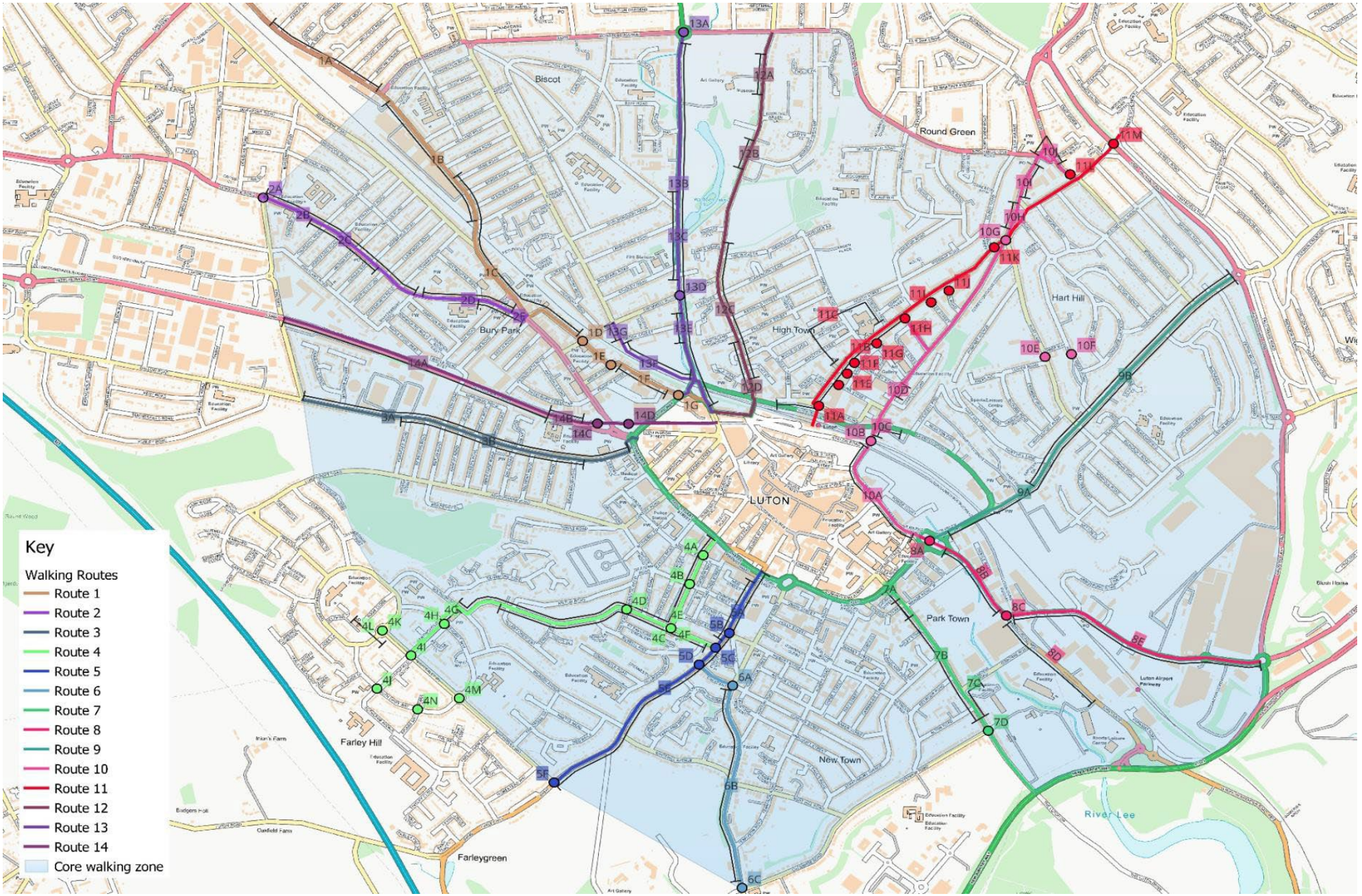


Figure 30: Luton's walking improvements

Section 6:
Prioritising cycling and walking improvements

Prioritising cycling improvements

Having identified cycling improvements in Section 5, these have been prioritised based on which ones are likely provide the biggest social, environmental and economic return. This has been achieved by measuring the benefits of improvements along each route and scoring them.

Improvements have been scored using local knowledge, professional judgement and data based on three key factors, their effectiveness, their alignment with policy and their deliverability. The factors and the indicators that measure each improvement are shown in Tables 5-7.

Table 5: Criteria applied to measure the effectiveness of cycling improvements

Effectiveness		
Criteria	Indicator	Score
Anticipated increase in cycling trips	This considers the population who will directly benefit and the extent to which the improvement is likely to increase cycling trips	1= Improvement located in a low density population area (<25 persons per hectare) 2= Improvement located in a medium density population area (25-75 persons per hectare) 3= Improvement located in a high density population (>75 persons per hectare)
Expected improvements in cycling safety	This considers the safety benefits that are expected as a result of the improvement	1= Minor improvement to perceived feeling of safety 2= Moderate improvement to perceived feeling of safety 3= Significant improvement to perceived feeling of safety
The degree of deficiency of the existing infrastructure	This considers the standard of cycling provision and whether the improvement is incremental or transformational	1= Existing infrastructure suitable for all cyclists 2= Existing infrastructure suitable for new adult cyclists 3= Existing infrastructure only suitable for experienced cyclist

Table 6: Criteria applied to measure how cycling improvements deliver policy objectives

Policy		
Criteria	Indicator	Score
Importance of the improvement on target user groups	This considers how the improvement will benefit people living in areas of high deprivation	1= Improvement located in an area of deprivation (<20% least deprived nationally) 2= Improvement located in an area of deprivation (20%-50% least deprived nationally) 3= Improvement located in an area of highest deprivation (>50% most deprived nationally)
Ability to connect to key facilities	This considers how the improvement will connect with educational providers, major employment sites, transport hubs and parks	1= Improvement located on a route that connects a few key trip attractors 2= Improvement located on a route that connects some key trip attractors 3= Improvement located on a route that provides direct access to multiple or significant key trip attractors
Its contribution to support new housing	This considers how the improvement provides connections to planned development	1= Improvement indirectly supports existing homes 2= Improvement supports existing homes 3= Improvement supports major new development

Table 7: Criteria applied to measure how deliverable cycling improvements are

Deliverability		
Criteria	Indicator	Score
Scheme feasibility/deliverability	This considers the level of complexity to deliver the improvement	1– Improvement requires significant changes to the local road network 2- Improvement requires moderate changes to the local road network 3– Improvement requires minor changes to the local road network
Cost of construction and maintenance	This considers how much it might cost to deliver the improvement	1 – Improvement expected to cost >£2m 2 – Improvement expected to cost £250k-£2m 3 – Improvement expected to cost <£250k

Cycling improvements were prioritised against the factors listed in Tables 4-6. Each indicator was scored from 1 to 3 (low to high), with consideration of route length. Cycling improvements along each of the 19 cycle routes were scored individually. A total score was calculated for each cycle route based on the average scores of the improvements located along it. To allow for flexibility in the programme and considering the long-term planning horizons, cycle improvements identified along respective routes have not been prioritised against other improvements along the same route. The priority list of cycling routes are shown in Table 8.

Table 8: Prioritisation of cycle routes

Cycle Route	Cycle Improvements	Priority (high to low)
A	A1	1
C	C1,C2,C3,C4.C5,C6,C7,C8,C9,C10,C11,C12,C13,C14	2
B	B1, B2, B3, B4, B5	3
F	F1,F2,F3,F4,F5,F6,F7,F8,F9,F10,F11,F12,F13	4
D	D1, D2, D3, D4, D5, D6, D7, D8, D9, D10, D11, D12, D13, D14, D15, D16	5
M	M1, M2, M3, M4, M5, M6, M7, M8, M9, M10, M11, M12, M13	6
I	I1, I2, I3, I4, I5, I6, I7, I8, I9, I10	7
K	K1, K2	8
J	J1, J2, J3, J4, J5, J6, J7, J8, J9, J10, J11, J12, J13, J14, J15	9
O	O1, O2	10
S	S1, S2, S3, S4, S5, S6, S7	11
L	L1,L2,L3,L4,L5	12
G	G1, G2, G3, G4, G5	13
R	R1, R2, R3	14
H	H1, H2, H3	15
N	N1,N2,N3,N4,N5,N6,N7,N8,N9,N10,N11	16
E	E1, E2, E3, E4, E5, E6, E7	17
P	P1, P2, P3, P4	18
Q	Q1	19

Prioritising walking improvements

To assess the benefits of proposed walking improvements, we used a strategic 'Health Streets Assessment'. This recorded how the street currently looks, feels and performs today versus how much better it would be for people after infrastructure improvements are made. Scores were given for 10 different streetscape factors, such as things that make walking feel safe, levels of accessibility and vehicle speeds, shown in Figure 31.

Figure 31: Healthy Street indicators (Lucy Saunders)

Each section of the 14 walking routes were scored from 1-3, based on the quality of the existing infrastructure (lowest to highest). A total score was calculated for each walking route based on the average scores of the sections located along it. Our preference is to enhance the full length of a route at a time, as this will deliver the greatest value for money and have the biggest impact. We have chosen not to prioritise one walking route over another. This is because we generally expect the improvements to be linked to new development that is brought forward over the life of this plan.

Section 7:
Integration with policy and supportive measures

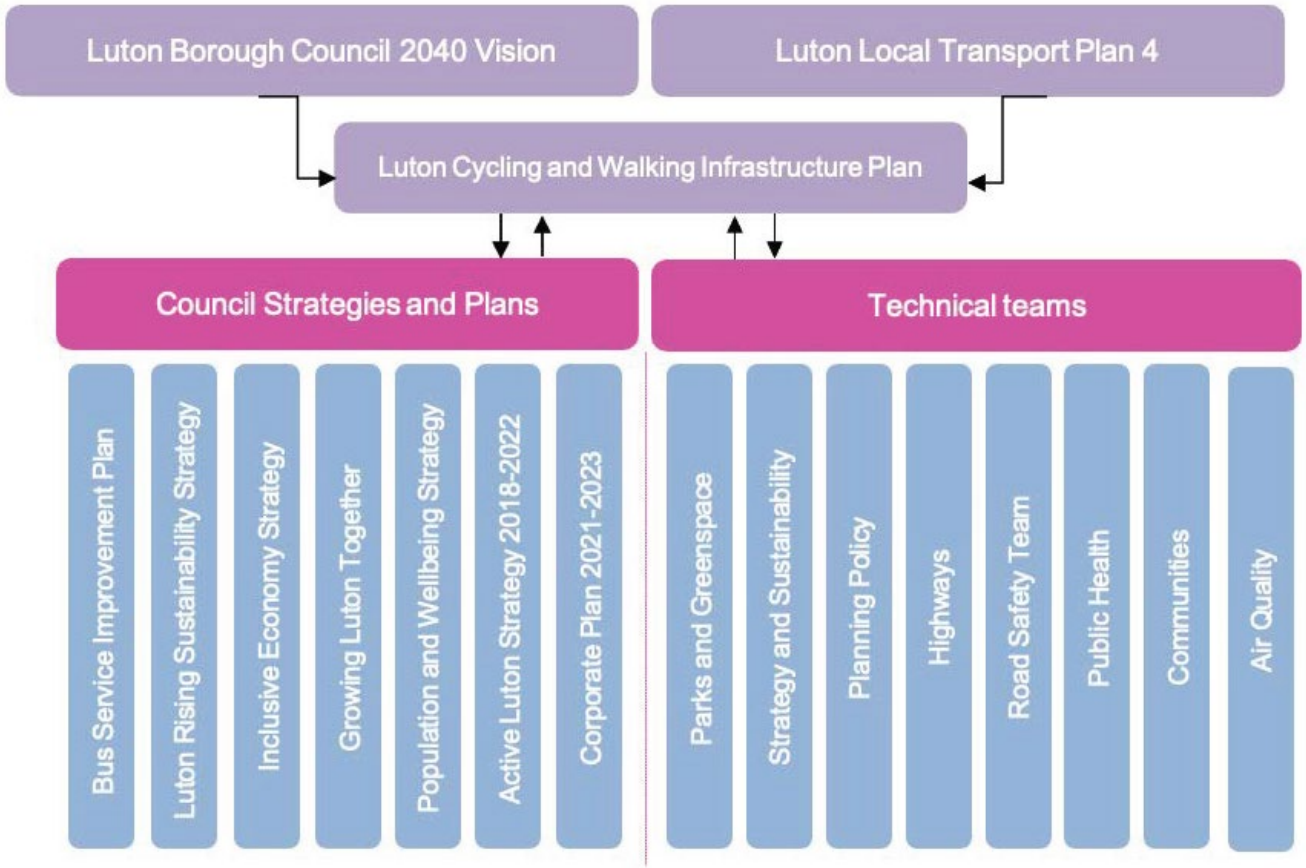
Delivering the plan

This plan will need to be integrated into the council's wider plans, policy and decision making. Integrating this document into new ways of thinking will help us deliver the step change in active travel trips that is needed. Future strategies will need to produce outcomes that improve the cycling and walking experience in Luton.

The plan forms part of a suite of documents that ensures appropriate consideration is given to active travel in wider council decision making. This means:

- Urban design that makes active travel easier than driving, including connected and filtered streets and spaces
- All new transport schemes will provide, improve or extend active travel infrastructure
- A public realm design guide will be published to give local expression to applying the latest LTN 1/20 design principles.

Figure 32 shows the way in which our local strategies and teams will connect with the LCWIP.



Investing in our cycling and walking improvements

Key to the success of this plan is securing the external funding needed to deliver the improvements. Funding opportunities known at the time of writing are set out in Table 9.

Table 9: Funding Opportunities that will deliver this plan

Funding Source	Description
Integrated Transport and Maintenance Block Funding	Provided annually to the council by the Department for Transport to enable investment in various transport and highway projects. We will use this plan as the basis of future active travel investment.
Government Grants	Government provides funding opportunities for local authorities to bid competitively for capital and revenue funding. We will bid for any active travel funding that will help us realise the ambitions set out in this plan.
Developer Funding	Through the planning process, the council will, in its role as the Local Planning Authority, work with developers to provide the transport mitigation necessary to manage travel demand. We will use the development management process to secure private sector investment that delivers the cycling and walking improvements identified in this plan.

Supportive measures

Infrastructure improvements alone are unlikely to be sufficient to make a transformational shift to cycling and walking. Other types of 'softer' interventions will be needed. Evidence shows that if we complement our programme of improvements with other behaviour change measures, we will achieve better levels of uptake.[26] An important element of this plan is the need to nudge people towards cycling and walking, through a package of complementary initiatives.

[26] Investing in cycling & walking (2016). A rapid evidence assessment. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/606513/cycling -walking-rapid-evidence-assessment.pdf

Supportive measures

- **Cycle training:** This in an effective way to encourage more people of all ages, backgrounds and abilities to cycle more. Many people never learn to ride a bike and others never cycle when they are adults. Cycle training will help boost cycle skills and confidence and help address issues with childhood obesity. We will continue to promote, support and deliver cycle training in Luton
- **Cycle hire schemes:** Many people in Luton struggle to afford a bicycle or find space to store one. Public cycle hire schemes provide access to bicycles, enabling them to get around without a car and enjoy the benefits of cycling
- **Cycling to school:** Getting young people cycling and walking can deliver long- lasting change. The council delivers Bikeability training at our schools, supports them to develop school travel plans and encourages more onsite cycle storage.
- **Bike recycling scheme:** A scheme in which bikes are given away for free to residents who are unable to afford them. The council's bike recycling scheme donates around 130 bikes every year to local communities.
- **Community cycle clubs:** A group of people who organise and participate in regular cycling activities for the benefit of members or as a service to the wider community. We've developed this plan with support from Luton's Active Travel Forum and we'll continue to engage with these types of groups to spread awareness of the active travel schemes we offer.
- **Wayfinding:** more and better signs, maps and information for journey planning will encourage people to travel around Luton sustainably
- **Road Safety Training:** Luton Council works intensively with schools and community groups to encourage sustainable travel activities i.e. walk-to-school- week, active travel campaigns aimed at pedestrian safety and use modeshift stars
- **Active travel social prescribing:** In some areas the NHS is prescribing active travel for people with mental and physical health conditions. This is achieved by care professionals referring people to a range of local, non-clinical activities that improve health. The council, Bedfordshire, Luton, Milton Keynes Clinical Commission Group and representatives from our voluntary/community sector organisations have an appetite to deliver this service in Luton.
- **Low Traffic Neighbourhoods:** A low traffic neighbourhood encourages people to cycle and walk by preventing cars, vans and other vehicle from using quiet streets as shortcuts. This is done through the use of bollards or plants which close a road to everyone other than cyclists or pedestrians while retaining local access for residents and visitors. The council has committed to trial low traffic neighbourhoods in Luton and monitor their success.
- **Temporary road closures:** Schemes such as school streets and play streets can promote active travel whilst enhancing community life and enabling local people to envision the possibilities created by reducing the impact of vehicle traffic. These initiatives close streets to reduce air pollution and encourage children to cycle and walk. The council is supportive of these and is working with schools to trial them.
- **Driver Awareness Training:** One of the key barriers to people cycling and walking is the behaviour of drivers towards cyclists and pedestrians. Driver awarenesstrainingallowsdriversto stepintotheshoesofmorevulnerableroad users, including those on bikes, foot and those with disabilities, to provide them with a greater understanding of their experiences. The council will continue to provide driver awareness courses to young people and adults.

- **Marketing and promotion:** Well-tailored, targeted promotion will raise the awareness of this plan and the benefits of cycling and walking more generally. Social media platforms, events and campaigns will encourage individuals to travel by active travel.
- **Cargo and e-cargo bikes:** bikes that are specifically adapted to carry passengers or cargo offer an alternative for local trips. Cargo bikes can replace vans for the last mile of deliveries. Families can also use them to transport young children. E- cargo bikes offer power assistance making them easier to ride in hilly environments over longer distances. The council is planning an e-cargo bike loan scheme for businesses and families.
- **E-cycles:** this is a bike that has power assistance making it easier to ride. E- bikes can offer power assistance up to 15.5m. This type of bicycle does not require a license and has the same rights as a conventional bicycle. The council is supporting Cycling UK's 'cycling made e-asy' project.

Appendix A: List of cycling improvements

Cycle Route	Reference	Road Name	Description of Cycling Improvement
A	A1	Luton and Dunstable Busway	Wide advisory cycle lanes marked on both sides
B	B1	Camford Way	Two-way physically segregated cycle track
B	B2	Sundon Park Road	Consider modal filter
B	B3	Sundon Park Road	Two-way segregation with parking protection
B	B4	Sundon Park Road	Safety improvements under the railway bridge
B	B5	Sundon Park Road	Two-way physically segregated cycle track
C	C1	Compton Avenue	One-way segregated cycle track, heading west
C	C2	Grange Avenue	One-way segregated cycle track, heading east
C	C3	Grange Avenue, Oakley Road	Cycling friendly junction improvements
C	C4	High Street, Leagrave	New controlled crossing point
C	C5	High Street, Leagrave	Two-way physically segregated cycle track with continuous crossings at junctions
C	C6	Oakley Road	Two-way physically segregated cycle track protected from parking
C	C7	Oakley Road	Cycle friendly junction improvements
C	C8	Oakley Road	Two-way physically segregated cycle track protected from parking
C	C9	Dunstable Road	Cycle friendly junction improvements
C	C10	Chaul End Lane	One sided, two-way segregated cycle track on west side
C	C11	Hatters Way	Cycle friendly junction improvements with controlled crossing points
C	C12	Dallow Road	Cycle friendly junction improvements
C	C13	Dallow Road	One sided, two-way physical segregation on west side
C	C14	Runley Road	Create quietway
D	D1	Neville Road	Improve existing crossing point (e.g. provision of parallel crossing)
D	D2	Runfold Avenue	New controlled crossing point
D	D3	Birdsfoot Lane	Improve existing crossing point (e.g. provision of parallel crossing)
D	D4	Riddy Lane	Two-way physically segregated cycle track protected from parking
D	D5	Fallowfield	Widen existing shared use cycle track
D	D6	Riddy Lane	One sided, two-way physically segregated cycle track on north side
D	D7	New Bedford Road	Extend and widen existing cycle track
D	D8	Kingsdown Avenue	Create quietway
D	D9	Old Bedford Road	Cycle friendly junction improvements
D	D10	Bushmead Road, Fairford Avenue	Create quietway
D	D11	Old Bedford Road	Two-way physically segregated cycle track
D	D12	Bradgers Hill Road	Create quietway
D	D13	St Thomas Road	Two-way physically segregated cycle track with protection from parking
D	D14	Hitchin Road	Provision of a shared use cycle track on north side
D	D15	Hitchin Road	Controlled crossing point improvements

D	D16	Hitchin Rd, Swifts Green Rd,	Create quietway
E	E1	Grange Avenue	Footway widening and/or segregated cycle track under railway bridge
E	E2	Marsh Road	Cycle friendly junction improvements
E	E3	Bramingham Road	One sided, two-way physically segregated cycle track with continuous junction crossing
E	E4	Northwell Drive	New controlled crossing (e.g. toucan)
E	E5	Bramingham Road	One sided, two-way physically segregated cycle track
E	E6	Icknield Way	New controlled crossing (e.g. toucan)
E	E7	Icknield Road	One sided, two-way segregated cycle track
F	F1	Barton Road	One sided, two-way physically segregated cycle track
F	F2	Barnfield Road	Cycle friendly junction improvements with crossing points
F	F3	Barnfield Road	Improve existing controlled crossing
F	F4	Barton Road	One sided, physically segregated two-way cycle track on east side
F	F5	Weybourne Drive	New controlled crossing point
F	F6	Barton Road	One sided, physically segregated two-way cycle track and resurfacing (east side)
F	F7	Barnfield Road	Cycle friendly junction improvements and crossing points
F	F8	Austin Road	Cycle friendly junction improvements and crossing points
F	F9	Stockingstone Road	Cycle friendly junction improvements and crossing points
F	F10	New Bedford Road	Improve existing controlled crossing
F	F11	Cromwell Road	Additional cycle friendly junction improvements
F	F12	New Bedford Road	One sided, physically segregated two-way cycle track (east side)
F	F13	New Bedford Road	Cycle friendly junction improvements
G	G1	Dunstable Road	Junction and crossing improvements
G	G2	Waldeck Road	Cycle friendly junction improvements
G	G3	Bury Park Road	Cycle contraflow
G	G4	Dunstable Road	One sided, shared use cycle route
G	G5	Crawley Road	Two-way physically segregated cycle track
H	H1	Cutenhoe Road	Two-way segregated cycle track
H	H2	London Road	Cycle friendly junction improvements
H	H3	London Road	One sided, two-way segregated cycle track on west side
I	I1	Mixes Hill Road, Lynwood Avenue	Create quietway
I	I2	Hitchin Road, Vauxhall Way	Physically segregated two-way cycle track
I	I3	Vauxhall Way	New controlled crossing point
I	I4	Turners Road South, Kenneth Road	Two-way physically segregated cycle track
I	I5	Hitchin Road	Cycle friendly junction improvements
I	I6	Hitchin Road	Upgrade existing controlled crossing
I	I7	High Town Road	Create quietway including sinusoidal speed humps
I	I8	High Town Road	Cycle contraflow

I	I9	Havelock Rd, Wenlock St, Dudley St	Create quietway
I	I10	Midland Road, Guildford Street	Create quietway
J	J1	Crawley Green Road	One sided, two-way physically segregated cycle track
J	J2	Crawley Green Road	Cycle friendly junction improvements
J	J3	Wigmore Lane	Two-way segregated cycle track
J	J4	Eaton Green Road	Two-way segregated cycle track
J	J5	Wigmore Lane	Cycle friendly junction improvements
J	J6	Eaton Green Road	Shared use cycle track on north side
J	J7	Eaton Green Road	One sided, two-way segregated cycle track (south side).
J	J8	Eaton Green Road	New controlled crossing
J	J9	Frank Lester Way	One sided, two-way segregated cycle track (south side)
J	J10	Eaton Green Road	One sided, two-way segregated cycle track
J	J11	Airport Way	One sided, two-way physically segregated cycle track on north side with pedestrian route on south side
J	J12	Vauxhall Way	New controlled crossing point
J	J13	Kimpton Road	Two-way physically segregated cycle track
J	J14	Kimpton Road	New controlled crossing point (e.g. toucan)
J	J15	Windmill Road	Cycle friendly junction improvements
K	K1	Windmill Road	Two-way physically segregated cycle track
K	K2	Church Street	One sided, two-way segregated cycle track
L	L1	Vauxhall Way	Two-way physically segregated cycle track
L	L2	Vauxhall Way	New controlled crossings
L	L3	Vauxhall Way	Two-way physically segregated cycle track
L	L4	Vauxhall Way	New controlled crossing point
L	L5	Vauxhall Way	Two-way physically segregated cycle track
M	M1	Marsh Road	Two-way physically segregated cycle track
M	M2	Marsh Road	Shared use cycle track
M	M3	Marsh Road	Cycle friendly junction improvements
M	M4	Marsh Road	Two-way physically segregated cycle track with parking protection
M	M5	Marsh Road	Cycle friendly junction improvements
M	M6	Marsh Road	Two-way physically segregated cycle track with parking protection
M	M7	Marsh Road	Cycle friendly junction improvements
M	M8	Leagrave Road	Two-way physically segregated cycle track, with parking protection
M	M9	Woodland Avenue	Cycle friendly junction improvements
M	M10	Leagrave Road	One sided, two-way physically segregated cycle track
M	M11	Leagrave Road	Footway widening and/or segregated cycle track under railway bridge
M	M12	Leagrave Road	Cycle friendly junction improvements
M	M13	Leagrave Road	Shared use cycle track
N	N1	Hitchin Road	Increase space for physically segregated cycle track
N	N2	Edgewood Drive	Create quietway

N	N3	Mount Green Road, Crowland Road	Create quietway
N	N4	Selsey Drive, Hayling Drive	Create quietway
N	N5	Selsey Drive	Improve access
N	N6	Hayling Drive	Improve access
N	N7	Wigmore Lane	Cycle friendly junction improvements
N	N8	Wigmore Lane	Two-way physically segregated cycle track
O	O1	Crawley Green Road	One sided, two-way physically segregated cycle track
O	O2	Crawley Green Road	Cycle friendly junction improvements
P	P1	Park Street	Shared space supported by public realm improvements
P	P2	Park Street	Two-way physically segregated cycle track
P	P3	Park Street	Create quietway
P	P4	Park Street	Cycle friendly junction improvements
Q	Q1	Crawley Green Road	One sided, two-way physically segregated cycle track
R	R1	Osborne Road	One sided, two-way physically segregated cycle track
R	R2	Gypsy Lane, Osborne road	Cycle friendly junction improvements
R	R3	Windmill Road, Gypsy Lane	One sided, two-way physically segregated cycle track on south side
S	S1	Chapel Street	Mandatory on-carriageway cycle lane with 20mph speed limit
S	S2	Dumfries St, Hasting St, Windsor St, Wellington St	Create quietway
S	S3	Russell Road, Meyrick Avenue	Create quietway
S	S4	Alleyway	Upgrade to shared use cycle track
S	S5	Whipperley Way	New controlled crossing point
S	S6	Whipperley Way	Two-way physically segregated cycle track
S	S7	Farley Hill	New controlled crossing point

Appendix B: List of walking improvements

Walking Route	Reference	Road Name	Description of Walking Improvement
1	1A	Leagrave Road	Continuous crossings on north side pavement. Protection from car parking
1	1B	Leagrave Road	Continuous crossings on north side pavement. Protection from car parking
1	1C	Leagrave Road	Public realm improvements to create local walking zone
1	1D	Bury Park Road, Waldeck Road	Active Travel friendly junction improvements
1	1E	Bury Park road, Moor Street	Active Travel friendly junction improvements
1	1F	Crawley Road	Continuous crossings on south side pavement
1	1G	Crawley Road, Telford Way	Consider modal filter or one-way junction
2	2A	Dunstable Road, Kingsway	Active travel friendly Junction improvements
2	2B	Dunstable Road	Walking improvements focused on both sides of road
2	2C	Dunstable Road	Public realm improvements to create local walking zone
2	2D	Dunstable Road	Walking improvements focused on north side pavement
2	2E	Dunstable Road	Public realm improvements to create local walking zone
3	3A	Dallow Road	Prioritise north pavement for walking improvements
3	3B	Dallow Road	Continuous crossings on both sides of the road
4	4A	Adelaide Street, Wellington Street	Active travel friendly junction improvements
4	4B	Dumfries Street, Wellington Street	Active travel friendly junction improvements
4	4C	Wellington Street, Russell Street	Active travel friendly junction improvements
4	4D	Russell Street, Winsdon Road, Chiltern Road, Meyrick Avenue	Active travel friendly junction improvements
4	4E	Wellington St, Russell Rd, Meyrick Av	Prioritise north pavement for walking improvements
4	4F	Russell Street, Meyrick Avenue	Continuous crossings on both sides of the road
4	4G	Alleyway between Bolingbroke and Northdrift Way	Upgrade to shared use path
4	4H	North Drift way, Santingfield North	Active travel friendly junction improvements
4	4I	Whipperley Way, Santingfield North	Active travel friendly junction improvements
4	4J	South Drift Way, Santingfield South	Active travel friendly junction improvements
4	4K	Whipperley Way, Whipperley Ring	Active travel friendly junction improvements

4	4L	Whipperley Way	Public realm improvements to create a walking zone
4	4M	Whipperley Way, North Drift Way, South Drift Way	Active travel friendly junction improvements
4	4N	South Drift Way, Friars Way	Active travel friendly junction improvements
5	5A	Chapel Street	Continuous crossings on west pavement
5	5B	Chapel Street, Windsor Street	Active travel friendly junction improvements
5	5C	Farley Hill, Russell Street	Active travel friendly junction improvements
5	5D	Fraley Hill, Stockwood Crescent	Active travel friendly junction improvements
5	5E	Chapel Street, Farley Hill	Prioritise west side pavement for walking improvements
5	5F	Farley Hill, Whipperley Way	Active travel friendly junction improvements
6	6A	London Road, Stockwood Crescent	Active travel friendly junction improvements
6	6B	London Road	Prioritise west side pavement for walking improvements
6	6C	London Road, Cutenhoe Road	Active travel friendly junction improvements
7	7A	Park Street	Public realm improvements to create local walking zone
7	7B	Park Street	Continuous crossings
7	7C	Park Street, Osborne Road	Public realm improvements to create local walking zone
7	7D	Park Street, Cutenhoe Road	Active travel friendly junction improvements
8	8A	Crawley Green Road	Public realm improvements
8	8B	Windmill Road	Prioritise both sides of the pavement for walking improvements
8	8C	Windmill Road, Kimpton Road	Active travel friendly junction improvements
8	8D	Windmill Road	Prioritise west side of pavement for walking improvements
8	8E	Kimpton Road	Create boulevard with protected cycleway and footways
9	9A	Crawley Green Road	Prioritise east side pavement for walking and cycling improvements. Rationalise car parking
9	9B	Crawley Green Road	Continues crossings on both sides
10	10A	Church Street	Public realm improvements to create local walking zone
10	10B	Church Street	Consider modal filter
10	10C	Church Street, Crescent Road	Public realm improvements to create local walking zone
10	10D	Hitchin Road	Public realm improvements to create local walking zone
10	10E	Hart Lane	Consider modal filter
10	10F	Abbots Wood Road	Consider modal filter
10	10G	Hitchin Road	New crossing
10	10H	Hitchin Road	Prioritise both sides of the pavement for walking improvements
10	10I	Hitchin Road	Priorities west side pavement for walking improvements
10	10J	Hitchin Road, Ramridge Road	Public realm improvements to create local walking zone

11	11A	Midland Road	Consider Modal filter
11	11B	High Town Road	Public realm improvements to create local walking zone
11	11C	Wenlock Street, North Street	Public realm improvements to create local walking zone
11	11D	Burr Street	Consider modal filter
11	11E	Duke Street	Consider modal filter
11	11F	Brunswick Street	Consider modal filter
11	11G	York Street	Consider modal filter
11	11H	Charles Street	Consider modal filter
11	11I	Jubilee Street	Consider modal filter
11	11J	Oxen Road	Consider modal filter
11	11K	High Town Road	Consider modal filter
11	11L	Ramridge Road	Consider modal filter
11	11M	Turners Road foot bridge	Widen foot bridge
12	12A	Old Bedford Road	Continuous crossings
12	12B	Old Bedford Road	Continuous crossings
12	12C	Old Bedford Road	Continuous crossings on east side
12	12D	Old Bedford Road	Continuous crossings on west side
13	13A	New Bedford Road, Stockingstone Road	Active travel friendly upgrades on arms of the roundabout
13	13B	New Bedford Road	Prioritise east side for segregated cycleway and footway
13	13C	New Bedford Road	Continuous crossings
13	13D	New Bedford Road, Cromwell Road	Active travel friendly junction improvements
13	13E	New Bedford Road	Continuous crossings
13	13F	Moor Path	Segregated cycleway and footway
13	13G	Moor Path	Create shared use path and widen
14	14A	Luton and Dunstable Busway	Widen shared use path
14	14B	Luton and Dunstable Busway	Consider adding small barriers to replace fence
14	14C	Luton and Dunstable Busway	Link busway to foot bridge
14	14D	Luton and Dunstable Busway	Link Busway to footbridge

If you have questions about the Local Cycling and Walking Infrastructure Plan or would like more information you can contact us on:

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