

Appendix 1 - Draft Local Implementation Plan

London Borough of Barnet

draft Local Implementation Plan

October 2018

Foreword	3
Executive summary	4
1. Introduction and preparing a LIP	9
Introduction	9
Local approval process	10
Statutory consultation	10
Statutory duties	11
LIP approval	11
2. Borough Transport Objectives	12
Introduction	12
Local context	12
Changing the transport mix	24
Mayor's Transport Strategy outcomes	29
Outcome 1: London's streets will be healthy and more Londoners will travel actively	29
Outcome 2: London's streets will be safe and secure	38
Outcome 3: London's streets will be used more efficiently and have less traffic on them	41
Outcome 4: London's streets will be clean and green	43
Outcome 5: The public transport network will meet the needs of a growing London	50
Outcome 6: Public transport will be safe, affordable and accessible to all	54
Outcome 7: Journeys by public transport will be pleasant, fast and reliable	55
Outcome 8: Active, efficient and sustainable travel will be the best option in new developments	57
Outcome 9: Transport investment will unlock the delivery of new homes and jobs'	57
Other Mayoral Strategies	60
3. The Delivery Plan	61
Introduction	61
Linkages to the Mayor's Transport Strategy priorities	61

TfL Business Plan	75
Sources of funding	76
Long-Term interventions to 2041	79
Three-year indicative Programme of Investment	82
Supporting commentary for the three-year programme	84
Risks to the delivery of the three-year programme	85
Annual programme of schemes and initiatives	89
Supporting commentary for the annual programme	89
Risk assessment for the annual programme	91
Monitoring the delivery of the outcomes of the Mayor's Transport Strategy	95
Overarching mode-share aim and outcome Indicators	95
Delivery indicators	100
Local targets	102

Foreword

[Optional - To Complete]

Signature

Name Surname

Leader of Council or Chair of Environment Committee [TBC]

Executive summary

[Optional]

The third Mayor's Transport Strategy was published in March 2018 and sets out a new strategic direction for transport in London. It aims to change the way people chose to travel with an overarching vision for 80% of all trips in London to be made on foot, cycle or using public transport by 2041.

The Greater London Authority Act 1999 (GLA Act) requires each London Borough to prepare a Local Implementation Plan (LIP) containing proposals for the implementation of the Mayor's Transport Strategy in its area. This document is Barnet's third LIP and contains proposals for implementing the Mayor's Transport strategy and a timescale for implementing these proposals. It includes Barnet's transport objectives and identifies key local issues, challenges and opportunities to achieving the overarching mode share aim and the Mayor's Transport strategy nine outcomes. The nine outcomes are defined as:

Healthy Streets and healthy people, including traffic reduction strategies

Outcome 1: London's streets will be healthy and more Londoners will travel actively

Outcome 2: London's streets will be safe and secure

Outcome 3: London's streets will be used more efficiently and have less traffic on them

Outcome 4: London's streets will be clean and green

A good public transport experience

Outcome 5: The public transport network will meet the needs of a growing London

Outcome 6: Public transport will be safe, affordable and accessible to all

Outcome 7: Journeys by public transport will be pleasant, fast and reliable

New homes and jobs

Outcome 8: Active, efficient and sustainable travel will be the best option in new developments

Outcome 9: Transport investment will unlock the delivery of new homes and jobs

The Mayor's Transport Strategy (MTS) outlines a positive vision of London being a city where more people choose active travel and public transport over cars when travelling.

The London Borough of Barnet shares many of the same goals articulated in the Mayor's Transport Strategy, including improving air quality, reducing car dependency, and enabling more Londoners to walk and cycle, but believes achieving them in Barnet presents unique challenges that may require alternative solutions.

Barnet does not have direct control of key through routes in the borough, such as the A1, M1, A41, and A406, and a significant proportion of car trips within and across Barnet originate elsewhere and are between origin and destination points outside of the Borough. This has implications in terms of levels of traffic and mode share, air quality and casualties and those who administer these through routes (TfL and Highways England) must help contribute to vehicle reduction targets, air quality improvements and casualty reduction on their networks in Barnet. The extent of the London-wide commitment to road user charging may be insufficient to support the Mayor's Aspirations in these areas.

It is the London Borough of Barnet's view that the Mayor's Transport Strategy does not adequately distinguish the specific character and needs of outer London and Barnet, in particular how orbital routes can contribute towards significant mode shift. Without this, the delivery of the overarching aim and vision will remain particularly challenging if not unachievable for Barnet.

Barnet faces particular unique challenges in achieving the delivery of the Mayor's Transport Strategy. The key area of concerns are as follows:

Transport Mode Share

The achievement of the Mayor's overarching mode share aim for 80% of trips to be made on foot, by cycle or using public transport by 2041 presents significant challenges for Barnet, although the recognition that different targets will apply for Central, Inner and Outer London is welcome.

Outer London does not have the characteristics that will permit the same level of controlled parking and public transport use that can be achieved in Inner London and as noted above does not have direct control of key through routes in the borough, such as the A1, M1, A41, and A406, and a significant number and proportion of car trips within and across Barnet originate elsewhere and are between origin and destination points outside of the Borough.

Furthermore Barnet has large numbers of diverse schools, particularly faith schools with extended catchment areas. School travel planning doesn't adequately tackle the challenges in this situation and further measures, including improved public transport options, may be needed.

Public Transport and Orbital Movements

The greater recognition of the need for improved orbital transport routes in Outer London in the MTS is welcome. Barnet remains underserved by orbital public transport routes and without them the car will remain the mode of choice. Improved orbital connectivity also has a deep impact on economic growth and the overall success of the Borough's many town centres.

The bus is the only real option for many orbital public transport journeys in this part of outer London and too many destinations in adjacent counties. There are also no proposals in the MTS for any orbital rail links going through Barnet (the potential Crossrail 2 and Brent Cross / Cricklewood London Overground extensions will only provide orbital links heading both east and west out of Barnet). Consequently rapid orbital bus routes are desperately needed in Barnet, with improved frequencies and capacities and greater prioritisation of such routes is necessary.

Air Quality

The limited control that the Borough has over key through routes is once again a problem. A study commissioned by the Mayor for London's Office found the air around 15 Barnet schools to be polluted with NO₂ above the legal EU limit of 40 µg/m³. Notably 14 of these are situated on or near Transport for London/Highways England administered roads in Barnet.

The intention to extend the ULEZ to almost all of Greater London for heavy diesel will undoubtedly reduce NO_x levels by some degree, particularly on polluting TfL roads. However much of Barnet would not benefit from extension of the ULEZ for light vehicles in 2021 up to, but not including, the North Circular, and the risk that roads in Barnet outside the ULEZ, particularly the North Circular Road, will become even more polluted as motorists seek to avoid the charge remains a concern. The borough hopes to try to address this working with other boroughs sub-regionally, but cannot be expected to have the same impact that a London-wide measure might.

Casualties

The MTS vision of no deaths and serious injuries from road collisions by 2041 is most welcome given the challenges in casualty reduction that Barnet faces. However, the practicality of achieving this target is questioned given the numbers of strategic roads in the borough and the reality that only a complete removal of all traffic can truly deliver zero serious accidents.

Parking standards

While tight parking standards can lead to a reduction in levels of car traffic, continued car use in the less dense suburbs of Outer London remains a reality, irrespective of public transport service and reliability improvements. Car ownership and the use of a car in these locations should not be made more difficult than it needs to be.

Residents choose to own a car or cars for a variety of reasons and, where other alternatives exist they may choose to use these in preference to the car. However, where attractive alternatives are not available the use of a car remains the only choice, and parking to accommodate this is important. Barnet's current Local Plan includes a local approach to parking marginally less restrictive than the current London Plan for residential development.

The draft London Plan car parking standards are based on Public Transport Accessibility Levels (PTAL). Accessibility and journey time are much more nuanced than an approach based purely on PTAL would suggest, since this approach only takes account of access to any public transport provision, and takes no account of whether that provision can serve the intended destination. The experience of residents may be very different depending on whether a predominantly radial or orbital approach is taken to determining accessibility.

In its LIP and more generally, Barnet is seeking to address these challenges through work to encourage healthier lifestyles across council departments and partners, making use of the borough's significant green and open spaces to help deliver attractive and accessible cycle links, particularly in development areas, and through the emerging masterplans for major leisure sites.

Car clubs, electric vehicle charging and dockless cycle hire are being rolled out to help address the levels of air pollution experienced in Barnet and the borough's schools have had notable success in achieving STARs awards for their work developing and implementing School Travel Plans. A five year major borough capital programme of investment in trees has been agreed by the council which will be complemented by LIP provision.

Regeneration and growth across the borough's opportunity areas provides opportunities for higher density living with a reduced reliance on the private car. Significant new transport infrastructure is being secured in Barnet's major development areas, especially in Brent Cross Cricklewood and Colindale. An example of this is the extension of the 125 bus route to Colindale Station.

A long term transport strategy for the London Borough of Barnet is being developed to articulate the Council's vision and outline the Council's commitment to improving transport options for all of our residents. This strategy will consist of several individual strategies relating to specific transport modes, developed via a coordinated approach. This is particularly expected to explore new approaches and innovative solutions to the transport challenges facing Barnet.

Demand responsive, app-based travel is already changing the way people make journeys and can also be expected to affect car ownership and transport mode

share. The impacts and opportunities that this provides will be considered further through the borough's long-term transport strategy.

1. Introduction and preparing a LIP

Introduction

The Local Implementation Plan (LIP) is a statutory document prepared under Section 145 of the GLA Act and sets out how the borough proposes to deliver the Mayor's Transport Strategy (MTS) in its area, as well as contributing to other local and sub-regional goals. It has been developed in accordance with the Revised Guidance for Borough Officers on Developing the Third Local Implementation Plan.

This document is the third LIP for the London Borough of Barnet. It covers the same period as the MTS (published in March 2018) and it also takes account of the transport elements of the draft London Plan, and other relevant Mayoral and local policies. The document sets out long terms goals and transport objectives for the London Borough of Barnet for the next 20 years, a three-year programme of investment starting in 2019/20, and includes delivery proposals for the period 2019/20 - 2021/22 and the targets and outcomes the borough are seeking to achieve. A more detailed delivery plan is provided for the financial year 2019/20.

This LIP identifies how the London Borough of Barnet will work towards achieving the MTS goals of:

- Healthy Streets and healthy people
- A good public transport experience
- New homes and jobs

The Council notes that the overarching aim of the strategy is for 80 per cent of all trips in London to be made on foot, by cycle or using public transport by 2041, compared to 63 per cent today, and there are different targets set for central, inner and outer London.

This aspiration presents significant challenges for Barnet, where the car remains an important mode of transport. A significant number and proportion of car trips within and across Barnet originate elsewhere and are between origin and destination points outside of the Borough on key strategic routes (e.g. M1, A1, A41, A406). Those who administer such roads (TfL and Highways England) must help contribute to vehicle reduction targets on their networks in Barnet.

The LIP outlines how Barnet Council will set local priorities and targets in order to assist with achieving this aim.

This document also outlines how the Council will work with TfL to assist with delivering the outcomes, policies and proposals of the MTS. However the greater challenges of reducing car dependence and increasing mode share by other modes in Barnet also has an impact in other areas including achieving the Vision Zero ambition for fatal and serious casualties.

Local approval process

This draft LIP will be considered for submission to Transport for London and for public consultation by the Policy and Resources Committee on 23 October 2018.

It is intended that the final LIP amended in response to consultation, including TfL's recommendations will be considered and approved by the Environment Committee on 21 January 2019 prior to submission to the final draft to TfL for Mayoral approval.

Statutory consultation

The GLA Act 1999 places a duty on boroughs, when preparing a LIP, to consult with the following organisations:

- The relevant Commissioner or Commissioners of Police for the City of London and the Metropolis
- TfL
- Such organisations representing disabled people as the boroughs consider appropriate
- Other London boroughs whose area is, in the opinion of the council preparing the LIP, likely to be affected by the plan
- Any other body or person required to be consulted by the direction of the Mayor

The borough intends to undertake a public consultation exercise between 2 November 2018 and 7 December 2018. The consultation will appear on the borough's website, and be available for any member of the public to respond.

The following bodies will therefore be directly consulted, including the statutory consultees mentioned above. All direct consultees will be written to, drawing attention to the consultation, where it could be found on the borough's website, and the closing date.

Metropolitan Police

TfL

London Cycling Campaign

Barnet Cyclists

Hertfordshire County Council

Hertsmere Borough Council

All five adjoining London Boroughs (Harrow, Brent, Camden, Haringey and Enfield)

Inclusion Barnet

Disability Action in the Borough of Barnet (DAbB)

Statutory duties

The borough is taking into account all the statutory duties and processes as set out in the requirements in the GLA Act in the preparation of this LIP.

The borough is carrying out a Strategic Environmental Assessment (SEA) and an Equality Impact Assessment (EQIA) on the proposals contained in its LIP. These will continue to develop evaluating the proposals in the draft LIP during the consultation process.

The SEA Environmental Report, including a non-technical summary, and the EQIA will be published and considered before adoption of the final LIP.

LIP approval

Following consideration of consultation responses the final draft LIP will be submitted to the Mayor of London for approval.

2. Borough Transport Objectives

Introduction

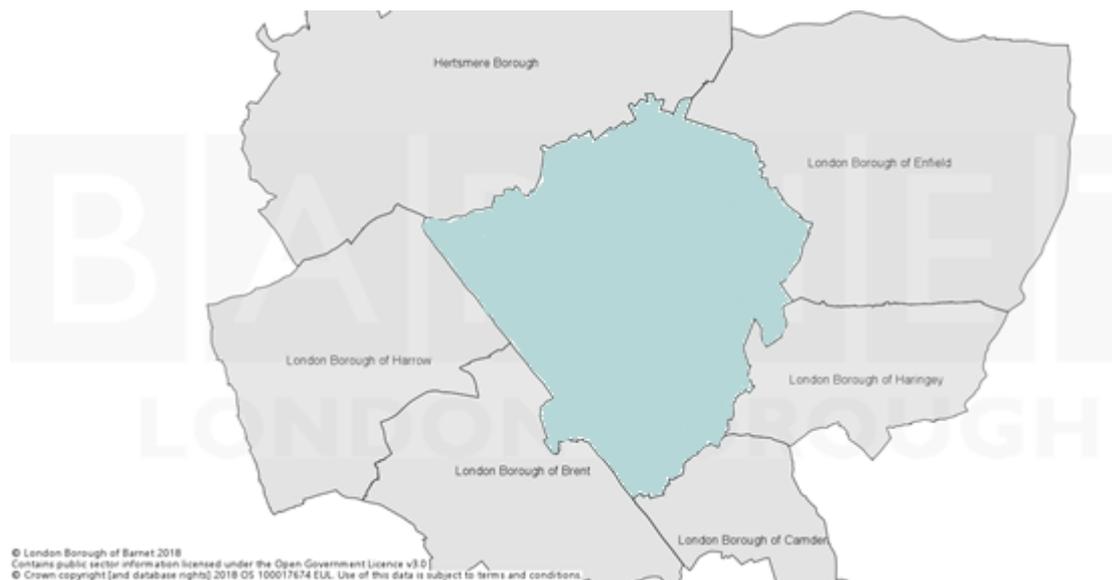
This chapter sets out the local policy context for the third round of LIPs. It covers the borough's detailed interpretation at a spatial level and the local policies and proposals which will help deliver the MTS. The chapter also considers the link between the LIP and other key frameworks against which the borough plans and delivers local services.

The LIP firmly demonstrates that it is informed by evidence and analysis of local needs and issues and that it is shaped by the wider context of the MTS vision, the MTS Healthy Streets Approach and the MTS policies, proposals and outcomes.

Local context

Barnet is situated in the North of London, bounded by the London Boroughs of Harrow, Brent, Camden, Haringey and Enfield and by the Borough of Hertsmere in Hertfordshire (see **Figure 1**).

Figure 1 – Barnet and surrounding local authorities

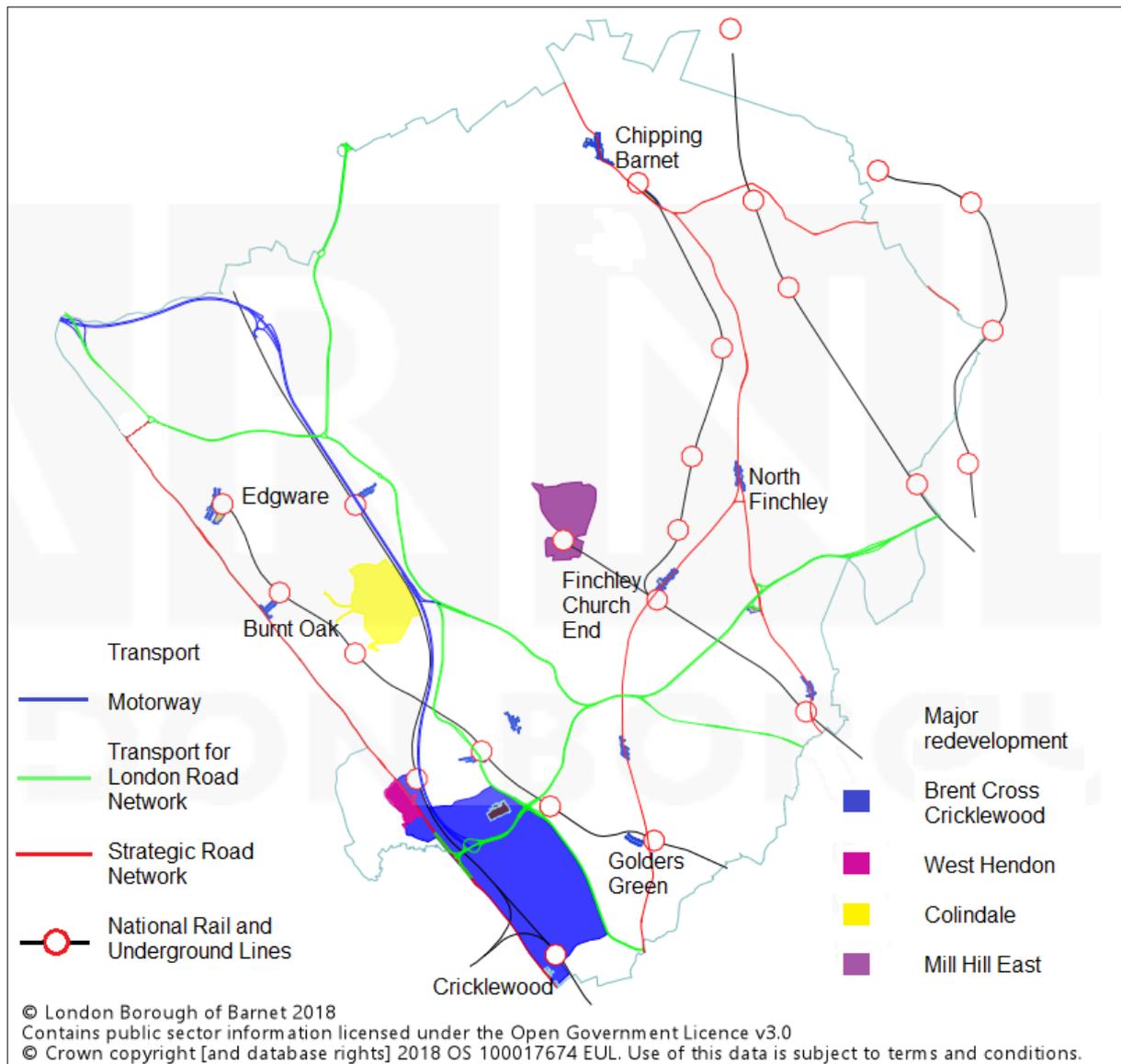


Barnet is the fourth largest London borough by area (86.7 sq km) and home to a growing and diverse population. With a 2015 population of circa 393,000, Barnet is now London's most populous borough. Barnet's population is projected to grow further to around 469,000 by 2039. The growth in Barnet's population will change our existing communities, attracting a younger and more diverse population.

Numbers of Households are also projected to increase from 150,000 in 2015 to 189,000 by 2039. Growth is expected to be particularly concentrated in a number of major redevelopment areas in the west of the borough, that will deliver higher density living than in other areas of Barnet.

Further information regarding the demography of the borough may be found in the Joint Strategic Needs Assessment <https://www.barnet.gov.uk/jsna-home/>

Figure 2 – Main transport links, main town centres and major development areas



There are currently four major redevelopment sites within Barnet:

- Colindale: creation of a new neighbourhood centre with 10,000 new homes and 1,000 new jobs by 2021.
- Brent Cross Cricklewood, the expansion of the existing shopping centre with the creation of 7,500 new homes and 27,000 new jobs by 2035.
- West Hendon Regeneration scheme, a net increase of 1,500 new homes by 2026.
- Mill Hill East Action plan (AAP), 2,200 new homes, a new primary school and 500 jobs by 2026.

In addition, the North London Business Park and the New Southgate Opportunity Area have been earmarked for future regeneration development.

The Brent Cross Cricklewood development is Barnet Council's most significant growth and regeneration programme.

This £4.5 billion regeneration scheme is one of the biggest in Europe. The vision is to create a thriving town centre with attractive, high quality homes and green spaces. It will deliver a modernised and expanded Brent Cross shopping centre, new high street with local shops, restaurants and offices, 7,500 new homes and up to 27,000 jobs.

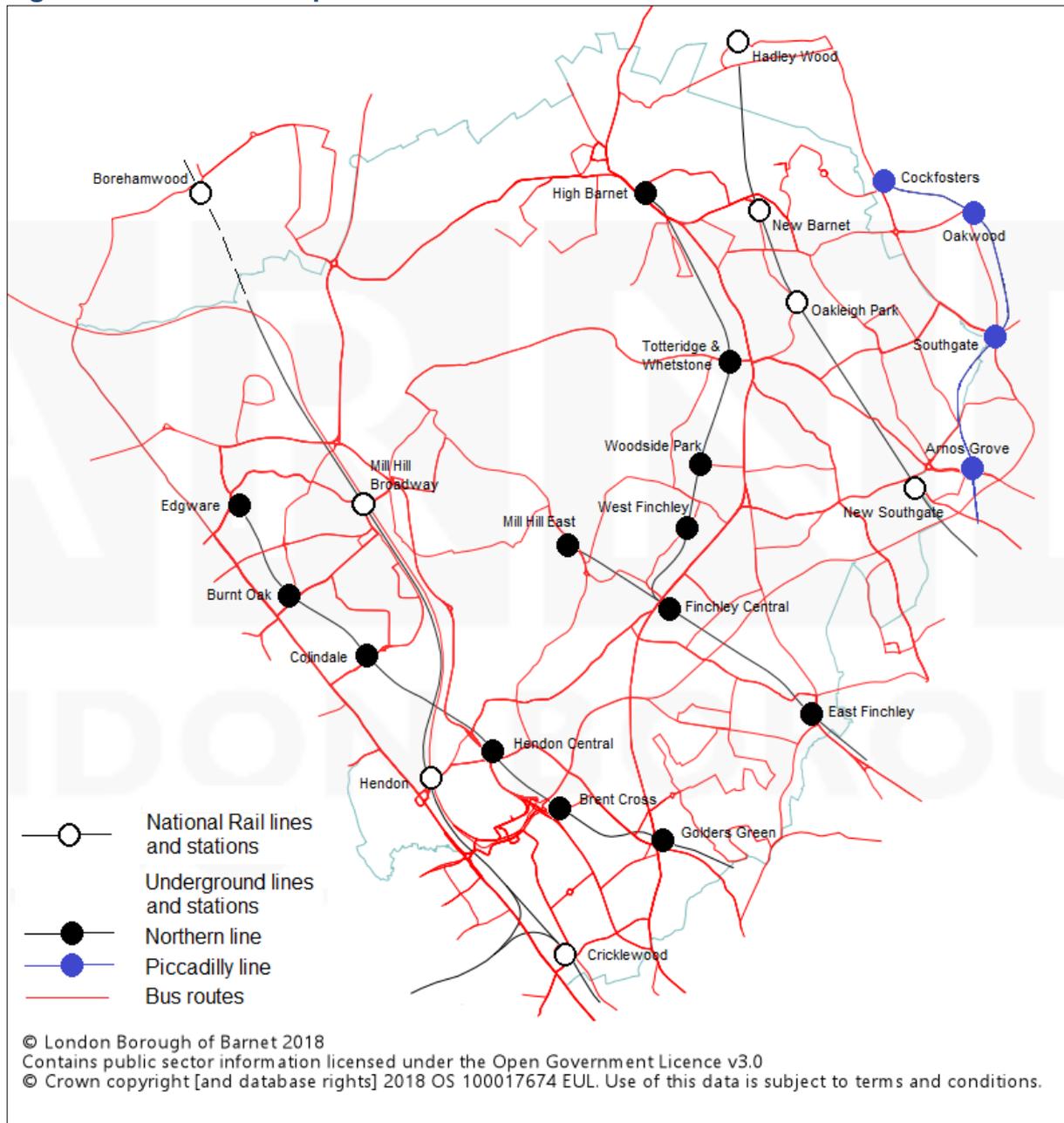
It will be served by enhanced and modernised transport links which will include a new Thameslink train station and bus station. The ambition is to create a vibrant place to live, work and socialise for existing communities and new people who will chose to live and work in the area.

Barnet is served by national rail lines providing suburban services in the east and west of the borough, and main line services in the west. Two branches of the northern line serve the borough (plus a shuttle service to Mill Hill East) and the Jubilee and Piccadilly lines and by national rail lines pass to the west and east of the borough respectively.

These rail and underground services cater for radial travel into London, but public transport options for other trips are more limited. The bus service is the only public transport option available for orbital trips and public transport links to destinations north of the borough are limited.

As the Borough continues to grow so will the demand and pressure on its transport network.

Figure 3 – Public Transport Routes in Barnet



Policy Context

Local plans and policies with a particular influence include the Council’s Corporate Plan and the Barnet Local Plan Core Strategy and Development Management Policies.

Corporate Plan

The Council’s Corporate Plan for 2015-20 sets the vision and strategy for the next five years based on the core principles of fairness, responsibility and opportunity to make sure Barnet is a place:

- of opportunity, where people can further their quality of life

- where people are helped to help themselves, recognising that prevention is better than cure
- where responsibility is shared, fairly
- where services are delivered efficiently to get value for money for the taxpayer

The 2018/19 addendum sets out a series of corporate priorities and other priorities for the theme committees. Those shown in **Table 1** are particularly relevant.

Table 1 - Corporate Priorities

Committee	Corporate priorities	Other priorities for this committee
Children, Education, Libraries and Safeguarding Committee	Children's Services Improvement Plan	Tackling gang activity
	Delivering the family-friendly Barnet vision	Ensuring the attainment and progress of children in Barnet schools remains in the top 10% nationally
		Delivering a 21st Century library service:
Adults and Safeguarding Committee	Implementing strength-based practice	Needs-based prevention and support
	Integrating local health and social care	Improving leisure facilities and physical activity
		Health and Wellbeing
Assets, Regeneration and Growth Committee	Regenerating Brent Cross Cricklewood	Investing in key Town Centres and making Barnet the best place in London to be a small business
	Increasing the housing supply, including Colindale	
	Helping people into work	

Community Leadership Committee	Safer communities	Co-ordinating a package of measures to support community activity and resilience
	Tackling issues with domestic violence, mental health and substance misuse	Emergency planning, preparedness and response
Environment Committee	Modernising environmental services	Delivering transport improvements
	Delivering highways improvements	Investing in parks and open spaces for a greener borough
		Delivering efficient regulatory services
Housing Committee	Building compliance and fire safety	Tackling homelessness
		Driving up the quality of the Private Rented Sector
		Providing suitable housing to support vulnerable people
Policy and Resources Committee	Implementing The Way We Work programme.	A culture of transparency and accountability for personal information
	Continuing to improve Customer Services	
	Medium and long term	

	financial planning	
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London Plan and Local Plan

The draft London Plan will not be finalised until after the LIP has been completed. A new Local Plan is also being developed, but lags the development of the LIP. These emerging documents will nevertheless influence the LIP.

The current Local Plan Core Strategy also remains relevant. The Core Strategy includes the transport related objectives and policies identified in **Table 2**, and other core objectives are also identified below in summary only.

Table 2 - Local Plan Core Strategy Objectives and Policies

Core Strategy Transport Objectives	Core Strategy Transport Policies
<p>To provide safe, effective and efficient travel</p> <ul style="list-style-type: none"> • to ensure safe and effective use of the road network that enables residents and visitors to choose convenient and reliable transport that is economically and environmentally efficient, and takes a comprehensive approach to tackling the school run • to provide more environmentally friendly transport systems by delivering high quality transport systems in regeneration areas and in town centres through town centre frameworks improving accessibility to jobs, shopping, leisure facilities and services. 	<p>Ensuring more efficient use of the local road network</p> <ul style="list-style-type: none"> • In order to enable traffic to flow more smoothly we will prioritise the reduction of congestion, including through encouraging trips to route according to the road hierarchy, the implementation of development related schemes that also address pinch-points, a review of traffic signals, parking management measures and more efficient freight movements • We will continue to invest in improvements to the condition of roads and footways in the borough to ensure that the local road network operates efficiently and safely, and seek to improve co-ordination of maintenance and utility works • We will continue to manage a parking regime which recognises that many Barnet residents will continue to own and travel by car • We will work with TfL to review and improve the bus network • We will continue to make travel safer and more attractive by improving street lighting, security coverage and accessibility at transport

<p>Other core strategy objectives (summary)</p>	<p>interchanges and around bus stops as well as delivering, where resources permit, targeted local safety schemes.</p> <p>Taking a comprehensive approach to tackling the school run</p> <ul style="list-style-type: none"> • We will seek to improve the effectiveness of our School Travel Plans to achieve a greater reduction in car based journeys and increase levels in walking and cycling to and from school • We will implement complementary traffic management schemes outside schools, including preventing pupil parking <p>Delivery of high quality transport systems in regeneration areas and town centres</p>
<p>To manage housing growth to meet housing aspirations</p>	<p>We will ensure that development is matched to capacity and promote key transport infrastructure proposals in our town centres and regeneration areas to support Barnet’s growth [including various specified in the policy].</p>
<p>To meet social infrastructure needs</p>	<p>More environmentally friendly transport networks</p>
<p>To promote Barnet as a place of economic growth and prosperity</p>	<ul style="list-style-type: none"> • We will support the use of low emission vehicles including electric cars through provision of charging points in new developments • We will encourage mixed use development that will help to reduce the distances people need to travel to access everyday goods and services
<p>To promote strong and cohesive communities</p>	<ul style="list-style-type: none"> • We will require the minimisation of road based freight movements associated with the roll-out of our regeneration schemes through, for BXC, the establishment of a (preferably rail based) construction consolidation centre, and for all regeneration schemes, the use of Delivery, Servicing, and Construction Management Plans.
<p>To promote healthy living and well-being</p>	
<p>To protect and enhance the suburbs</p>	<ul style="list-style-type: none"> • Through the development management process and partnership working we will seek further efficiencies and inter-modal transfer through the
<p>To ensure efficient use of</p>	

land and natural resources	implementation of the Rail Freight Facility as part of the Brent Cross Cricklewood Proposals, and the promotion of Consolidation Centres and Freight Quality Partnerships.
To enhance and protect our green and natural open spaces	<ul style="list-style-type: none"> • Where appropriate land for transport purposes will be identified and safeguarded in the Site Allocations DPD. • We will seek to make cycling and walking more attractive for leisure, health and short trips.

Other Planning policies and plans with an influence include the Local Plan Development Management Policies, Colindale Area Action Plan, Mill Hill East Area Action Plan, North London Waste Plan, Planning briefs for specific sites, Supplementary Planning documents including North Finchley Town Centre Framework and other **Town Centre Frameworks and Strategies** (New Barnet, Finchley Church End, Chipping Barnet, Edgware) as well as SPDs on Green Infrastructure, Residential Design Guidance, Sustainable Design and Construction, Planning Obligations.

Other developing plans that will have an influence include the **Regeneration Strategy** which aims to:

- define the future physical and non-physical regeneration programmes in the borough
- meet defined housing need
- define and enhance interventions to optimise the borough's town centres.
- ensure the delivery of infrastructure, including digital infrastructure, to help make successful places and support business and employment.
- make the best use of public sector land

The emerging themes that will be considered as part of the developing regeneration strategy are:

- Housing
- Town centres
- Physical and social infrastructure to make successful places, and support business
- Arts, culture and the night time economy
- Health and well being
- Tackling deprivation

Joint Health and Wellbeing Strategy

The Health and Wellbeing Strategy also has a particular influence. With overarching themes of keeping well and promoting independence, this outlines the commitment to improving health and wellbeing through local commissioning and service planning and covers the following themes:

- Preparing for a healthy life
- Wellbeing in the community
- How we live
- Care when needed

The “How we Live” theme in particular has an objective of Encouraging healthier lifestyles with a focus on reducing obesity and preventing long term conditions through promoting physical activity

This is reflected in the Draft Healthy Weight Needs Assessment, the Fit and Active Barnet Framework, the Parks and Open Spaces Strategy and Tree Policy, and also in draft masterplans for Copthall Sports Hub and Mill Hill Open Spaces, West Hendon Sports Hub and Barnet Playing Fields/King George V Playing Fields Sports Hub, that are referred to more fully in relation to **Outcome 1: London’s streets will be healthy and more Londoners will travel actively.**

Air Quality Action Plan

The Air Quality Action Plan 2017-2022 outlines the actions that the borough will deliver between 2016 and 2021 in order to reduce concentrations of pollution and exposure to pollution, thereby positively impacting on the health and quality of life of residents and visitors to the borough. It identifies the significant role played by road transport in poor air quality and actions have been identified under six broad topics:

- **Emissions from developments and buildings:** emissions from buildings account for about 15% of the NOX emissions across London and so have a significant impact upon overall NO2 concentrations;
- **Public health and raising awareness of causes of pollution:** increasing awareness can drive behavioural change to lower emissions as well as to reduce exposure to air pollution;
- **Delivery servicing and freight:** vehicles delivering goods and services are usually light and heavy duty diesel-fuelled vehicles with high primary NO2 emissions;
- **Borough fleet actions:** The Council fleet includes light and heavy duty diesel-fuelled vehicles such as mini buses and refuse collection vehicles with high primary NO2 emissions. Tackling the Council’s own fleet means leading by example;
- **Localised solutions:** these seek to improve the environment of neighbourhoods through a combination of measures; and

- **Cleaner transport:** road transport is the main source of air pollution in London. A change to walking, cycling and ultra-low emission vehicles (such as electric) needs to be incentivised as far as possible.

Sub-regional priorities

The LIP is also expected to reflect sub-regional priorities. Barnet falls within the North London sub-region, but works closely with boroughs in the West sub-region. The challenges below are those identified in sub-regional transport plan documents as particularly relevant.

Challenges in every sub-region

Improve air quality to meet and exceed legal requirements and ensure health benefits for Londoners

Transform the role of cycling and walking in the sub-region

Meet CO2 targets

North London-specific Challenges

Facilitate and respond to growth, especially in Brent Cross/Cricklewood and the Upper Lee Valley

Relieve crowding on the public transport network

Manage highway congestion and make more efficient use of the road network

Enhance connectivity and the attractiveness of orbital public transport

Improve access to key locations and jobs and services

West London-specific Challenges

Enhance east-west capacity and manage congestion

Improve access to, from and within key locations

Enhance the efficiency of freight movement

Improve north-south public transport connectivity

Improve land-based air quality

A long term Transport Strategy for the borough is in development that will consist of individual strategies relating to specific transport modes developed via a coordinated approach and guided by a single set of strategic objectives and overarching vision. It is intended to address:

- Road Safety improvements
- Health and Wellbeing
- Public Transport Improvements:
- Sustainability and Environmental impact:
- Private transport:
- Accessibility:
- Parking provision and enforcement:
- Freight movement in the Borough
- Reducing congestion and demand management
- Pan London issues
- Transport Innovation and horizon scanning

Changing the transport mix

Challenges and opportunities

The aspiration to increase sustainable travel to a mode share of 80% presents significant challenges for Barnet, where the car remains an important mode of transport. A significant number and proportion of car trips within and across Barnet originate elsewhere and are between origin and destination points outside of the Borough on key strategic routes (e.g. M1, A1, A41, A406). Equally, the origins and destinations of traffic on these routes are not necessarily within Barnet and traffic reduction strategies will require cross-borough collaboration significant input, and potentially funding, from TfL.

Those who administer such roads (TfL and Highways England) must help contribute to vehicle reduction targets on their networks in Barnet, especially in relation to freight.

The more limited public transport options available for orbital travel and to destinations in adjoining areas outside London make increasing the mode share by sustainable modes particularly challenging.

Even with improvements to public transport, walking routes and cycling routes, reliance on the car will remain important in outer London boroughs and therefore the use of the car in these locations should not be made more difficult than it needs to be. Residents choose to own a car or cars for a variety of reasons and, where other alternatives exist may nevertheless choose to use these in preference to the car. However, where attractive alternatives are not available a car may be seen as necessary for occasional use.

Accessibility and journey time is much more nuanced than an approach based purely on published Public Transport Accessibility Levels (PTAL) would suggest, since these only take account of access to any public transport provision, and takes no account of whether that provision can serve the intended destination. Recent work

undertaken by the Borough indicates that there is a considerable mismatch in PTAL level depending on whether a predominantly radial or orbital approach is taken to determining accessibility. Some locations in the south of the Borough suffer from poor orbital connections, whereas others on the periphery have particularly poor radial connections.

In Barnet in particular the high numbers of private and faith schools, with larger catchments mean that the opportunity to reduce school run traffic is less than it might be where catchments are smaller.

Potential orbital express bus provision and demand responsive bus transport may go some way to addressing some of these issues, but it is likely that many residents will continue to find private cars, or other car based travel such as car-clubs, taxis or private hire vehicles the mode of choice for many journeys. Demand responsive, app-based travel is already changing the way people make journeys and can also be expected to affect car ownership and transport mode share. The impacts and opportunities that this provides will be considered further through the borough's long-term transport strategy.

Improved bus transport, particularly for orbital journeys and journeys to adjoining areas, and capacity improvements across all types of public transport are a necessity in order to meet the mode share ambition.

The borough's emerging long term transport strategy will explore options including demand management options, permitting and emissions, workplace parking levy, demand responsive travel, car clubs, electric vehicles and charging point infrastructure and how this will influence future movement within the Borough, car free and permit free developments, approach to development control and planning conditions, supporting development in the Borough via "future proofed" transport infrastructure on new developments and transport innovation.

Existing and developing Town Centre Strategies and the scale of change being experienced in development areas in the borough provide an opportunity to make

changes that make improvements against the range of interconnected Healthy Streets indicators that help to focus improvements on changes that can improve the experience of people using the space, encouraging increased activity in these spaces and among the population.



The indicators also provide a means by which the experience in different areas can be compared and it is proposed that many physical interventions identified in this plan would incorporate Healthy Streets assessments to help ensure these types of benefits are incorporated into the schemes, and to prioritise proposals.

However like other parts of London Barnet is a diverse borough with differing street environments, and areas of dense and sparse housing settlement. Therefore, the Healthy Streets approach is unlikely to become a “one size fits all” approach for Barnet.

Borough objectives

Barnet’s transport objectives all contribute to achieving the overarching mode share aim for Barnet and for London, as well as delivering against the various mayoral outcomes.

Table 3 - Borough Transport Objectives

Borough Transport Objectives	Delivers against
<p>A. To encourage healthier lifestyles through promoting physical activity, enabling supporting and promoting active travel and improving public transport links to facilities.</p> <ul style="list-style-type: none"> • Develop a strategic network which aims to increase use and break down barriers associated with walking and cycling, including high quality on-road and off-road cycle routes suitable for cyclists of a range of abilities that reflects the demand and the potential demand identified in TfL’s Strategic Cycling Analysis. • To secure improved public transport connections to leisure facilities, especially the developing sports hubs. 	<p>Overarching mode share aim</p> <p>Outcomes 1, 3, 5, 6, 7</p>
<p>B. To apply Healthy Streets principles, to deliver a range of improvements</p> <ul style="list-style-type: none"> • in Colindale and Brent Cross to deliver new liveable neighbourhoods with walking cycling and public transport at their core. • in Town Centres including town centre Transport Hubs, and in development areas in line with Town Centre Strategies and Development Frameworks, • in conjunction with proposals for main road corridors and major junctions; • to assess areas around non-town centre transport hubs and stations to identify a priority for other Healthy Streets Improvements. 	<p>Overarching mode share aim</p> <p>Outcomes 1, 2, 3, 5, 6, 7</p>
<p>C. To seek to achieve the Vision Zero ambition of zero Killed or Seriously Injured Road Traffic Casualties by</p>	<p>Overarching mode share</p>

<p>2041.</p> <p>Promote safer behaviours and reduce road danger by:</p> <ul style="list-style-type: none"> • Delivering programmes of Road safety, Education, Training and Publicity • Introduce targeted Engineering Schemes to address collision hot-spots, including major proposals that apply Healthy Streets principles; • Delivery of 20mph areas around schools and other areas where pedestrian activity is high. 	<p>aim</p> <p>Outcomes 1, 2</p>
<p>D. To promote, enable and support more sustainable travel to school, workplaces and other destinations</p> <ul style="list-style-type: none"> • Increase the proportion of schools developing travel plans and achieving STARS accreditation, especially the proportions achieving higher levels of accreditation; • continue to deliver educational initiatives and engineering schemes to support school travel plans including, piloting school street proposals • requiring travel plans for new developments and work with other organisations to ensure these are robust • in conjunction with the borough's relocation to new offices in Colindale to reduce car based travel and pilot new approaches • continually reviewing parking provision on-street and in borough controlled car parks including introduction, extension and review of CPZs, reviews of town centre demand and parking provision, application of emissions based permits, making provision for car clubs and electric vehicle charging and applying controls around car-free and car-lite development • to facilitate a mixed economy of car club provision within the borough, providing an alternative to car ownership for occasional trips 	<p>Overarching mode share aim</p> <p>Outcomes 1, 3</p>
<p>E. To improve air quality in Barnet and protect residents and visitors, especially children from exposure to pollution;</p> <ul style="list-style-type: none"> • facilitate Air quality audits on remaining schools in areas of poor air quality and facilitate implementation of identified measures from audits • Medium term – work with adjacent boroughs to press for and develop proposals for a sub-regional extension and tightening of the ULEZ. • deliver open access Electric Vehicle Charge points within Barnet including provision of lamp column chargers • work with town teams and other community groups to facilitate car-free days and events • Regularly review parking charges and standards related to electric vehicles to promote use • Increase greening and tree planting 	<p>Overarching mode share aim</p> <p>Outcomes 1, 2, 3, 4</p>

<p>F. To secure new and revised public transport routes to support the growth of the borough, particularly addressing the challenges presented by orbital travel and travel to neighbouring areas and orbital connectivity across the borough.</p> <ul style="list-style-type: none"> • Delivery of Brent Cross West Station • Support and facilitate the introduction of the West London Orbital Line (Dudding Hill Line) from Brent Cross and Crossrail2 to New Southgate • Work with TfL to review bus routes to serve new development and less accessible locations and to realise the delivery of orbital express bus provision and demand responsive public transport • Deliver programmes of Bus Priority improvements, especially focusing on locations that provide benefits for buses serving development areas, orbital movement and higher passenger numbers • Explore potential for coach facilities in conjunction with Brent Cross West/Brent Cross south 	<p>Overarching mode share aim</p> <p>Outcomes 3, 5, 7, 8, 9</p>
<p>G. Facilitate the introduction of step-free facilities at stations and accessible bus stops to help make public transport accessible for all passengers, directly or through support of TfL and National Rail proposals and development opportunities.</p> <ul style="list-style-type: none"> • Support step-free proposals for Mill Hill East, Burnt Oak, Colindale and Brent Cross northern line stations • Deliver the new Brent Cross West station with step-free facilities and support Network Rail to deliver step-free facilities for Mill Hill Broadway station • Increase the percentage of accessible bus stops in Barnet from the current 91% to closer to 100% (say 98%) 	<p>Outcomes 3, 6, 7, 8</p>
<p>H. To secure significant regeneration and growth across the borough's opportunity areas based upon sustainable development principles with the majority of trips carried out via public transport on foot and by cycle with a reduced reliance on the private car;</p> <ul style="list-style-type: none"> • delivery of Brent Cross Rail Freight Facility and delivery of a construction consolidation centre for the Brent Cross development; • setting out borough-wide requirements and best practice for new development, in particular in the Green Infrastructure SPD and Sustainable Design and Construction SPD which incorporate guidance regarding climate change resilience and adaptation, green transport and access, air quality, noise and sustainable urban 	<p>Overarching mode share aim</p> <p>Outcomes 1, 3, 4, 8, 9</p>

Mayor's Transport Strategy outcomes

Outcome 1: London's streets will be healthy and more Londoners will travel actively

Challenges and opportunities

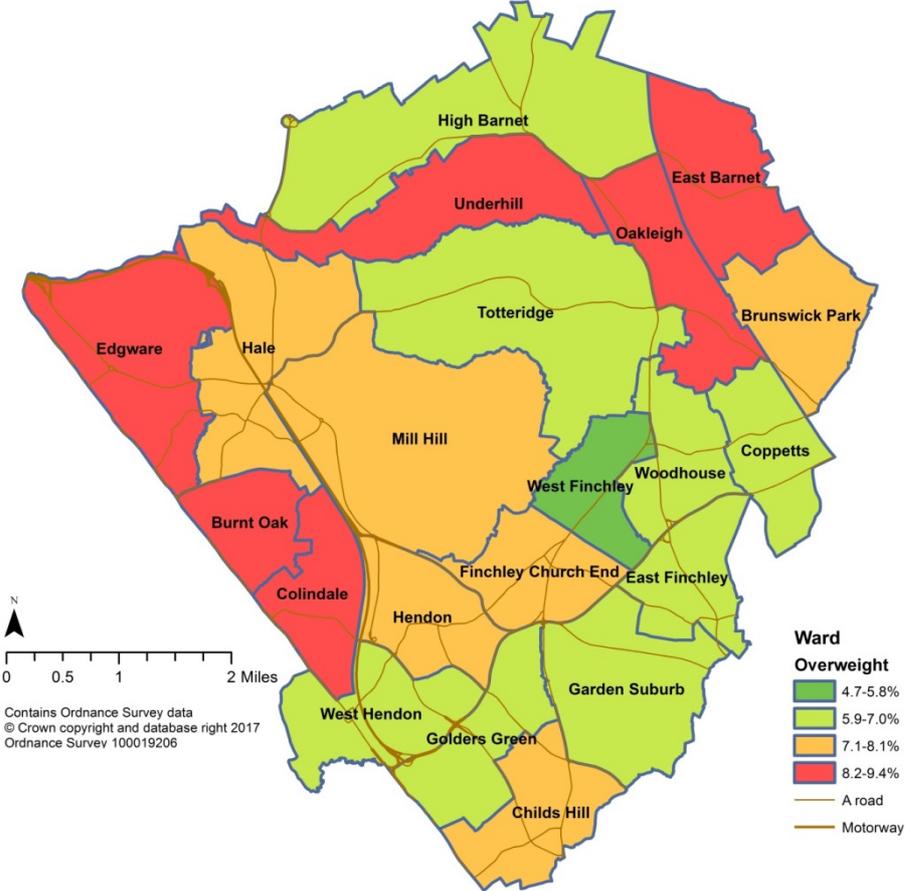
Barnet's Draft Healthy Weight Needs Assessment identifies the role that healthy streets and active travel can play in tackling health issues associated with unhealthy weight.

It notes a number of influences that have the scope to be tackled on a local scale (built environment, physical activity, education and information, food and travel). Several of these are particularly relevant in the context of the LIP.

There is a large variation in physical activity levels and obesity amongst GP areas and practices in Barnet. The surgeries with the highest recorded prevalence are situated in the west of the borough in Burnt Oak and Edgware, and in the east of the borough in Woodhouse, Brunswick Park and East Barnet.

Similarly, when looked at by ward, there is variation in overweight and obesity levels among children in Barnet.

Figure 4 -Prevalence of clinical 'overweight' among Barnet Reception Year pupils aged 4-5 years (percentage of children with a weight category) by Barnet ward, 2016/17



Source: Public Health England (2016/17 National Child Measurement Programme Pupil Enhanced Dataset)

Among Reception aged children, prevalence of overweight is highest in wards in the west (Burnt Oak, Colindale and Edgware) and north of the borough (Oakleigh, East Barnet and Underhill), and among year six children is highest in West Hendon, Childs Hill, East Barnet and Oakleigh whilst prevalence of obesity among both reception age and year six aged children is highest in wards in the west of the borough.

Several of these wards are in locations subject to significant change and development, in the vicinity of the Brent Cross Cricklewood regeneration, West Hendon and Colindale development areas in the west of the borough, and the Dollis Valley development in Underhill ward.

Currently 28% of residents do at least 20 minutes of active travel each day. The MTS envisages that 70% of residents would do so by 2041. There is a significant challenge in influencing large numbers of people to make the step change in activity levels envisaged by the Mayor, and even if motivated to do so some residents may prefer to be active in other ways in order to stay healthy.

Barnet Council's Child Death Overview Panel (CDOP) is recommending in its report for the 2016/17 year the promotion of the provision of safe play spaces and traffic calming measures around new high-density developments. Liveable Neighbourhood proposals for Colindale/Graham Park would be particularly useful in addressing CDOP recommendations in Colindale/Graham Park.

Public Health is developing marked school routes as part of the Digital Resilience Schools programme which will be expanding to include physical activity in the coming year.

Barnet Council's Fit and Active Barnet (FAB) Framework, Parks and Open Spaces Strategy and Tree Policy confirm the Council's approach to getting more people into physical activity more often, using greenspaces as alternative routes through the borough and between sites and resourcing and supporting tree planting to address atmospheric pollution

The **Fit and Active Barnet Framework** includes actions around:

- Influencing planners and key policy makers to build and promote healthier and more active communities within new developments and regeneration schemes. This also includes maximising the use of way finding signage and challenging the presence of 'no ball games' signs
- Enabling promoting and supporting plans for active travel across Barnet, through a strategic network which aims to increase use and break down barriers associated with alternative travel methods e.g. walking and cycling

The **Parks and Open Spaces Strategy** identifies outcomes that include:

Sustainable travel – facilitating the growth of walking and cycling: To promote the inter-connectedness of the borough's parks and open spaces and the adoption of alternatives to private car use. This includes an action:

- To identify opportunities to develop and promote the borough's walking and cycling network, including school travel plans by 2017

Quality of the environment and its management incorporating actions:

- To Identify locations for tree planting across the borough with a focus on:
 - committing to a programme that involves a net gain in trees across the borough
 - strengthening the quality of the landscape (through planting avenues, tree groups, park boundaries and woodlands)
 - addressing urban warming (tree planting concentrated in the south of the borough)
 - addressing NO₂ (tree planting next to major roads) from 2016

Copthall Sports Hub and Mill Hill Open Spaces Master Plan (draft currently in consultation) includes proposals for significant improvements to access for pedestrians, cyclists to and through the sites including improved routes for pedestrians and cyclists between Copthall and the Middlesex University campus at Hendon

Draft masterplans are currently in preparation for the **West Hendon Sports Hub** and **Barnet Playing Fields/King George V Playing Fields Sports Hub**. These also include proposals for ways of getting people to move into and through the sites on foot or on bikes. This West Hendon draft masterplan links to the West Hendon Regeneration Initiative. The Barnet Playing Fields draft masterplan area is adjacent to the Dollis Valley Regeneration Initiative and opportunities include links to the Dollis Valley Greenwalk and other green corridors for walking and cycling within the Borough.

Work in Colindale and Burnt Oak to support the Colindale Area Action Plan involves an initiative to link Montrose Playing Field/Silkstream Park, Colindale Park and Rushgrove Park together and to adjoining greenspaces and pedestrian/cycling paths. Again, the initiative will result in creating additional facilities and opportunities for people to move around the Borough by means other than the car.

Figure 5 shows, locations with the current highest levels of cycling in Barnet (am peak 2014), and **Figure 6** the locations of highest cycling potential in terms of switchable trips from other modes (generally short trips that do not involve carrying heavy loads).

Existing cycling trips are highest in East Finchley but with some higher levels in Golders Green, Childs Hill (Cricklewood) and at the A1000 crossing of the North Circular Road (possibly due to limited alternative options for crossing the North Circular road).

Areas with high potential include West Hendon and areas around Brent Cross, and also links from Golders Green to Hendon (Golders Green Road/Brent Street/Greyhound Hill, Finchley Central, North Finchley as well as parts of the A1000, Ballards Lane and Hendon Lane/Finchley Lane, much of which is paralleled by existing off road paths.

Figure 5 - 2014 (am peak) cycling

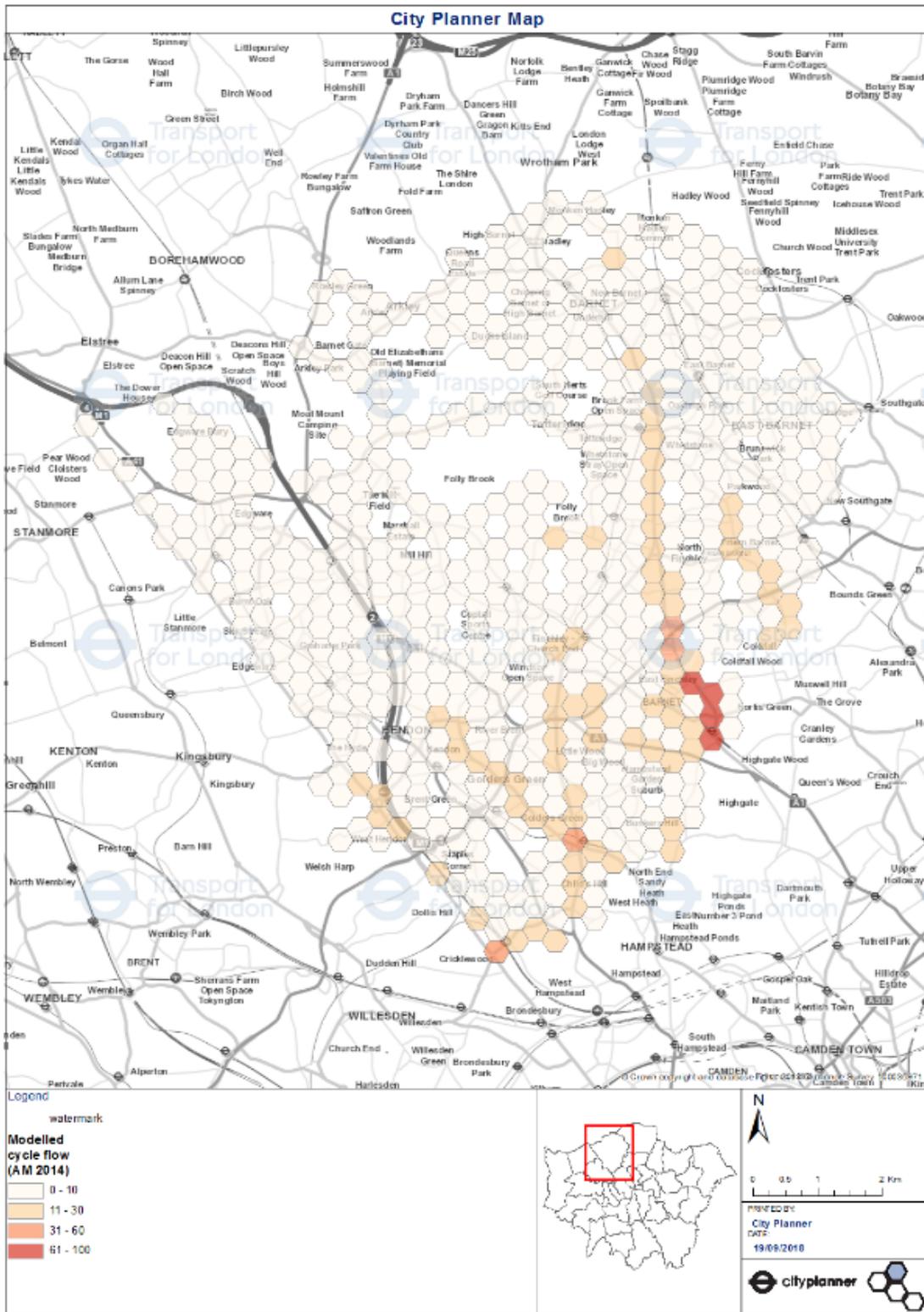
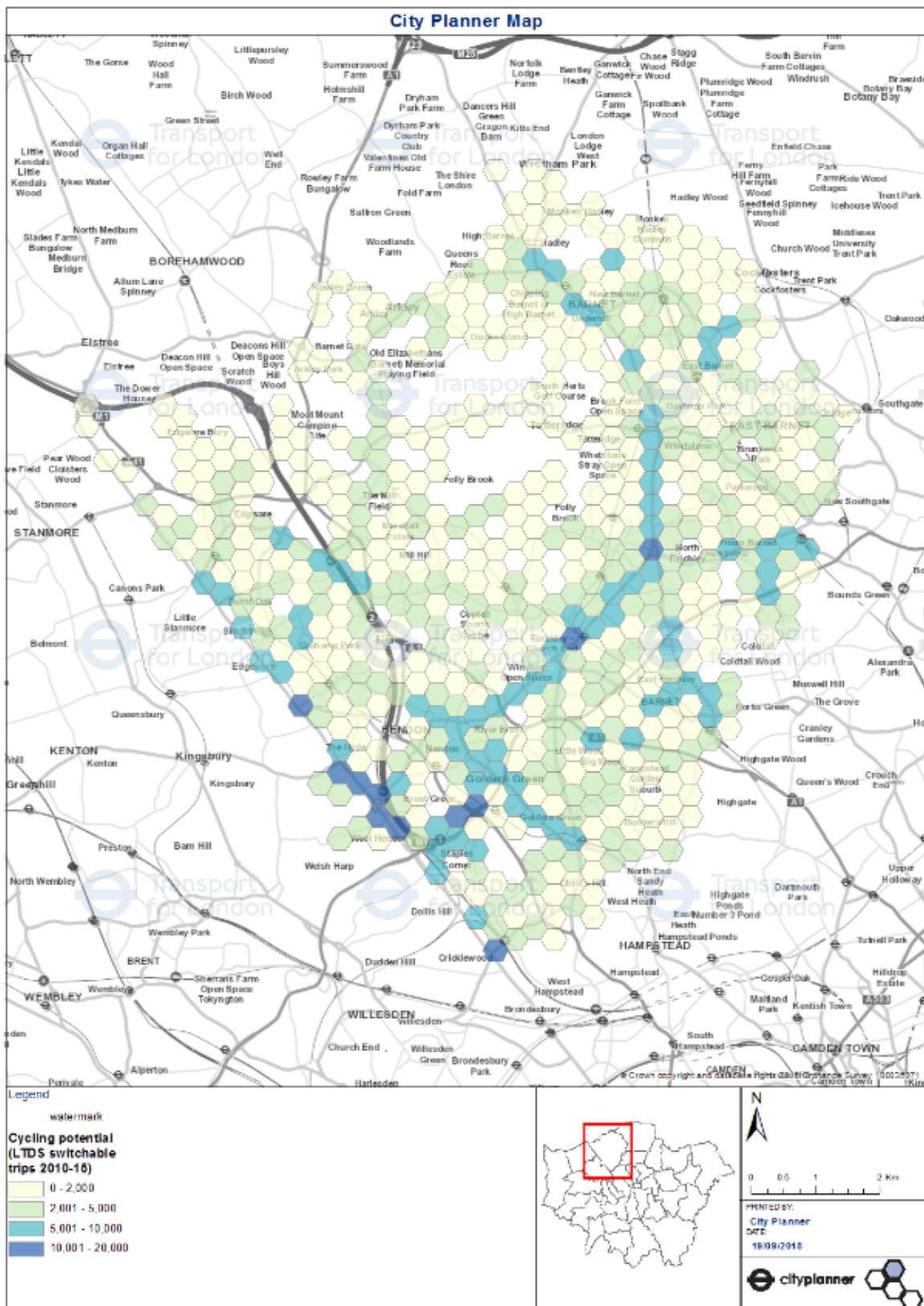


Figure 6 - Cycling potential (switchable trips 2010-15)



TfL’s strategic cycling analysis identifies prioritised strategic cycling connections within Barnet. This includes, among the highest priority connections, routes broadly following the A5 and A1000 strategic roads in Barnet. These routes are potentially

attractive for some cyclists but would require significant work that would have impacts on other road users if they were to become suitable for less experienced cyclists.

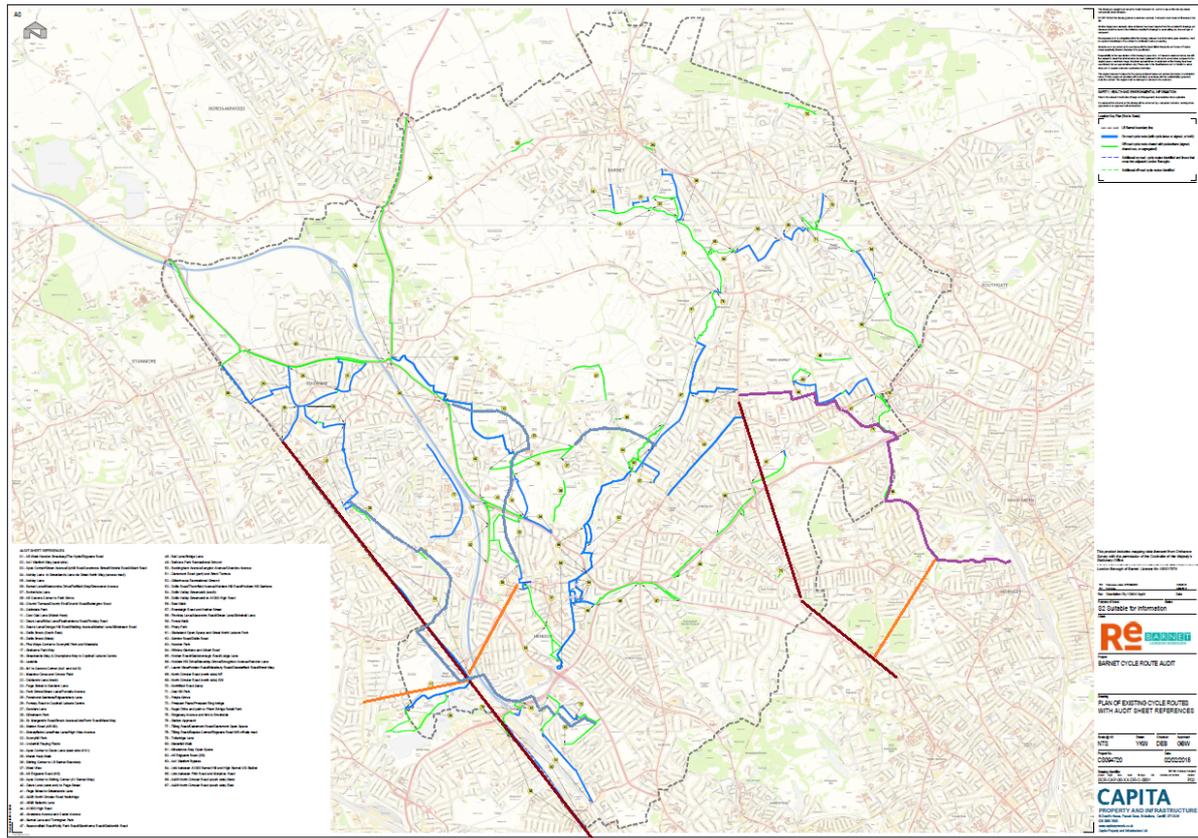
In conjunction with holistic healthy streets proposals in certain town centres provision on parts of this network could be feasible in the longer term. The North Finchley Town Centre Framework Supplementary Planning Document (SPD) includes a future highway layout that could support this in that town centre for instance.

Alternative and broadly parallel quieter routes are also in existence or developing that may serve some journeys by all cyclists and provide for local and/or leisure trips in particular. This range of proposals together with a delivery of new routes through other regeneration and development projects including Brent Cross Cricklewood, the in-development North Finchley to Hornsey Quietway, selected existing off road routes and some on-road links provides a potential strategic cycling network for the borough for further development.

The strategic cycling analysis takes account of locations that currently have high cycle flows, locations where there are significant numbers of trips by other modes that might be cycled (based on distance and purpose) and gives additional priority to growth areas.

A review of the quality and usability of existing on and off-road routes shown in Figure 7 has commenced which will contribute to development of a strategic network of walking and cycling routes in the borough.

Figure 7 - Existing, planned and potential cycle routes



- Existing on road route (London Cycle Guides - quality varies)
- Existing off road route (London Cycle Guides - quality varies)
- Quietway Route being developed
- Top Potential Connections (TfL Strategic Cycle Analysis)
- High Potential Connections (TfL Strategic Cycle Analysis)
- Other emerging routes (development and leisure masterplans etc)

Potential and emerging routes are indicative only

Borough Objectives

The main borough objectives that addresses this outcome are:

- A. To encourage healthier lifestyles through promoting physical activity, enabling supporting and promoting active travel and improving public transport links to facilities.**
 - Develop a strategic network which aims to increase use and break down barriers associated with walking and cycling, including high quality on-road and off-road cycle routes suitable for cyclists of a range of abilities that reflects the demand and the potential demand identified in TfL’s Strategic Cycling Analysis.
 - To secure improved public transport connections to leisure facilities, especially the developing sports hubs.

B. To apply Healthy Streets principles, to deliver a range of improvements

- in Colindale and Brent Cross to deliver new liveable neighbourhoods with walking cycling and public transport at their core.
- in Town Centres including town centre Transport Hubs, and in development areas in line with Town Centre Strategies and Development Frameworks,
- in conjunction with proposals for main road corridors and major junctions; to assess areas around non-town centre transport hubs and stations to identify a priority for other Healthy Streets Improvements.

Other objectives that deliver against this are:

C. To seek to achieve the Vision Zero ambition of zero Killed or Seriously Injured Road Traffic Casualties by 2041.

D. To promote, enable and support more sustainable travel to school, workplaces and other destinations

E. To improve air quality in Barnet and protect residents and visitors, especially children from exposure to pollution;

H. To secure significant regeneration and growth across the borough's opportunity areas based upon sustainable development principles with the majority of trips carried out via public transport on foot and by cycle with a reduced reliance on the private car;

Outcome 2: London's streets will be safe and secure

Challenges and opportunities

Barnet is now the largest borough in London in terms of its population; it is the borough with the third highest level of traffic in terms of motor vehicle distance travelled and the third highest total road length including the highest length of Transport for London (TfL) roads.

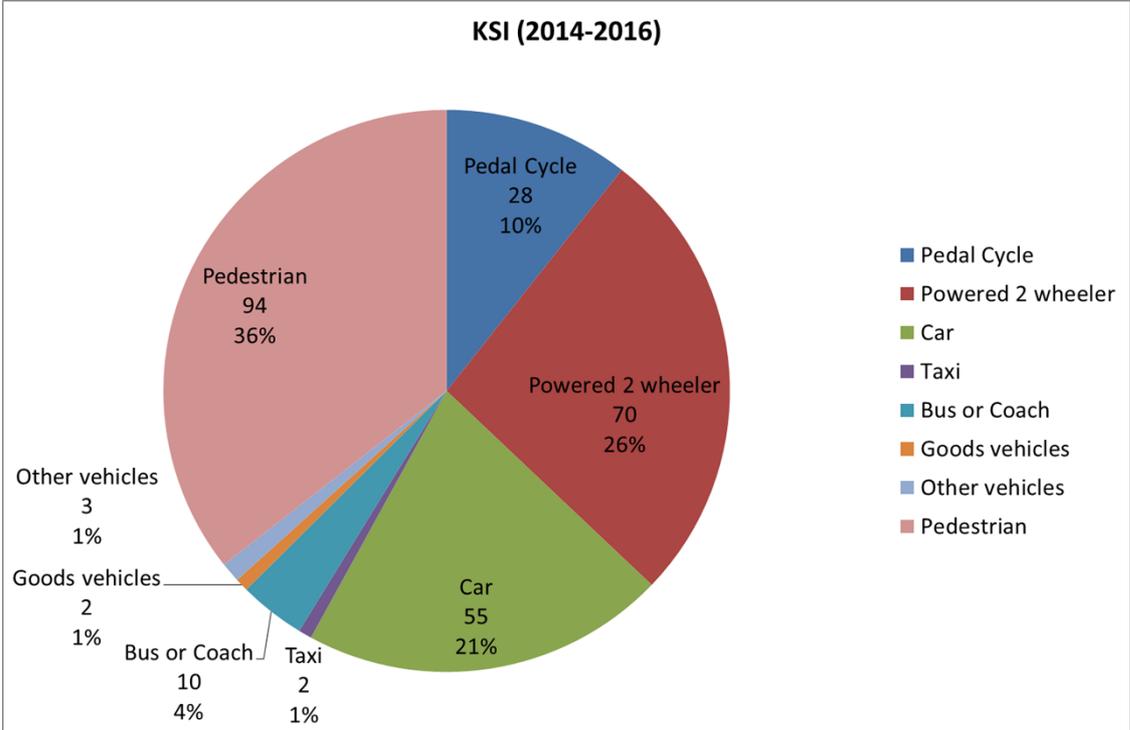
This combination of circumstances means that the absolute number of reported road traffic casualties in the borough has historically been one of the highest in London, for both total casualties and KSI casualties. However, when expressed as a rate based on traffic levels against population, Barnet is below average for London as a whole.

Nevertheless, any death or injury on the borough's roads is considered to be neither acceptable nor inevitable.

Vulnerable road users now make up nearly three quarters of casualties killed or seriously injured in Barnet. While proportions of total casualties by vehicle occupancy / road user have varied little over the last decade, the proportions of those killed or seriously injured has shifted significantly in Barnet, with proportionally fewer car

occupant casualties (previously the largest group) and proportionally more pedal cycle and motorcycle casualties.

Figure 8 - Proportions of Killed or Seriously Injured Casualties by Road User Group



Males and females in their teens and twenties are at higher risk of injury per head of population than other age groups. The risk for males, and in particular the risk of death or serious injury, is greater than for females and this increased risk continues for men into their fifties. Also, while absolute numbers are small, the risk of death or serious injury in the event of a collision increases markedly for people from their mid-eighties onwards.

The greater risk among young people and the oldest age groups highlights the challenge presented by the changing demographics in Barnet, with more young people expected, but also more people living longer.

Injury Collisions overall in Barnet tend to be focussed on A roads particularly where they pass through town centres, and this pattern is also evident for KSI collisions.

Town centres on major roads are also frequently locations where provision for pedestrians and cyclists might be improved and which also suffer from issues such as poor air quality. In such locations significant improvements to the road environment adopting the Healthy Streets approach may be the best option to address Road Danger.

About 20% of KSI casualties in Barnet occur on the M1 motorway or on the Transport for London Road Network (A1, A41 and A406), so the borough is reliant on these

organisations to deliver improvements on their own network. The rate of casualty reduction on these roads in recent years has been similar to that on borough controlled roads.

The major developments occurring in parts of the borough provide an opportunity to deliver these in a way that makes travel in and around these areas safer for vulnerable road users.

The borough's long term transport strategy will seek to address the challenges of reducing KSI casualties in new and innovative ways, as well as via traditional routes.

Crime prevention remains a key priority for Barnet

The Barnet Safer Communities Partnership (BSCP), which brings together representatives from the Metropolitan Police, Barnet Council, London Fire Brigade, the criminal justice system and other statutory and voluntary organisations involved with crime reduction and community safety and aims to:

- reduce crime, re-offending and anti-social behaviour, and
- ensure people in Barnet feel safe.

It is doing this by focusing resources on the crimes which cause the most harm or risk to individuals or communities, using a mixture of intelligence, prevention and enforcement, based on a strategic assessment of crime in the borough.

CCTV is provided in areas based on the need to address crime issues in that area and reviews of town centre and other areas aim to identify and tackle elements of the street environment that contribute to crime or make people feel unsafe, without transferring the issue to other locations.

Borough Objectives

The main borough objective that addresses this outcome is:

C. To seek to achieve the Vision Zero ambition of zero Killed or Seriously Injured Road Traffic Casualties by 2041.

Promote safer behaviours and reduce road danger by:

- Delivering programmes of Road safety, Education, Training and Publicity
- Introduce targeted Engineering Schemes to address collision hot-spots, including major proposals that apply Healthy Streets principles; Delivery of 20mph areas around schools and other areas where pedestrian activity is high.

Other objectives supporting this are:

B. To apply Healthy Streets principles, to deliver a range of improvements

E. To improve air quality in Barnet and protect residents and visitors, especially children from exposure to pollution;

Outcome 3: London's streets will be used more efficiently and have less traffic on them

Challenges and opportunities

The borough supports the aim of reducing reliance on the private car, however, the targets set for the borough in the MTS, Draft London Plan and LIP Guidance, are considered very ambitious for Barnet.

At present approximately 55% of trips are by sustainable modes (walking cycling and public transport) and TfL modelling suggests that the borough should achieve a level of 72% by 2041 as part of achieving the Mayor's overall mode share aim. However background data has shown a 7% growth in car ownership over 10 years.

Outer London does not have the characteristics that will permit the same level of controlled parking and public transport use that can be achieved in Inner London and does not have direct control of key through routes in the borough, such as the A1, M1, A41, and A406, and a significant number and proportion of car trips within and across Barnet originate elsewhere and are between origin and destination points outside of the Borough.

The Council is reviewing its car parking policy as part of the evidence base for the Local plan with an expectation that maximum parking levels for residential development will reduce in the future towards the Draft London Plan levels. However the borough will require some flexibility in relation to these standards in view of the degree to which car use is required principally because the orbital transport network across the borough requires significant improvement and enhancement before it can offer a realistic alternative to the private car.

While tight parking standards can lead to a reduction in levels of car traffic, continued car use in the less dense suburbs of Outer London remains a reality, irrespective of public transport service and reliability improvements. Car Ownership and the use of a car in these locations should not be made more difficult than it needs to be.

Residents choose to own a car or cars for a variety of reasons and where other alternatives exist they may choose to use these in preference to the car. However, where attractive alternatives are not available the use of a car remains the only choice, and parking to accommodate this is important. Barnet's current Local Plan includes a local approach to parking marginally less restrictive than the current London Plan for residential development.

The draft London Plan car parking standards are based on Public Transport Accessibility Levels (PTAL). Accessibility and journey time is much more nuanced than an approach based purely on PTAL would suggest, since this only takes account of access to any public transport provision, and takes no account of whether that provision can serve the intended destination. The experience of residents may be very different depending on whether a predominantly radial or orbital approach is taken to determining accessibility.

In Colindale, Brent Cross we are seeing development come forward with reduced levels of car parking being required and there are developing proposals to improve walking, cycling and public transport provision in these locations with the development of the Brent Cross Thameslink Station and developing proposals for the West London Orbital railway , extension of bus provision in Colindale and efforts to remove the Colindale roundabout and to introduce enhanced cycling and walking provision on Colindale Avenue as well as the aspiration to develop a liveable neighbourhoods proposal for Colindale.

In North Finchley and in other town centres proposals are coming forward for regeneration which propose enhanced public realm and walking and cycling provision and development of new routes and cycling infrastructure that would rebalance the relationship between the car and other modes.

Despite London boroughs and TfL having very limited control over freight trips Barnet will undertake work on a North London Freight Study to develop policies in line with the Mayor's aspirations. The Council will continue with its planned freight consolidation strategy.

The Brent Cross Rail Freight Facility will reduce the demand for lorry movements overall across London however this may attract some localised lorry movements as a result. The relocation of the Brent Cross Waste Transfer Station onto the A5 will generate a number of lorry movements on that route.

A construction consolidation centre is proposed for Brent Cross Development although there may be some developer resistance to the use of this centre

The level of development in Barnet provides opportunities to introduce or pilot new or innovative approaches to transport with lower levels of parking in accessible areas.

Current engagement and success of schools in Barnet in relation to School Travel Plan Stars awards provides a platform to develop further. Potential future School Streets, where resident traffic only is permitted at certain times to streets outside schools is anticipated to be a positive measure around some borough schools. Enforcement School Keep Clear markings by CCTV is already employed and the borough will consider whether this would be an option for enforcement of school streets. Other on-street improvements including pedestrian crossings and 20mph

around schools will continue to be provided based on needs identified in School Travel Plans.

Demand responsive, app-based travel is already changing the way people make journeys and can also be expected to affect car ownership and transport mode share. The impacts and opportunities that this provides will be considered further through the borough's long-term transport strategy.

The borough is actively looking at borough wide car club provision to offer attractive transport options and also reduce demand for car ownership within the borough. The new council offices at Colindale will have provision of a fleet of electric pool cars to reduce overall vehicle demand and parking by staff

Development of Town Teams across the borough provides potential for town centre events including car-free events.

Borough Objectives

The main borough objective that addresses this outcome is:

D. To promote, enable and support more sustainable travel to school, workplaces and other destinations

- Increase the proportion of schools developing travel plans and achieving STARS accreditation, especially the proportions achieving higher levels of accreditation;
- continue to deliver educational initiatives and engineering schemes to support school travel plans including, piloting school street proposals
- requiring travel plans for new developments and work with other organisations to ensure these are robust
- in conjunction with the borough's relocation to new offices in Colindale to reduce car based travel and pilot new approaches
- continually reviewing parking provision on-street and in borough controlled car parks including introduction, extension and review of CPZs, reviews of town centre demand and parking provision, application of emissions based permits, making provision for car clubs and electric vehicle charging and applying controls around car-free and car-lite development to facilitate a mixed economy of car club provision within the borough, providing an alternative to car ownership for occasional trips

Other objectives that address this outcome are:

A. To encourage healthier lifestyles through promoting physical activity, enabling supporting and promoting active travel and improving public transport links to facilities.

- B. To apply Healthy Streets principles, to deliver a range of improvements**
- E. To improve air quality in Barnet and protect residents and visitors, especially children from exposure to pollution;**
- F. To secure new and revised public transport routes to support the growth of the borough, particularly addressing the challenges presented by orbital travel and travel to neighbouring areas and orbital connectivity across the borough.**
- G. Facilitate the introduction of step-free facilities at stations and accessible bus stops to help make public transport accessible for all passengers, directly or through support of TfL and National Rail proposals and development opportunities.**
- H. To secure significant regeneration and growth across the borough's opportunity areas based upon sustainable development principles with the majority of trips carried out via public transport on foot and by cycle with a reduced reliance on the private car;**

Outcome 4: London's streets will be clean and green

Challenges and opportunities

In the UK, air quality is most affected by traffic and industrial emissions. Exposure to air pollutants reduces life expectancy and exacerbates many health conditions. The WHO has linked traffic-related air pollution to asthma, rhinitis, cardiovascular disease, cancer, reduced male fertility, poor birth outcomes and premature mortality. Poor air quality is also associated with higher levels of deprivation, leaving people of lower socioeconomic status disproportionately at risk of harm.

The London Borough of Barnet is meeting all of the national AQS objectives other than for the gas nitrogen dioxide (NO₂) and particulate matter (PM₁₀). It is meeting the current objectives for particulate matter (PM_{2.5}) but as this pollutant is damaging to health at any level, it remains a pollutant of concern.

As can be seen in **Figure 9**, the areas with highest emissions in Barnet are generally focussed on the major roads that are largely outside the borough's control. Of 14 air quality focus areas (**Figure 10**), 9 are associated with the Transport for London Road network or the M1).

A study commissioned by the Mayor for London's Office found the air around 15 Barnet schools to be polluted with NO₂ above the legal EU limit of 40 µg/m³. Notably 14 of these are situated on or near Transport for London/Highways England administered roads in Barnet.

Figure 9 - NO2 concentrations in Barnet - significantly around major roads

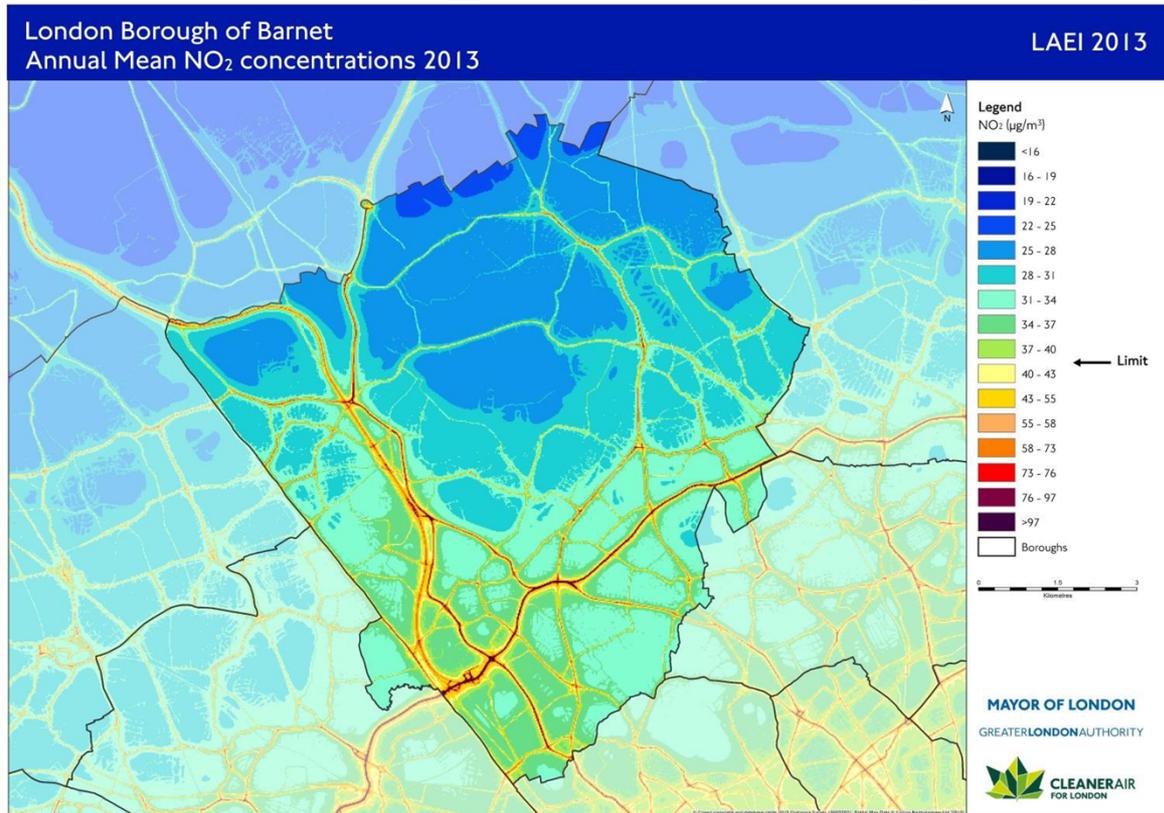
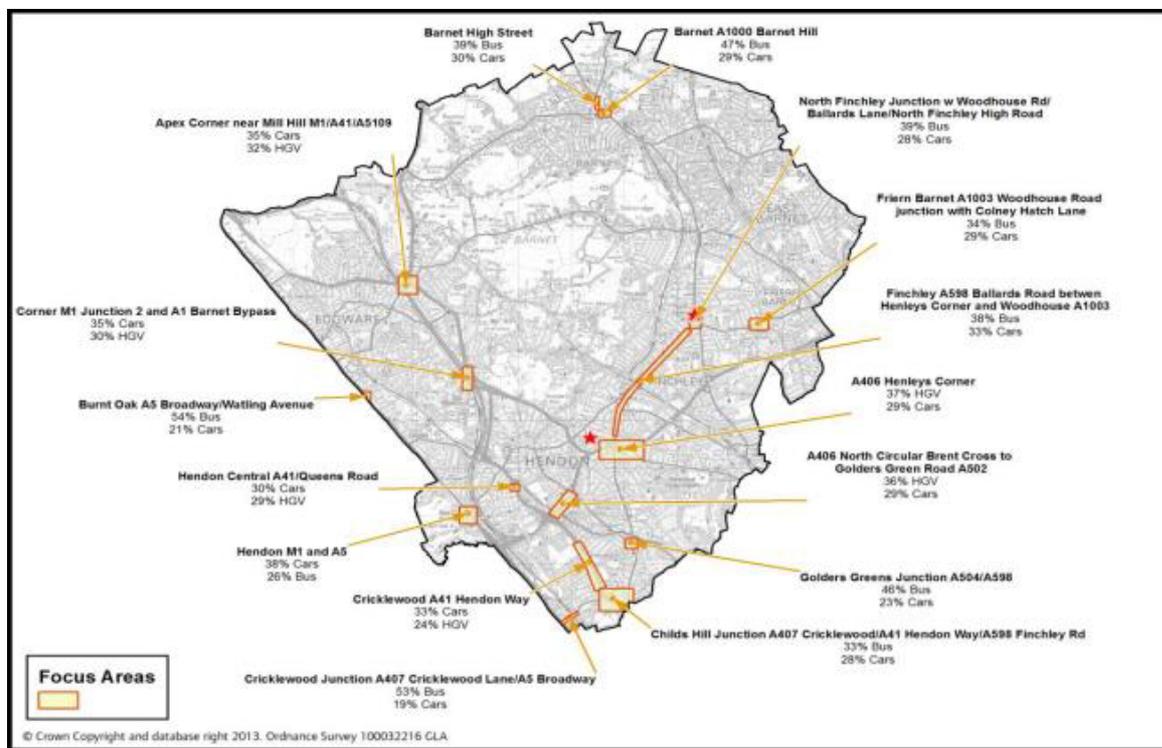


Figure 10 - Air quality focus areas in Barnet



The intention to extend the ULEZ to almost all of Greater London for heavy diesel will undoubtedly reduce NOx levels by some degree, particularly on polluting TfL roads.

However much of Barnet would not benefit from extension of the ULEZ for light vehicles in 2021 up to, but not including, the North Circular. This leaves most major roads in the borough, particularly the North Circular Road, outside the zone with potential for non-compliant vehicles to use these more to avoid the zone, and the risk that roads will become even more polluted.

The borough hopes to try to address this working with other boroughs sub-regionally, but cannot be expected to have the same impact that a London-wide measure might.

Figure 11 - Proportions of NOx attributable to different transport and non-transport sources

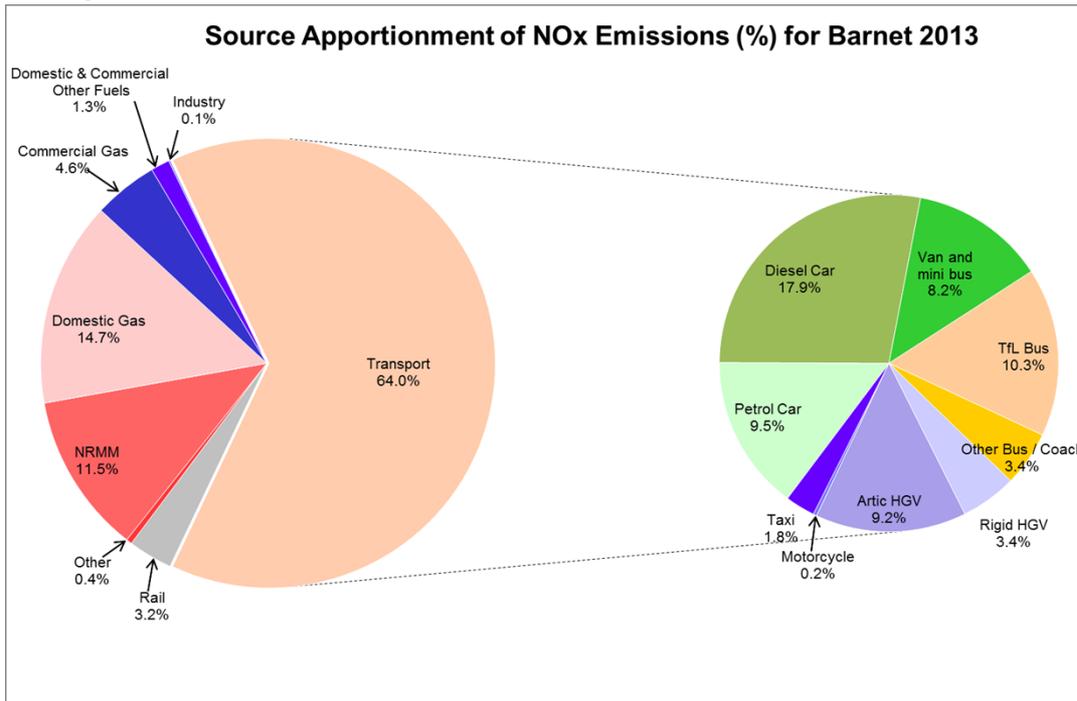
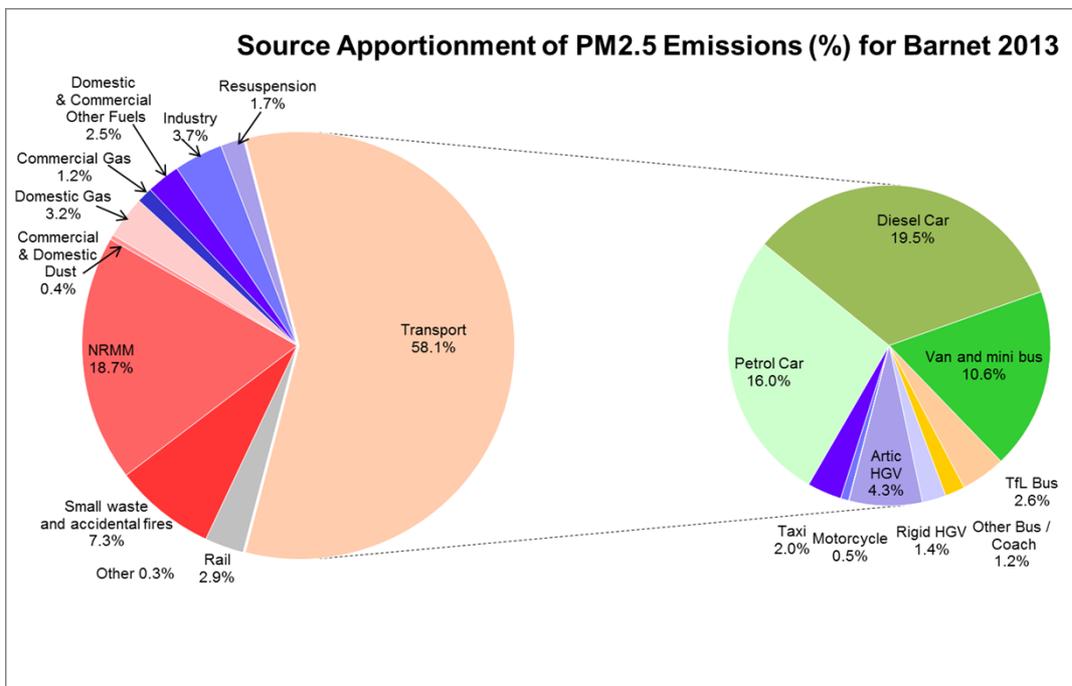


Figure 12 - Proportions of PM2.5 attributable to different transport and non-transport sources



We have implemented emissions based parking permits in 2015-16 and will constantly review our pricing strategy to reflect national, regional and local policies.

Belts of vegetation along roads can reduce the amount of air pollution that people behind it are exposed to. They consist of hedges between a road and pavement or cycle track. Urban vegetation is the sum of parks and smaller green patches within

the city such as green walls made of ivy and green roofing. Vegetation has the ability to clean the air by filtering out pollutants.

The 2013 to 2016 Mayor's Air Quality Fund enabled the planting of 221 nitrogen dioxide reducing trees on the Borough's streets. LIP funding enabled the planting of a 40m long ivy green-screen to remove air pollutants from a school playground adjoining the A41. Greening has a key part to play in removing air pollution and we will continue to apply for funding for similar schemes.

Planning requirements for new developments also act to ensure green spaces are not lost but enhanced and the borough's new Tree Strategy includes:

- committing to a program that involves a net gain in trees across the borough
- strengthening the quality of the landscape (through planting avenues, tree groups, park boundaries and woodlands)
- addressing urban warming and reducing pollution (tree planting concentrated in the south of the borough where it is needed most)
- addressing NO₂ (tree planting next to major roads)

The borough is actively pursuing provision of Electric Vehicle Charge points in car-parks and also provision on street, especially through provision of lamp column chargers throughout the borough.

Borough Objectives

The main borough objective that addresses this outcome is:

E. To improve air quality in Barnet and protect residents and visitors, especially children from exposure to pollution;

- facilitate Air quality audits on remaining schools in areas of poor air quality and facilitate implementation of identified measures from audits
- Medium term – work with adjacent boroughs to press for and develop proposals for a sub-regional extension and tightening of the ULEZ.
- deliver open access Electric Vehicle Charge points within Barnet including provision of lamp column chargers
- work with town teams and other community groups to facilitate car-free days and events
- Regularly review parking charges and standards related to electric vehicles to promote use
- Increase greening and tree planting

This is also supported by:

H. To secure significant regeneration and growth across the borough's opportunity areas based upon sustainable development principles with

the majority of trips carried out via public transport on foot and by cycle with a reduced reliance on the private car;

Outcome 5: The public transport network will meet the needs of a growing London

Challenges and opportunities

Although TfL has the primary responsibility for the delivery of this outcome there are nevertheless significant major improvements being delivered or supported by the borough that will provide for existing and future transport needs.

The Brent Cross Cricklewood development includes delivery of a new Brent Cross West Thameslink station linking the development to King's Cross St Pancras in under 15 minutes. This has been brought forward in the overall development programme and is now expected to open in 2022, much sooner than previously planned.

The Thameslink station quarter, delivered by Barnet Council in partnership with Network Rail, will introduce a number of major transport infrastructure improvements in Brent Cross Cricklewood. This will unlock a number of far reaching benefits including new transport links to existing local residents, employment opportunities and growth for the local economy. The new station bridge will be open to pedestrians 24 hours a day linking areas on both sides of the railway.

The council working in conjunction with neighbouring West London boroughs has been engaged in seeking to bring forward the West London Orbital Railway proposals. The reopening of that route for passengers would provide a sustainable means of transport across West London and could potentially reduce demand on the orbital road network such as the A406. The borough is keen to see progress on the planning of this route and an early implementation date.

Extension of Crossrail 2 to New Southgate will also help to address the travel needs of existing and future residents. Decking the A406 in the New Southgate Area would provide scope for further development in that area while contributing to a Healthy Streets environment around the station.

Barnet has a large number of town centres many of which are served by public transport hubs. There are also stations in residential areas that are not part of a town centres.

Delivery of improvements to several of these areas is expected to take place through town centre strategies and frameworks and through regeneration and development plans.

The following stations and Transport Hubs are within areas significantly affected by regeneration or other developments plans.

Hendon (Thameslink)
 Colindale (LU Northern Line)
 Mill Hill East (LU Northern Line)
 Brent Cross (LU Northern Line)

Major proposals in town centres and around the related transport hubs will increasingly be directed by and measured against Healthy Streets Indicators. It is envisaged that other centres and transport hubs will be assessed against these to determine a priority for more local improvements.

Table 4 - Barnet Town Centres (* as classified in draft London Plan) and transport hubs

Town Centre	Town Centre type*	Town Centre Strategy (planning or other)	Station/transport hub in or close to edge of town centre	Station/transport hub at a distance from town centre
Edgware ^{1,2}	Major	Town Centre Framework	Edgware LU and Bus Station	
Brent Street	District			
Chipping Barnet ¹	District	Town Centre Strategy (plus The Spires Planning Framework)	High Barnet LU	
Church End, Finchley ¹	District	Town Centre Strategy (Local Plan & (Entrepreneurial Barnet)	Finchley Central LU	
East Finchley	District		East Finchley LU	
Golders Green ¹	District		Golders Green LU and Bus Station	
Hendon Central	District		Hendon Central LU	
Mill Hill	District		Mill Hill Broadway Station (Thameslink)	
New Barnet	District	Town Centre Framework	New Barnet Station (Great	

			Northern)	
North Finchley ¹	District		Bus Station	Woodside Park LU
Temple Fortune	District			
Whetstone	District		Totteridge and Whetstone LU	
Colindale/The Hyde ³	District		Colindale LU	Hendon (Thameslink)
Cricklewood ^{1,4}	District		Cricklewood (Thameslink)	
Burnt Oak ^{1,5}	District	Town Centre Strategy (Entrepreneurial Barnet)	Burnt Oak LU	
Brent Cross	Potential future Metropolitan		[future] Brent Cross West (Thameslink) Brent Cross LU Bus station	
				West Finchley LU
				Mill Hill East LU
				New Southgate (Great Northern)
				Oakleigh Park (Great Northern)

¹ Barnet Main Town Centre

² shared with Harrow

³ shared with Brent

⁴ shared with Brent & Camden

⁵ shared with Brent and Harrow

Identification of coach facilities to identify and deliver replacement facilities for Victoria Coach Station through the provision of one or more hubs is identified in the Mayors Transport Strategy proposals. Currently Golders Green serves as a significant coach stop and interchange with the Northern Line. Additional coaches at Golders Green cannot be accommodated, but there could be scope for alternative

arrangements in conjunction with the development of Brent Cross South to ease pressures there, although it is unlikely to serve as a replacement for Victoria.

Borough Objectives

The main objective addressing this outcome is:

F. To secure new and revised public transport routes to support the growth of the borough, particularly addressing the challenges presented by orbital travel and travel to neighbouring areas and orbital connectivity across the borough.

- Delivery of Brent Cross West Station
- Support and facilitate the introduction of the West London Orbital Line (Dudding Hill Line) from Brent Cross and Crossrail2 to New Southgate
- Work with TfL to review bus routes to serve new development and less accessible locations and to realise the delivery of orbital express bus provision and demand responsive public transport.
- Deliver programmes of Bus Priority improvements, especially focusing on locations that provide benefits for buses serving development areas, orbital movement and higher passenger numbers
- Explore potential for coach facilities in conjunction with Brent Cross West/Brent Cross south

This is supported by other objectives:

A. To encourage healthier lifestyles through promoting physical activity, enabling supporting and promoting active travel and improving public transport links to facilities.

B. To apply Healthy Streets principles, to deliver a range of improvements

Outcome 6: Public transport will be safe, affordable and accessible to all

Challenges and opportunities

Step Free access is proposed at additional Northern Line stations in the borough at Mill Hill East, Burnt Oak and in the major growth areas of Colindale and Brent Cross.

The delivery of Brent Cross West will provide a new National Rail station with step-free access and London Borough of Barnet has undertaken a study and provided information to Network Rail, for application to the DfT regarding proposals for introduction of step-free access at Mill Hill Broadway Station.

91% of bus stops on borough roads in Barnet are now considered to be accessible, together with all stops on the Transport of London Road network. Nevertheless there are still stops that will not permit buses to make use of their ramps, and some where

site specific issues effectively prevent access at stops that apparently meet the normal criteria applied.

Provision of accessible stopping points on Hail and Ride routes could be a particular challenge since the conversion to fixed stop operation may not be practical and could reduce access to a bus services for some passengers who can only walk short distances. A hybrid solution whereby some fixed stopping points that permit wheelchair access are provided within a Hail and Ride route may be needed.

Borough Objectives

The main objective addressing this outcome is:

G. Facilitate the introduction of step-free facilities at stations and accessible bus stops to help make public transport accessible for all passengers, directly or through support of TfL and National Rail proposals and development opportunities.

- Support step-free proposals for Mill Hill East, Burnt Oak, Colindale and Brent Cross northern line stations
- Deliver the new Brent Cross West station with step-free facilities and support Network Rail to deliver step-free facilities for Mill Hill Broadway station
- Increase the percentage of accessible bus stops in Barnet from the current 91% to closer to 100% (say 98%)

Other objectives that also deliver against this outcome are:

A. To encourage healthier lifestyles through promoting physical activity, enabling supporting and promoting active travel and improving public transport links to facilities.

B. To apply Healthy Streets principles, to deliver a range of improvements

Outcome 7: Journeys by public transport will be pleasant, fast and reliable

Challenges and opportunities

Bus transport is the only real option for most orbital public transport journeys in this part of outer London and to many destinations in adjacent counties. Significant resources need to be focused on improving these orbital links in particular, so that they compare favourably with existing radial links. Similarly in order to provide public transport links to major development areas and to a full range of services and facilities a step change in provision is needed in terms of density and frequency in

order that most journeys can be completed without a car and without a very significant time penalty.

One element in facilitating this delivery is to provide bus priority and congestion reduction improvements on existing routes and where new bus services are proposed. As well as the direct benefit of reduced journey times and increased reliability this can also free up resources to permit increased frequency or other provision.

There can be concerns that bus priority improvements might adversely affect other traffic. This might occur if it is assumed that there will be a benefit in prioritising bus movement in all circumstances. However proposals can be developed that weigh up the benefits and dis-benefits to ensure that proposals deliver a net benefit to the travelling public.

In some locations changes to parking provision and parking restrictions may be appropriate to speed up bus and car journeys at peak time. Some wide roads with tidal parking restrictions already provide opportunities to introduce bus lanes operating during peak hours with limited impact on other traffic. Healthy Streets improvements on major roads provide opportunities to re-balance the provision of road space to provide facilities that better support bus movements. Minor improvements throughout a route may also have a cumulative effect. Bus stop accessibility improvements, as well as making it easier for passengers to access a bus can also make it easier for the bus to access and leave the stop so reducing overall delays.

Borough Objectives

The main objective addressing this outcome is:

F. To secure new and revised public transport routes to support the growth of the borough, particularly addressing the challenges presented by orbital travel and travel to neighbouring areas and orbital connectivity across the borough.

- Delivery of Brent Cross West Station
- Support and facilitate the introduction of the West London Orbital Line (Dudding Hill Line) from Brent Cross and Crossrail2 to New Southgate
- Work with TfL to review bus routes to serve new development and less accessible locations and to realise the delivery of orbital express bus provision and demand responsive public transport.
- Deliver programmes of Bus Priority improvements, especially focusing on locations that provide benefits for buses serving development areas, orbital movement and higher passenger numbers
- Explore potential for coach facilities in conjunction with Brent Cross West/Brent Cross south

Other objectives that also deliver against this outcome are:

- A. To encourage healthier lifestyles through promoting physical activity, enabling supporting and promoting active travel and improving public transport links to facilities.**
- B. To apply Healthy Streets principles, to deliver a range of improvements**
- G. Facilitate the introduction of step-free facilities at stations and accessible bus stops to help make public transport accessible for all passengers, directly or through support of TfL and National Rail proposals and development opportunities.**

Outcome 8: Active, efficient and sustainable travel will be the best option in new developments

Challenges and opportunities

The borough seeks to secure sustainable transport in relation to all developments and to maximise active travel to new development sites

There is a growing emphasis away from car parking provision towards a greater degree of walking, cycling and public transport in developments and the boroughs car parking standards are currently expected to be reviewed as part of the local plan review and partly in response to the Draft London Plan.

There must however be a realisation that for Outer London areas, many of which are dependent on high degrees of radial transport towards and from Central London, there can be a greater difficulty achieving east/west orbital travel across and between locations other than by the car and that therefore a relatively high degree of car based travel will still occur.

One such challenge then will be securing greater orbital transport connections across the borough which can provide a meaningful and convenient alternative to the car.

One such opportunity is the potential development of the West London Orbital Railway (Dudding Hill Line) which would provide greatly enhanced orbital rail connections across West London, opening up sites for regeneration and development and allowing convenient and rapid movement between key residential and opportunity areas potentially reducing reliance on the car and potentially reducing traffic demand in the vicinity of the North Circular - A406

Borough Objectives

The main objectives addressing this outcome are:

F. To secure new and revised public transport routes to support the growth of the borough, particularly addressing the challenges presented by orbital travel and travel to neighbouring areas and orbital connectivity across the borough.

- Delivery of Brent Cross West Station
- Support and facilitate the introduction of the West London Orbital Line (Dudding Hill Line) from Brent Cross and Crossrail2 to New Southgate
- Work with TfL to review bus routes to serve new development and less accessible locations and to realise the delivery of orbital express bus provision and demand responsive public transport.
- Deliver programmes of Bus Priority improvements, especially focusing on locations that provide benefits for buses serving development areas, orbital movement and higher passenger numbers
- Explore potential for coach facilities in conjunction with Brent Cross West/Brent Cross south

H. To secure significant regeneration and growth across the borough's opportunity areas based upon sustainable development principles with the majority of trips carried out via public transport on foot and by cycle with a reduced reliance on the private car;

- delivery of Brent Cross Rail Freight Facility and delivery of a construction consolidation centre for the Brent Cross development;
- setting out borough-wide requirements and best practice for new development, in particular in the Green Infrastructure SPD and Sustainable Design and Construction SPD which incorporate guidance regarding climate change resilience and adaptation, green transport and access, air quality, noise and sustainable urban drainage

This is also supported by:

G. Facilitate the introduction of step-free facilities at stations and accessible bus stops to help make public transport accessible for all passengers, directly or through support of TfL and National Rail proposals and development opportunities.

Outcome 9: Transport investment will unlock the delivery of new homes and jobs

Challenges and opportunities

Barnet has a significant regeneration programme mainly in the west of the borough likely to deliver in excess of 20,000 residential units in the next few years. Much of this development located at Brent Cross and Colindale and is contingent upon new

and improved public transport infrastructure. At Brent Cross the regeneration proposals are centred around the construction of the New Brent Cross South Thameslink station which will help to unlock a doubling in size of the Brent Cross Shopping Centre, 7500 additional homes within the regeneration area and associated development.

At Colindale the aim is to support the sustainable development of over 10,000 homes in a series of developments in addition to the proposed relocation of the council offices. Colindale station is the subject of redevelopment proposals to enlarge the station concourse and provide a new station square and proposals are being developed to ensure that the new development is supported by a network of walking and cycling routes to reduce reliance on the car and provide for active travel.

The council working in conjunction with neighbouring West London boroughs has been engaged in seeking to bring forward the West London Orbital Railway proposals. The reopening of that route for passengers would provide a sustainable means of transport across West London and could potentially reduce demand on the orbital road network such as the A406. The borough is keen to see progress on the planning of this route and an early implementation date. Some significant regeneration possibilities are potentially tied to the delivery of the West London Orbital with Barnet and its neighbouring borough Brent making initial plans for the delivery of thousands of housing units and associated environmental and public realm improvements in the A5 corridor area informally referred to as Brent Cross West.

Borough Objectives

H. To secure significant regeneration and growth across the borough's opportunity areas based upon sustainable development principles with the majority of trips carried out via public transport on foot and by cycle with a reduced reliance on the private car;

- delivery of Brent Cross Rail Freight Facility and delivery of a construction consolidation centre for the Brent Cross development;
- setting out borough-wide requirements and best practice for new development, in particular in the Green Infrastructure SPD and Sustainable Design and Construction SPD which incorporate guidance regarding climate change resilience and adaptation, green transport and access, air quality, noise and sustainable urban drainage

F. To secure new and revised public transport routes to support the growth of the borough, particularly addressing the challenges presented by orbital travel and travel to neighbouring areas and orbital connectivity across the borough.

- Delivery of Brent Cross West Station

- Support and facilitate the introduction of the West London Orbital Line from Brent Cross and Crossrail2 to New Southgate
- Work with TfL to review bus routes to serve new development and less accessible locations and to realise the delivery of orbital express bus provision and demand responsive public transport.
- Deliver programmes of Bus Priority improvements, especially focusing on locations that provide benefits for buses serving development areas, orbital movement and higher passenger numbers
- Explore potential for coach facilities in conjunction with Brent Cross West/Brent Cross south

Other Mayoral Strategies

The LIP takes account of the draft London Plan, and the borough's response to this. The Mayor's Environment Strategy is supported in particular through actions addressing air quality, greening, access to and climate change mitigation and the Health Inequalities Strategy in particular through the actions encouraging greater activity and active travel.

3. The Delivery Plan

Introduction

This chapter sets out our Delivery Plan for achieving the objectives of this LIP. It includes:

- Linkages to Mayor's Transport Strategy priorities
- A list of potential funding sources for the period 2019/20 to 2021/22;
- Long-term interventions
- Three year indicative Programme of Investment for period 2019/20 to 2021/22
- A detailed annual programme for 2019/20

Linkages to the Mayor's Transport Strategy priorities

The Delivery Plan was developed to align the borough's projects and programmes with the policy framework of the Mayor's Transport Strategy, the overarching mode share aim, each of the nine outcomes, and the relevant policies and proposals.

Table 5 - Linkages between LIP projects and programmes and the Mayor's Transport Strategy outcomes

Project / Programme		MTS mode share	MTS outcomes							Nos 8 & 9 Sustainable Growth/Unlocking
			Improving active, efficient and sustainable mode share	No 1:-Active	No 2:- Safe	No 3:-Efficient	No 4:- Clean & Green	No 5:- Connected	No 6:- Accessible	
	Healthier Lifestyles	✓	✓	✓	✓	✓		✓		
1	Define borough-wide strategic walking & cycling network and improvements needed, including aspirations for networks serving Copthall, West Hendon and Dollis xxx Leisure frameworks	✓	✓	✓	✓	✓		✓		✓
2	Dollis Valley cycle route bridge widening (x2)	✓	✓	✓	✓	✓		✓		
3	Colindale Parks cycle routes inc Montrose Avenue crossing	✓	✓	✓	✓	✓		✓		✓
4	Cycle/pedestrian route lighting improvements (Pursley Road-	✓	✓	✓	✓	✓		✓		

		Improving active, efficient and sustainable mode share	No 1:-Active	No 2:- Safe	No 3:-Efficient	No 4:- Clean & Green	No 5:- Connected	No 6:- Accessible	No 7:- Quality	Nos 8 & 9 Sustainable Growth/Unlocking
	Copthall)									
5	Cycle/pedestrian route lighting improvements (Sunny Hill Park)	✓	✓	✓	✓	✓		✓		
6	North Finchley to Hornsey Quietway	✓	✓	✓	✓	✓		✓		
7	A1000 East Finchley to North Finchley (or parallel provision)	✓	✓	✓	✓	✓				✓
8	A5 Cricklewood to Edgware (or parallel provision)	✓	✓	✓	✓	✓				✓
9	Bus service enhancements to improve access to leisure facilities, especially the developing sports hubs at Copthall, West Hendon, Barnet Playing Fields [including links to regeneration and development at Colindale, West Hendon and Dollis Valley]	✓	✓		✓		✓	✓		✓
10	Bus service enhancements to improve access to Health Services especially Finchley Memorial Hospital	✓			✓		✓	✓		✓

		Improving active, efficient and sustainable mode share	No 1:-Active	No 2:- Safe	No 3:-Efficient	No 4:- Clean & Green	No 5:- Connected	No 6:- Accessible	No 7:- Quality	Nos 8 & 9 Sustainable Growth/Unlocking
11	Develop Walkable Neighbourhoods plans for areas of the borough exploring links between home with work, schools, transport nodes, leisure activities and identifying small practical interventions that will make walking a more attractive option in future.	✓	✓	✓	✓	✓	✓	✓		✓
12	Targeted improvements to public footpaths and strategic walks (London Loop, Capital Ring, Dollis Valley Walk, Pymmes Trail etc)	✓	✓		✓	✓		✓		
14	Develop / refresh walking publications and make available via an app, electronically and in paper format: <ul style="list-style-type: none"> • Historic walking guide • Circular walks and linking routes from stations to London Loop, Capital Ring, Dollis Valley Walk, Pymmes Trail etc • Prepare and publish footpath guides based on 20-minute walk times from each of the Boroughs Rail and underground stations. 	✓	✓		✓	✓				
15	Dockless bike hire	✓	✓		✓	✓				

		Improving active, efficient and sustainable mode share	No 1:-Active	No 2:- Safe	No 3:-Efficient	No 4:- Clean & Green	No 5:- Connected	No 6:- Accessible	No 7:- Quality	Nos 8 & 9 Sustainable Growth/Unlocking
16	Digital Behaviour Change Intervention: Supporting and extending a project being delivered by Barnet's Leisure provider and Middlesex University to develop a digital solution to help increase physical activity, ensuring Active Travel forms a key component of this and including part funding of a post to roll out the digital solution(s).	✓	✓		✓	✓				
	Town Centre and other Healthy Streets proposals	✓	✓	✓	✓	✓		✓		✓
17	Completion of Chipping Barnet High Street pavement widening scheme	✓	✓	✓	✓			✓		✓
18	A5 Burnt Oak Broadway j/w Watling Avenue – road safety and healthy streets improvements	✓	✓	✓	✓	✓		✓		✓
19	Liveable Neighbourhoods proposal for North Finchley	✓	✓	✓	✓	✓	✓	✓		✓
20	Finchley Central – “quick win” public realm and healthy streets improvements developed from the Town Centre Strategy and complementing the Station development	✓	✓		✓	✓	✓	✓		✓

		Improving active, efficient and sustainable mode share	No 1:-Active	No 2:- Safe	No 3:-Efficient	No 4:- Clean & Green	No 5:- Connected	No 6:- Accessible	No 7:- Quality	Nos 8 & 9 Sustainable Growth/Unlocking
21	Cricklewood –complementing Good Growth Fund bid to deliver public realm/healthy streets/business improvements	✓	✓		✓	✓		✓		✓
22	West Hendon public realm works in advance of and complementing major development changes	✓	✓		✓			✓		✓
23	Golders Green Healthy Streets improvements (based on emerging town centre strategy)	✓	✓		✓	✓		✓		✓
24	Edgware Healthy Streets improvements (based on SPD)	✓	✓		✓	✓		✓		✓
25	Healthy Streets improvements on routes to High Barnet Station	✓	✓		✓	✓	✓	✓		✓
26	Colindale Liveable Neighbourhood	✓	✓		✓	✓	✓	✓	✓	✓
27	Brent Cross Liveable Neighbourhood	✓	✓		✓	✓	✓	✓	✓	✓
28	Minor traffic management schemes prioritised using healthy streets indicators			✓		✓		✓		

		Improving active, efficient and sustainable mode share	No 1:-Active	No 2:- Safe	No 3:-Efficient	No 4:- Clean & Green	No 5:- Connected	No 6:- Accessible	No 7:- Quality	Nos 8 & 9 Sustainable Growth/Unlocking
29	Colney Hatch Lane pedestrian crossing facility/traffic calming	✓		✓	✓			✓		
30	Oakleigh Road South pedestrian crossing facility/improvements	✓		✓	✓			✓		
31	Church Hill Road/Cedar Avenue pedestrian crossing facility/improvements	✓		✓	✓			✓		
32	Alexandra Grove pedestrian crossing facility/improvement	✓		✓	✓			✓		
	Towards Vision Zero	✓		✓	✓			✓		✓
33	Road Safety Education, Training and Publicity	✓		✓						✓
34	Cycle Training – deliver cycle training to approx. 5000 people (children & adults) per year	✓	✓	✓	✓	✓				
35	Pedestrian facilities at traffic signals: A5 j/w Station Road, Edgware	✓		✓	✓			✓		✓

		Improving active, efficient and sustainable mode share	No 1:-Active	No 2:- Safe	No 3:-Efficient	No 4:- Clean & Green	No 5:- Connected	No 6:- Accessible	No 7:- Quality	Nos 8 & 9 Sustainable Growth/Unlocking
36	Pedestrian facilities at traffic signals: Brent Street / Church Road / Parson Street	✓		✓	✓			✓		✓
37	Pedestrian facilities at traffic signals: Finchley Road / Hoop Lane junction	✓		✓	✓			✓		
38	Pedestrian facilities at traffic signals: A1000 / Summers Lane	✓		✓	✓			✓		
39	Pedestrian facilities at traffic signals: A5 j/w Kingsbury Road	✓		✓	✓			✓		✓
40	Pedestrian facilities at traffic signals: A5 j/w Deansbrook Road	✓		✓	✓			✓		✓
41	Great North Road/The Bishops Avenue Accident Reduction scheme (implementation)			✓						
42	Chesterfield Road traffic calming scheme	✓		✓	✓					

		Improving active, efficient and sustainable mode share	No 1:-Active	No 2:- Safe	No 3:-Efficient	No 4:- Clean & Green	No 5:- Connected	No 6:- Accessible	No 7:- Quality	Nos 8 & 9 Sustainable Growth/Unlocking
43	High Road j/w Totteridge Lane (minor changes)			✓		✓				
44	Junction Improvement scheme A5 junction with Spur Road			✓		✓			✓	✓
45	Future targeted accident reduction engineering schemes (focusing particularly on locations with vulnerable road user casualties)			✓						
	Support Sustainable Transport Choice	✓	✓	✓	✓	✓		✓	✓	✓
46	School Travel Plan support (staff and resources to support schools developing School Travel Plans and obtaining STARS accreditation)	✓	✓		✓					
47	Danegrove Primary School – STP engineering scheme	✓		✓	✓	✓				
48	Grasvenor Avenue Infants School – STP engineering scheme	✓		✓	✓	✓				
49	St Theresa's Catholic School – STP engineering scheme	✓		✓	✓	✓				

		Improving active, efficient and sustainable mode share	No 1:-Active	No 2:- Safe	No 3:-Efficient	No 4:- Clean & Green	No 5:- Connected	No 6:- Accessible	No 7:- Quality	Nos 8 & 9 Sustainable Growth/Unlocking
50	Wessex Gardens Primary School – STP engineering scheme	✓		✓	✓	✓				
50a	Frith Manor Primary School – STP engineering scheme	✓		✓	✓	✓				
50b	Future STP schemes	✓		✓	✓	✓				
51	Bike It officer	✓	✓		✓	✓				
52	Cycle Officer	✓	✓	✓	✓	✓				
53	Support for cycling – resources to promote cycling	✓	✓		✓	✓				
54	Introduction of / review of CPZs				✓				✓	
54a	Reviewing on and off-street parking management options including CPZ's, permits and charges and how these will support and deliver changes to mode choice, health and air quality	✓			✓	✓			✓	

		Improving active, efficient and sustainable mode share	No 1:-Active	No 2:- Safe	No 3:-Efficient	No 4:- Clean & Green	No 5:- Connected	No 6:- Accessible	No 7:- Quality	Nos 8 & 9 Sustainable Growth/Unlocking
55	Car club provision				✓					✓
	Air quality	✓			✓	✓		✓		
56	Air quality audits on remaining schools in high pollution areas					✓		✓		
57	Delivery of Air Quality audit improvements	✓			✓	✓				
58	Deliver EVCPs					✓				✓
59	Support for car-free days & events	✓	✓		✓	✓				
60	Tree planting to address air quality and urban heat islands		✓			✓				
61	Sustainable business grants programme which would include an engagement officer to liaise with and approach businesses along the A1000 corridor and give their business an energy and sustainability appraisal – this would be backed up by small grants /discounts potentially be backed by EU funds	✓			✓	✓				

		Improving active, efficient and sustainable mode share	No 1:-Active	No 2:- Safe	No 3:-Efficient	No 4:- Clean & Green	No 5:- Connected	No 6:- Accessible	No 7:- Quality	Nos 8 & 9 Sustainable Growth/Unlocking
	which would count as match . MAQF/LIP									
	Public Transport Improvements	✓			✓	✓	✓	✓	✓	✓
62	Delivery of Brent Cross West Station	✓			✓		✓	✓	✓	✓
63	Feasibility study regarding introduction of a National Rail station at Colindale on local line in conjunction with introduction of the West London Orbital Line	✓			✓		✓	✓	✓	✓
64	Feasibility study regarding introduction of a national rail station at NLBP site in conjunction with development/Crossrail 2	✓			✓		✓	✓	✓	✓
65	Bus Priority improvements	✓			✓	✓	✓		✓	
65a	Healthy Streets Improvements around transport hubs	✓			✓	✓	✓	✓	✓	
	Accessible transport	✓	✓		✓	✓		✓	✓	

		Improving active, efficient and sustainable mode share	No 1:-Active	No 2:- Safe	No 3:-Efficient	No 4:- Clean & Green	No 5:- Connected	No 6:- Accessible	No 7:- Quality	Nos 8 & 9 Sustainable Growth/Unlocking
66	A programme of improvements to facilitate travel by persons with a disability including delivery of any further bus stop accessibility improvements, local accessibility improvements (eg dropped kerbs, tactile paving, removal of steps, provision of handrail etc) and disabled parking bays.	✓	✓		✓			✓	✓	
	Sustainable Development	✓				✓		✓	✓	✓
67	Delivery of Brent Cross Rail Freight Facility and delivery of a construction consolidation centre for the Brent Cross development					✓	✓		✓	✓
	Maintenance of assets	✓	✓	✓	✓	✓		✓	✓	
	Carriageways, Footways, Bridges and other assets	✓	✓	✓	✓	✓		✓	✓	
	Future projects and programmes developed from Long Term Transport Strategy	✓			✓	✓	✓	✓	✓	✓
	Further demand management options, permitting and emissions, workplace parking levy, car clubs, electric vehicles	✓			✓	✓	✓	✓	✓	✓

	and charging point infrastructure, car free and permit free developments, approach to development control and planning conditions, “future proofed” transport infrastructure and transport innovation	Improving active, efficient and sustainable mode share	No 1:-Active	No 2:- Safe	No 3:-Efficient	No 4:- Clean & Green	No 5:- Connected	No 6:- Accessible	No 7:- Quality	Nos 8 & 9 Sustainable Growth/Unlocking

TfL Business Plan

In developing and preparing the borough's programme of works (as outlined in the Delivery Plan), the borough has considered the Mayor's aspiration to deliver the major projects in TfL's Business Plan and the milestones associated with these projects – including major infrastructure associated with Growth Areas and Opportunity Areas.

The following TfL projects have implications for the borough.

Project

Brent Cross London

TfL are working with the London Borough of Barnet and Highways England to support the regeneration of the Brent Cross area.

Funded by the developer, improvements in the first phase include two new bridges to provide better connectivity over the A406 for pedestrians, cyclists and public transport users, a new world-class bus station, and significant junction improvements at the M1, A41 and Staples Corner, delivering bus priority and greater capacity for road users. Construction will start in 2018 and finish by the end of 2022.

Implications for borough

The regeneration as a whole is a major project for the Borough and TfL have an important role to play in helping deliver that.

Complementary works to be carried out by the borough

Significant work to provide a new town centre and station is being undertaken by the borough and other delivery partners

Project

ULEZ / Air Quality

Implications for borough

The southern part of the borough is within the North Circular Road so expected to be within the ULEZ when it is extended. Demand for low emission vehicles in this part of the borough in particular is expected to increase. Limited off-street parking is a

feature of many roads in this area, and there is limited public car-park provision, so on-street charging infrastructure is likely to be particularly in demand.

Complementary works to be carried out by the borough

The boroughs roll out of electric vehicle charge points, including lamp column chargers and low emission car-club vehicles will complement this measure.

The ULEZ will have an impact on the borough's own fleet and work is in progress to identify how this will be addressed through the schedule of vehicle replacements and additional measures. **Table 8** (page 80) identifies as a long term intervention piloting and introduction of EV and other low emission vehicles in the borough fleet.

Project

Commercial Development

Implications for borough

A number of proposed TfL development opportunities in the borough provide opportunities and synergies with town centre strategies and plans.

Complementary works to be carried out by the borough

The borough's town centre strategies and plans aim to reflect the development opportunities.

Sources of funding

Table 7 (page 78) identifies potential funding sources for implementation of our LIP, including LIP funding allocation from TfL, contributions from the borough's own funds, and funding from other sources.

The key source of funding is the borough's LIP allocation. Figures provide by TfL indicate that the borough will receive nearly £3M per year from the formula allocated Corridors, Neighbourhoods and Supporting Measures Programme plus a £100k per year Local Transport Fund allocation.

Funding from TfL for maintenance of Principal Roads and Bridges is largely suspended for 2019/20, but provision is made in the TfL business plan for future years.

In addition to the above, the borough anticipates funding from TfL of about £5.5M between 2019/20 and 2021/22 in relation to Liveable Neighbourhood bids to TfL

related to a Liveable Neighbourhood in the Colindale Area, integrating walking, cycling and the transport network.

The borough also uses its own resources and resources from developers to pursue local objectives and ensure that the road network remains in a safe and serviceable condition. This includes in particular maintenance of most borough roads and, in relation to the objectives set out in this document also parking management, cleaning and maintaining town centres and other streets, maintaining highway trees and planting and delivering environmental health and community safety interventions.

Table 6 identifies sums currently available from developers via section 106 agreements that help address the borough’s transport objectives. Other contributions (such as contributions for open spaces, trees and health) may also play a part in addressing transport objectives. Contributions may be allocated to specific projects related to the relevant development, including major projects in the Colindale Area Action Plan area, and are not necessarily available for LIP funded projects.

Table 6 - s106 contributions

Type of contribution	Total value
Bus improvements / Bus stops / Public Transport	£1.5M
Car Club	£41k
Car Parking / Controlled Parking Zone / Car free (inc reviews, traffic order changes etc)	£797k
CCTV	£53k
Colindale Station	£4.9M
Highway contributions (general) inc junction improvements, pedestrian crossings etc	£2.6M
Public Realm	£1.9M
Town Centre Improvements	£184k
Travel Plans/Travel Plan monitoring	£703k
Total	£12.8M

Table 7 - Potential funding for LIP delivery

Funding source	2019/20	2020/21	2021/22	Total
	£k	£k	£k	£k
TfL/GLA funding				
LIP Formula funding –Corridors & Supporting Measures	2,967	2,967	2,967	8,901
LIP Local Transport Fund	100	100	100	300
Discretionary funding (See 3 Year Programme)	0	2975	8500	11,475
Strategic funding	900	1200	1200	3,300
GLA funding	TBC	TBC	TBC	TBC
Sub-total	£3,967k	£7,242k	£12,767k	£23,976k
Borough funding				
Capital funding / CIL	14,500	5,000	5,000	24,500
Revenue funding	TBC	TBC	TBC	TBC
Parking revenue	900	900	200	2,000
Workplace parking levy	0	0	TBC	TBC

Sub-total	£15,400k	£5,900k	£5,200k	£26,500k
Other sources of funding				
S106	2,750	4,150	1,150	8,050
European funding	TBC	TBC	TBC	TBC
Sub-total	£2,750k	£4,150k	£1,150k	£8,050k
Total	£22,117k	£17,292k	£19,117k	£58,526k

Long-Term interventions to 2041

In the medium to long-term the borough believes that a number of significant, but currently unfunded, investments will be required to ensure the economic and social vitality of the borough. These are shown in **Table 8** below with indicative funding and indicative but uncommitted timescales.

Table 8 - Long-term interventions up to 2041

Project	Approx. date	Indicative cost	Likely funding source	Comments
North Finchley Town Centre remodelling	2022-2026	£30.0M	Developer, TfL, LB Barnet	Removal of gyratory road arrangement with closure of part to most vehicles.
Finchley Central	2020-2025	£10.0M	Housing Infrastructure Fund, TfL, LB Barnet, Developer	Improvements to complement development of TfL assets
Edgware Town Centre	2025-2030	£20.0M	Developer, TfL, LB Barnet	Town Centre Development / Improvements
New Southgate liveable neighbourhood	2036-2041	£20.0m	Developer, TfL, LB Barnet	A Liveable Neighbourhood to support and complement the New Southgate Opportunity Area/Crossrail 2
A5 corridor improvements	2025-2035	£5m	TfL, LB Barnet, Developer, Other	Improvements to various parts of the A5, reflecting the
Low emission fleet pilots and improvements	2020-2025	TBC	LB Barnet, Air Quality funds, TfL	Piloting and introduction of EV and other low emission vehicles in the borough fleet

West London Orbital (Dudding Hill) Line	2024-2029	£265M	TBC	
Assessing feasibility of introducing SUDs through transport schemes	2020-2025	TBC	TBC	
Future projects and programmes developed from Long Term Transport Strategy	2019-2041	TBC	TBC	

Three-year indicative Programme of Investment

The Three Year indicative Programme of Investment has been completed in **Table 9** below.

Table 9 - Three-year indicative programme of investment for the period 2019/20 to 2021/22

The table summarises, at a programme level, the borough's proposals for the use of TfL borough funding in the period 2019/20 – 2021/22.

London Borough of Barnet TfL BOROUGH FUNDING 2019/20 TO 2021/22	Programme budget		
	Allocated 2019/20	Indicative 2020/21	Indicative 2021/22
LOCAL TRANSPORT FUND	£k	£k	£k
Local transport initiatives	100	100	100
Sub-total	£100k	£100k	£100k
CORRIDOR, NEIGHBOURHOODS & SUPPORTING MEASURES	£k	£k	£k
Healthier Lifestyles	545	295	185
Town Centre and other Healthy Streets proposals	503	258	459
Towards Vision Zero	1059	1565	1424
Supporting Sustainable Transport Choice	620	620	620
Air quality	170	159	159

London Borough of Barnet TfL BOROUGH FUNDING 2019/20 TO 2021/22	Programme budget		
	Allocated 2019/20	Indicative 2020/21	Indicative 2021/22
Public Transport Improvements	0	0	50
Accessible transport	70	70	70
Sub-total	£2967k	£2967k	£2967k
DISCRETIONARY FUNDING	£k	£k	£k
Liveable Neighbourhoods	0	500	3000
Major Schemes	0	0	0
Principal road renewal	0	1975	5000
Bridge strengthening		500	500
Traffic signal modernisation	TBC	TBC	TBC
Sub-total	£0k	£2975k	£8500k
STRATEGIC FUNDING	£k	£k	£k
Bus Priority	500	500	500
Borough cycling programme	300	600	600
London cycle grid	0	0	0
Crossrail complementary works	0	0	0

London Borough of Barnet TfL BOROUGH FUNDING 2019/20 TO 2021/22	Programme budget		
	Allocated 2019/20	Indicative 2020/21	Indicative 2021/22
Mayor's Air Quality Fund	100	100	100
Low Emission Neighbourhoods	TBC	TBC	TBC
Sub-total	£900k	£1200k	£1200k
All TfL borough funding	£4467k	£9742k	£11767k

Supporting commentary for the three-year programme

A long list of proposals that aim to deliver the borough transport objectives for the three year programme has been identified from officers across the council and partner organisations. These in particular:

- Support major regeneration and town centre projects within the borough;
- Support the borough's aspirations regarding promoting healthy lifestyles and protection from air pollution
- Ensure the resources are in place to maintain road safety education and training and sustainable travel support for schools, other organisations and individuals;
- Deliver proposals to improve road junctions and other locations focussing on locations with limited facilities for pedestrians and/or high numbers of vulnerable road user casualties;
- Develop proposals for new public transport links and cycling and walking networks to serve the borough
- Deliver minor improvements to respond to local concerns about accessibility, safety, and the road environment.

Proposals have been reviewed considering synergies with other major projects, and the programme constraints for these, availability of other funding sources and associated timeframes and considering which proposals are best placed to be delivered in the three year time frame. Individual projects and programmes have then been prioritised and scheduled in line with this.

The work identified in **Table 9** (page 82) includes:

Local Transport Proposals: directed towards minor traffic management schemes prioritised using healthy streets indicators

Corridors Neighbourhoods and Supporting Measures: funding has been identified in **Table 9** based on the proportions assigned to projects under the headings in **Table 5** (page 62):

- Healthier Lifestyles
- Town Centre and other Healthy Streets proposals
- Towards Vision Zero
- Supporting Sustainable Transport Choice
- Air quality
- Public Transport Improvements
- Accessible transport
- Sustainable Development

Some areas have particular funding from other TfL programmes or other sources, and as a result need less (or nil funding) from the corridors programme.

Risks to the delivery of the three-year programme

Table 10 shows the principal risks associated with delivery of the LIP together with possible mitigation actions for the three-year programme. The risk register summarises the strategic risks identified that could impact on the three-year programme of schemes/initiatives.

Table 10 - LIP Risk Assessment for three-year programme 2019/20-2021/22

Risk	Likelihood			Potential mitigation measures	Impact if not mitigated
	H	M	L		
Financial					
Significant reduction in funding levels available from TfL, the Council's own resources, or from third parties.		M		<p>Identify and pursue alternative funding sources for key proposals</p> <p>Reprioritise and/or extend delivery programme</p>	Unable to deliver programme as expected. Delay to delivery of outcomes
Increases in programme or individual project cost	H			<p>Ensure effective monitoring and control of project costs.</p> <p>Reduce project scope, or extend delivery period if necessary to control costs.</p> <p>Reprioritise or substitute proposals if alternatives can deliver more effectively.</p>	Increased cost and delay. Potential to prevent delivery of other outcomes

Statutory / Legal					
Council is required to “implement” its LIP under s151 of the GLA Act without sufficient external funding support.			L	Accept risk – keep under review	Extreme financial pressure on borough
Third Party					
Major development schemes do not proceed at pace envisaged		M		Reschedule proposals Consider bringing forward other proposals where feasible	Outcomes and objectives delivered later, although the slower pace of development likely to reduce need for some proposals.
Projects delayed by external or other factors		M		Re-programme and/or substitute other proposals addressing similar objectives.	Outcomes and objectives delivered later.
Public / Political					
Individual proposals do not receive sufficient public support / member approval to proceed		M		Redesign to overcome objections. Substitute other proposals addressing similar objectives.	Increased cost and delay. Potential to prevent delivery of outcomes

Programme & Delivery					
Insufficient staff resources to plan and deliver the LIP programme		M		<p>Ensure effective monitoring and control of project costs.</p> <p>Reduce project scope, or extend delivery period if necessary to control costs.</p> <p>Reprioritise or substitute proposals if alternatives can deliver more effectively.</p>	Outcomes and objectives delivered later.
Projects and programmes do not deliver expected outputs and outcomes			L	<p>Ensure effective monitoring and control of project costs.</p> <p>Reduce project scope, or extend delivery period if necessary to control costs.</p> <p>Reprioritise or substitute proposals if alternatives can deliver more effectively.</p>	Outcomes and objectives not delivered

Annual programme of schemes and initiatives

The annual programme of schemes has been completed and is appended as pro-forma A. It will also be submitted to TfL via the Borough Portal. The programme of schemes will be updated annually.

Supporting commentary for the annual programme

As identified in relation to the three year programme individual projects and programmes have been identified from a long-list of projects from officers across the council and partners, which has been scheduled to support other major projects and regeneration proposals and accommodate programme constraints associated with these and availability of other funding sources. Implementation schedules and in some cases scope of work have been adjusted to reflect available budgets and to support those projects best placed to deliver in the year or over the coming three years. A number of 19/20 projects are schemes developed or designed using LIP funding in previous years that are now ready to be progressed further.

The following proposals are expected to be delivered or part delivered during 2019/20.

- Define borough-wide strategic walking & cycling network and improvements needed
- Dollis Valley cycle route bridge widening (x2)
- Colindale Parks cycle routes inc Montrose Avenue crossing
- Cycle/pedestrian route lighting improvements (Pursley Road-Copthall)
- Cycle/pedestrian route lighting improvements (Sunny Hill Park)
- Digital Behaviour Change Intervention
- Completion of Chipping Barnet High Street pavement widening scheme
- A5 j/w Watling Avenue – junction improvement scheme and healthy streets improvements (say 500 overall)
- Finchley Central – “quick win” public realm and healthy streets improvements complementing the Station development and Town Centre Strategy
- West Hendon public realm works in advance of and complementing major development changes
- Minor traffic management schemes prioritised using healthy streets indicators
- Colney Hatch Lane pedestrian crossing facility/traffic calming
- Oakleigh Road South pedestrian crossing facility/improvements
- Church Hill Road/Cedar Avenue pedestrian crossing facility/improvements
- Alexandra Grove pedestrian crossing facility/improvement
- Road Safety Education, Training and Publicity

- Cycle Training – deliver cycle training to approx. 5000 people pa (children & adults)
- Pedestrian facilities at traffic signals: A5 j/w Station Road, Edgware
- Pedestrian facilities at traffic signals: Brent Street / Church Road / Parson Street
- Pedestrian facilities at traffic signals: A5 j/w Kingsbury Road
- Great North Road/The Bishops Avenue Accident Reduction scheme (implementation)
- Chesterfield Road traffic calming scheme
- High Road j/w Totteridge Lane (minor changes)
- Junction Improvement scheme A5 junction with Spur Road
- School Travel Plan support (staff and resources to support schools developing School Travel Plans and obtaining STARS accreditation)
- Danegrove Primary School – STP engineering scheme
- Grasvenor Avenue Infants School – STP engineering scheme
- St Theresa's Catholic School – STP engineering scheme
- Wessex Gardens Primary School – STP engineering scheme
- Frith Manor School – STP engineering scheme
- Bike It officer
- Cycle Officer
- Support for cycling – resources to promote cycling
- Introduction of / review of CPZs
- Car club provision
- Air quality audits on remaining schools in high pollution areas
- Delivery of Air Quality audit improvements
- Deliver EVCPs
- Support for car-free days & events
- Tree planting to address air quality and urban heat islands
- Sustainable business grants programme which would include an engagement officer to liaise with and approach businesses along the A1000 corridor and give their business an energy and sustainability appraisal – this would be backed up by small grants /discounts potentially be backed by EU funds which would count as match. MAQF/LIP
- Delivery of Brent Cross West Station
- Bus Priority improvements
- A programme of improvements to facilitate travel by persons with a disability including delivery of any further bus stop accessibility improvements, local accessibility improvements (eg dropped kerbs, tactile paving, removal of steps, provision of handrail etc) and disabled parking bays

- Delivery of Brent Cross Rail Freight Facility and delivery of a construction consolidation centre for the Brent Cross development

Other work that will address the Mayoral Objectives over the year include the development of the Borough's Long Term Transport Strategy which will address further demand management options, permitting and emissions, workplace parking levy, car clubs, electric vehicles and charging point infrastructure and how this will influence future movement within the Borough, car free and permit free developments, approach to development control and planning conditions, supporting development in the Borough via "future proofed" transport infrastructure on new developments and transport innovation.

Similarly development of the Local Plan will help embed the transport objectives and Mayoral outcomes in the wider planning framework for the borough, and help define how car-free and permit-free developments will be managed. A regeneration strategy will help define the future regeneration and town centre projects to which future LIP funded schemes will contribute.

Income from the Special Parking Account will help to deliver the parking and permitting aspirations of the borough transport strategy, and general revenue funding will continue to support reactive maintenance of streets, clean and maintain town centres, maintain highway trees and planting, deliver environmental health and community safety interventions.

Third Party delivery of infrastructure in regeneration areas, especially in Brent Cross Cricklewood, where major junction improvements, including projects supported by the TfL business plan, are planned together with continued development

Risk assessment for the annual programme

Table 11 shows the principal risks associated with delivery of the LIP together with possible mitigation actions for the annual programme. The risk register summarises the strategic risks identified that could impact on the annual programme of schemes / initiatives.

Table 11 - LIP Risk Assessment for annual programme - 2019/20

Risk	Likelihood			Potential mitigation measures	Impact if not mitigated
	H	M	L		
Financial					
Significant reduction in funding available from TfL, the Council's own resources, or from third parties.			L	<p>Identify and pursue alternative funding sources for key proposals</p> <p>Reprioritise and/or extend delivery programme</p>	Unable to deliver programme as expected. Delay to delivery of outcomes
Increases in programme or individual project cost	H			<p>Ensure effective monitoring and control of project costs.</p> <p>Reduce project scope, or extend delivery period if necessary to control costs.</p> <p>Reprioritise or substitute proposals if alternatives can deliver more effectively.</p>	Increased cost and delay. Potential to prevent delivery of other outcomes

Statutory / Legal					
Council is required to “implement” its LIP under s151 of the GLA Act without sufficient external funding support.			L	Accept risk – keep under review	Financial pressure on borough
Third Party					
Major development schemes do not proceed at pace envisaged			L	Reschedule proposals Consider bringing forward other proposals where feasible	Outcomes and objectives delivered later.
Projects delayed by external or other factors		M		Re-programme and/or substitute other proposals addressing similar objectives.	Outcomes and objectives delivered later.
Public / Political					
Individual proposals do not receive sufficient public support / member approval to proceed		M		Redesign to overcome objections. Substitute other proposals addressing similar objectives.	Increased cost and delay. Potential to prevent delivery of outcomes
Programme & Delivery					

<p>Insufficient staff resources to deliver the LIP programme</p>			<p>L</p> <p>Ensure effective monitoring and control of project costs.</p> <p>Reduce project scope, or extend delivery period if necessary to control costs.</p> <p>Reprioritise or substitute proposals if alternatives can deliver more effectively.</p>	<p>Outcomes and objectives delivered later.</p>
<p>Projects and programmes do not deliver expected outputs and outcomes</p>			<p>L</p> <p>Ensure effective monitoring and control of project costs.</p> <p>Reduce project scope, or extend delivery period if necessary to control costs.</p> <p>Reprioritise or substitute proposals if alternatives can deliver more effectively.</p>	<p>Outcomes and objectives not delivered</p>

Monitoring the delivery of the outcomes of the Mayor’s Transport Strategy

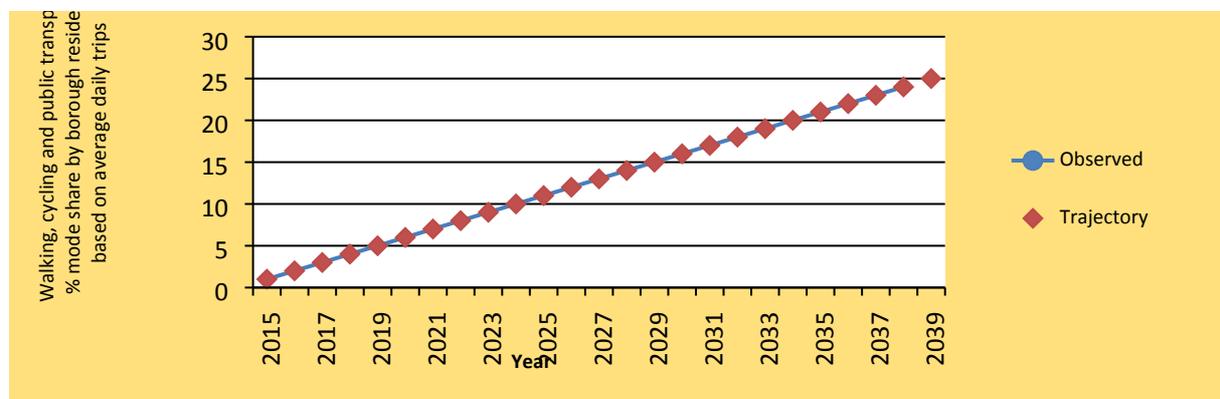
Overarching mode-share aim and outcome Indicators

Borough targets against the defined outcome indicators for the Mayoral mode-share aim and outcome indicators are set out in **Table 13** (page 103).

Overarching mode share aim

The **overall mode share aim** for Barnet is that 72% of all trips will be made by walking, cycling or other sustainable modes by 2041. Current trends appear to suggest that this may be achievable although the borough remains concerned that this is a very challenging target that is reliant on delivery of London-wide actions, improved public transport and other changes outside Barnet’s control. The impact of, the changing nature of parts of the borough together with a focus on encouraging healthier lifestyles means that the borough has nevertheless chose to adopt challenging targets for this indicator of 59% by 2021 and 72% by 2041 for this.

Figure 13 – Mode share by walking, cycling and public transport



Outcome 1

Indicators related to **Outcome 1: London's streets will be healthy and more Londoners will travel actively** regarding active travel require some clarification. The LTDS survey on which indicator 1a is based is understood to include circular leisure trips (walking, running or cycling) within the total, and the target is set on the basis that this is the case.

With regard to indicator 1b the exact definition of strategic cycle routes will affect this indicator. Consequently a target for 2021 which is based on the presumption that 4%

of residents within 400m of a strategic route is equivalent to those who would be within reach of a Quietway route currently in development.

Outcome 2

The indicator for **Outcome 2 is Vision Zero - Deaths and serious injuries from all road collisions to be eliminated from our streets**

Barnet shares the ambition that there should be no deaths or serious injuries on the borough's roads

However there has been a change in the way the Police in London record the severity of casualties from September 2016. This has generally resulted in more incidents being classified as serious injury rather than slight injury.

A target of zero for 2041 using the revised classification is likely to represent a greater challenge than envisaged when the MTS was developed.

Transport for London will be working with the Department for Transport (DfT) to review the number of seriously injured casualties that would have been reported by the Police in the past if the new classification system had been used. This will allow comparisons to be made between the most recent injury figures and previous years.

Setting a target for 2041 is considered to be premature until the impact of the changed reporting is better understood. However targets have been set (see **Table 13**) for other years based on the presumption that these will be measured against a revised back-casted baseline.

Outcome 3

Targets for this outcome include both a target in relation traffic volumes on roads and one in relation to car ownership. While car ownership clearly has a part to play in traffic levels, ownership of a car does not necessarily correspond to increased traffic (despite a 15% increase in ownership over the period 2001 to 2016 traffic levels in Barnet are recorded as static. See **Figure 14 & Figure 15**).

Figure 14 shows the historic trend in traffic on roads in Barnet together with the range of future values that the trajectories suggested by TfL and the Mayor (for a 5%-10% reduction in traffic in Outer London by 2041) would suggest.

Figure 15 shows car ownership in the borough over an equivalent period, together with the suggested trajectory. High growth in car ownership in Barnet continues to be recorded. In this context no reduction in car ownership is anticipated in the short term, and no target has been set for 2021. Growth in car-ownership was static

between 2008 and 2013, presumably reflecting adverse economic conditions, but has continued to increase since 2013.

Figure 14 - Annual traffic volumes (million vehicle kilometres)

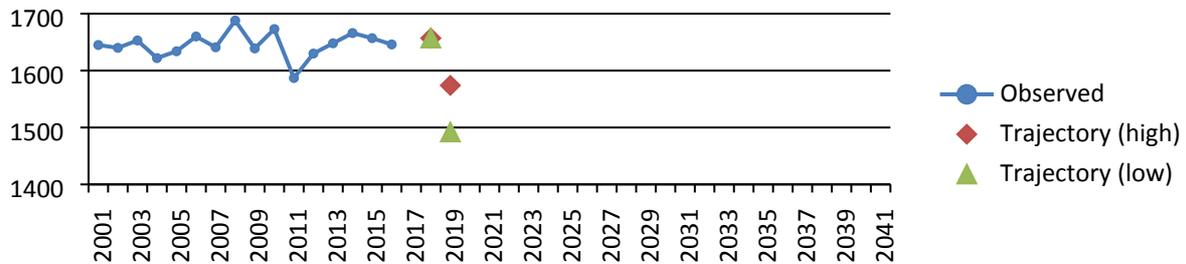
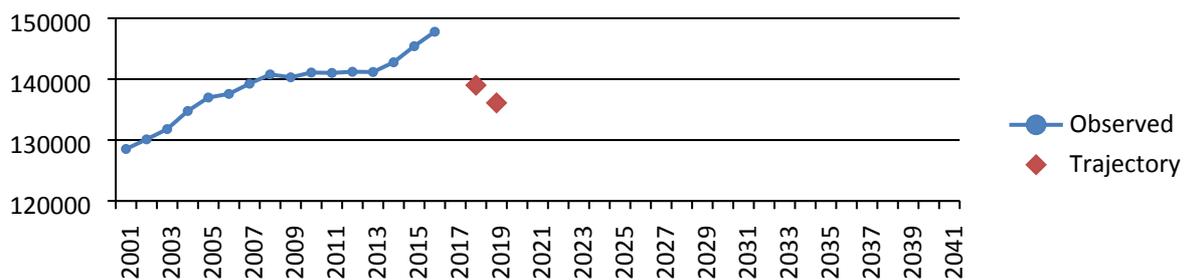


Figure 15 - Car ownership (number of cars owned)



While the borough is keen to encourage residents to make less use of the car and use other forms of transport, measures to restrict ownership of a car are not generally envisaged. Lower levels of car ownership per household are expected over time, especially in parts of the borough where growth is occurring, but also in other areas as alternatives, such as demand responsive transport and car clubs, become more viable, however a reduction in ownership overall is not anticipated. Consequently a return to 2008-2013 levels of car ownership is considered very challenging given the increased population that is expected, and this is identified as a target for 2041 rather than a figure in line with the trajectory suggested by TfL shown in **Figure 15**.

However targets of no increase in traffic by 2021 and at least 5% reduction in traffic by 2041, in line with the expected range for Outer London, are set in relation to the indicator related to Annual Traffic Volumes.

Outcome 4

A reduction in CO2 emissions can be expected from the projected reduction in road traffic and also from a switch to cleaner vehicles. A level of emissions by 2041 of 117300 tonnes (from 387600 tonnes at 2013) as projected for Barnet by TfL is equivalent to virtually all motor vehicles being electric vehicles by that date, plus a 10% reduction in vehicles kilometres. (Emissions from electric vehicle charging from the mains being about one third of those for diesel power).

This is only feasible if national and Mayoral action beyond that already planned brings forward the date when 100% zero emission road transport will be achieved by about 10 years (from 2050 to 2040).

Similarly projections for the emission reduction indicators for air quality provided by TfL are based on the roadmap to zero emissions set out in the Mayors Transport Strategy. However this assumes that the Mayoral aspirations to bring forward the date by which 100% zero emission road transport will be achieved. As this is currently an aspiration, without a clear means of achieving it, the targets for Barnet for CO₂, NO_x and particulates included in **Table 13 - Borough outcome indicator targets** (page 16) are set based on achieving the projected levels by 2050 rather than 2041. **Figure 16, Figure 17, Figure 18 and Figure 19** show the effect of this change graphically.

Figure 16 – Projected CO2 emissions to 2041 (blue line) based on road map to zero emissions, and adjusted projection for 2050 achievement (red line)

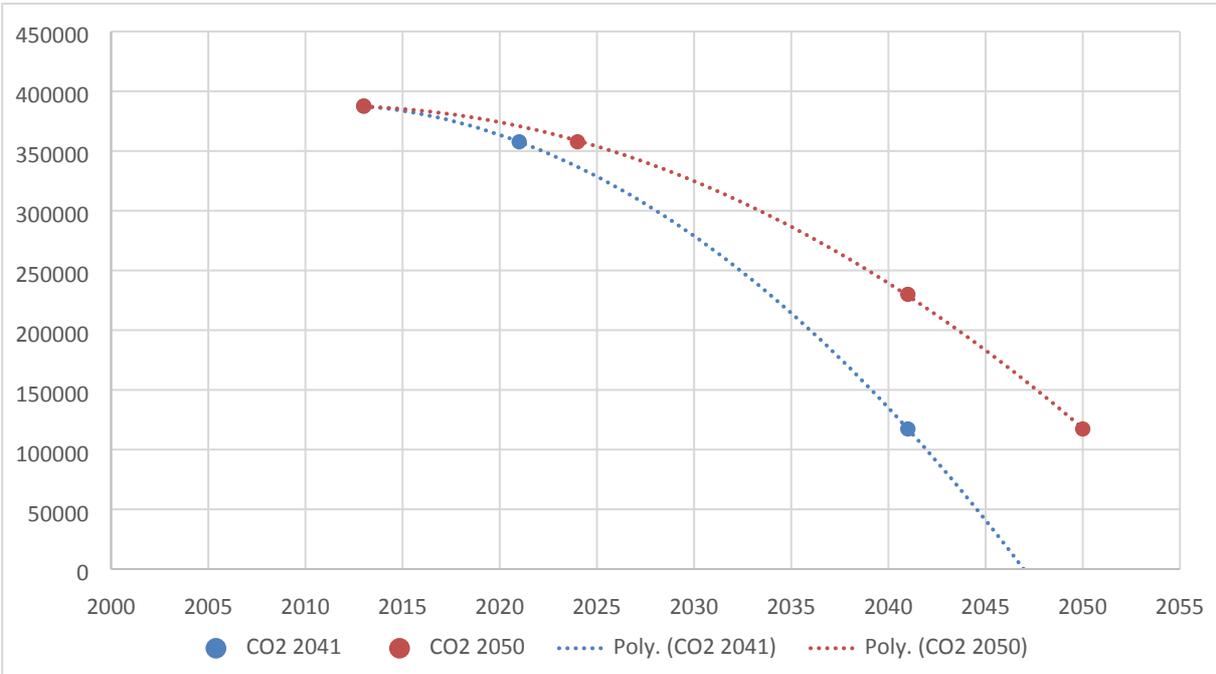


Figure 17 – Projected NOx emissions to 2041 (blue line) based on road map to zero emissions, and adjusted projection for 2050 achievement (red line)

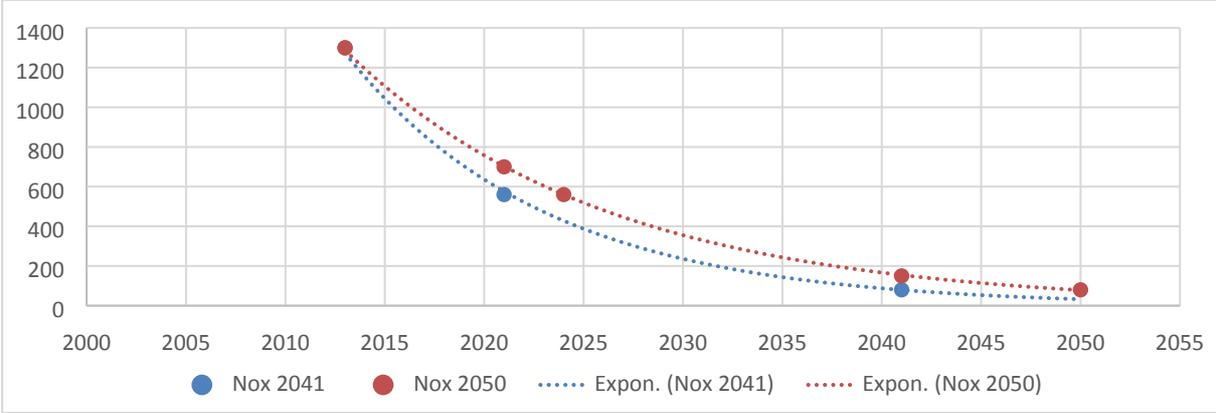


Figure 18 – Projected PM10 emissions to 2041 (blue line) based on road map to zero emissions, and adjusted projection for 2050 achievement (red line)

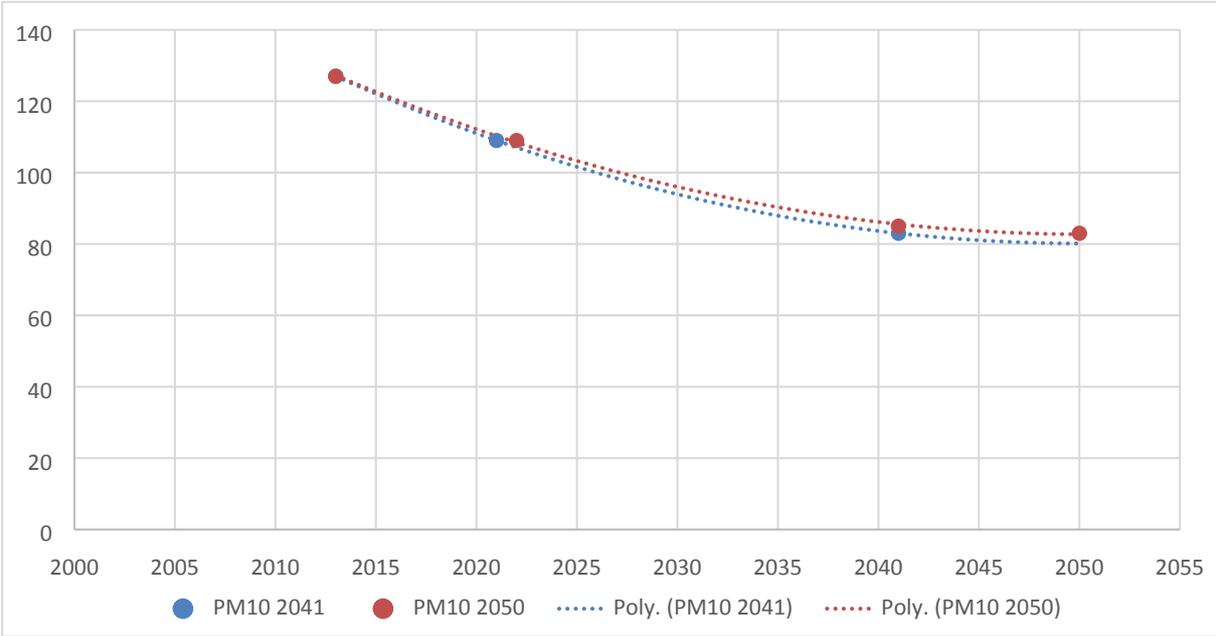
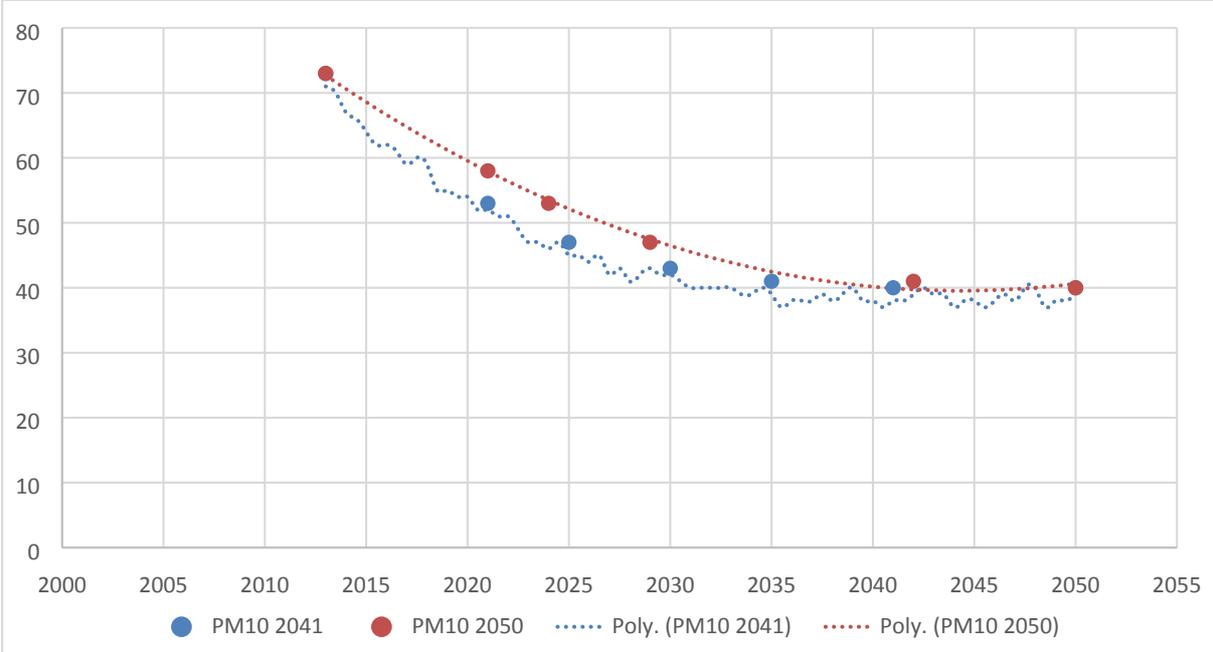


Figure 19 – Projected PM2.5 emissions to 2041 (blue line) based on road map to zero emissions, and adjusted projection for 2050 achievement (red line)



Outcomes 5, 6, and 7

Targets for the Public transport outcome delivery indicators (outcomes 5, 6 and 7) are set in line with TfL’s projections.

Delivery indicators

The borough will monitor and record delivery (or delivery via LIP-funded schemes where applicable) of the delivery indicators below and report these to TfL annually.

Table 12 Annual Delivery Indicators	
Description	Unit of data
Outcome 1: London’s streets will be healthy and more Londoners will travel actively	
Increase in cycle parking facilities	On-street spaces
	Off-street spaces
Improved facilities for pedestrians and	Number of new or upgraded pedestrian /

cyclists	cycle crossing facilities provided.
Outcome 2: London's streets will be safe and secure	
Lower speed limits	% of borough road network with 20mph limit
Deliver safety improvements to the highway network and ensure robust monitoring of road safety infrastructure schemes	Number of completed infrastructure schemes and % entered into Traffic Accident Diary System (TADS)
Deliver a programme of training and education to improve the safety of vulnerable road users	Number of people delivered training (eg BikeSafe- London, 121 Motorcycle skills)
Deliver a programme of training and education to improve the safety of vulnerable road users – adults	Trained to Basic cycle skills
	Trained to Urban cycle skills
	Trained to Advanced cycle skills
Deliver a programme of training and education to improve the safety of vulnerable road users – children	Trained to Bikeability level 1
	Trained to Bikeability level 2
	Trained to Bikeability level 3
Deliver a programme of training and education to improve the safety of vulnerable road users	Number of children who received pedestrian skills training
Deliver a programme of training and education to improve the safety of vulnerable road users	Number and proportion of STARS schools – bronze, silver and gold
Outcome 3: London's streets will be used more efficiently and have less traffic on them	
Support the provision of car clubs where it reduces car use and ownership	Number of car club bays implemented or secured by the borough
Deliver a London-wide strategic cycle network, with new, high-quality, safe routes and improved infrastructure	Kilometres of new or upgraded cycle routes
Increase number of publicly accessible electric vehicle charging points	Number implemented

Incorporate sustainable drainage infrastructure into schemes	The effective area (m ²) of impermeable surface (carriageway/ footway/cycle lane/car park, etc.) which drains into the SuDS feature
Outcome 6: The public transport network will be safe, affordable and accessible to all	
Upgrade and maintain network of accessible bus stops	% of stops accessible in borough

Local targets

No additional local targets are intended.

Table 13 - Borough outcome indicator targets

Objective	Metric	Borough target	Target year	Additional commentary
Overarching mode share aim – changing the transport mix				
Londoners' trips to be on foot, by cycle or by public transport	Active, efficient and sustainable (walking, cycling and public transport) mode share (by borough resident) based on average daily trips. Base period 2013/14 - 2015/16.	59%	2021	Increase from 55% recorded 2014/15-2016/17
		72%	2041	
Healthy Streets and healthy people				
Outcome 1: London's streets will be healthy and more Londoners will travel actively				
Londoners to do at least the 20 minutes of active travel they need to stay healthy each day	Proportion of London residents doing at least 2x10 minutes of active travel a day (or a single block of 20 minutes or more).	36%	2021	Increase from 28% recorded 2014-15 to 2016-17
		70%	2041	Assumes that leisure walking (& running) are included in total

Objective	Metric	Borough target	Target year	Additional commentary
Londoners have access to a safe and pleasant cycle network	Proportion of Londoners living within 400m of the London-wide strategic cycle network.	4%	2021	Delivery against this indicator is highly dependent upon the definition of "Strategic Cycle Routes". 4% of population living within 400m of a strategic cycle route is presumed to be equivalent to delivery of the North Finchley to Hornsey Quietway.
Outcome 2: London's streets will be safe and secure				
Deaths and serious injuries from all road collisions to be eliminated from our streets	Deaths and serious injuries (KSIs) from road collisions, base year 2005/09 (for 2022 target)	Reduce by 65% against a revised 2005-09 baseline	2022	There has been a change in the way police in London record the severity of casualties from September 2016. Back casting to identify a revised baseline is expected
	Deaths and serious injuries (KSIs) from road collisions base year 2010/14 (for 2030)	Reduce by 70% against a	2030	There has been a change in the way police in London record the severity of casualties from

Objective	Metric	Borough target	Target year	Additional commentary
	target).	revised 2010-2014 baseline		September 2016. Back casting to identify a revised baseline is expected
Outcome 3: London's streets will be used more efficiently and have less traffic on them				
Reduce the volume of traffic in London.	Vehicle kilometres in given year. Base year 2015. Reduce overall traffic levels by 10-15 per cent.	1657 1574	2021 2041	As an Outer London borough the expected trajectory is for a 5 to 10% reduction. 1574 is equivalent to a 5% reduction
Reduce the number of freight trips in the central London morning peak.	10 per cent reduction in number of freight vehicles crossing into central London in the morning peak period (07:00am - 10:00am) by 2026.	N/A	N/A	N/A
Reduce car ownership in London.	Total cars owned and car ownership per household, borough residents. Quarter of a million fewer cars owned in London. Base period 2013/14 - 2015/16.	141,000	2041	High growth in car ownership in Barnet continues to be recorded. In this context a reduction in ownership by 2021 is not anticipated. Ownership of a car

Objective	Metric	Borough target	Target year	Additional commentary
				<p>does not necessarily correspond to increased traffic (despite a 15% increase in ownership over the period 2001 to 2016 traffic levels in Barnet are recorded as static). While lower levels of car ownership are expected especially in parts of the borough where growth is occurring, a reduction in ownership overall is not anticipated.</p>
<p>Outcome 4: London's streets will be clean and green</p>				

Objective	Metric	Borough target	Target year	Additional commentary
Reduced CO ₂ emissions.	CO ₂ emissions (in tonnes) from road transport within the borough. Base year 2015/16.	370000 225000	2021 2041	2013 level 387600. TfL projection for 2041 is 117300, but see commentary. This appears to be based on achieving national and Mayoral action beyond that already planned, and hence less stretching targets are identified here.

Objective	Metric	Borough target	Target year	Additional commentary
Reduced NO _x emissions.	NO _x emissions (in tonnes) from road transport within the borough. Base year 2013.	700 150	2021 2041	2013 level 1300. TfL projection for 2041 is 80, but see commentary as above.
Reduced particulate emissions.	PM ₁₀ and PM _{2.5} emissions (in tonnes) from road transport within borough. Base year 2013.	PM ₁₀ 109 PM ₁₀ 85 PM _{2.5} 58 PM _{2.5} 41	2021 2041 2021 2041	2013 level 127 for PM ₁₀ , 73 for PM _{2.5} . TfL projection for 2041 is 83 for PM ₁₀ and 40 for PM _{2.5} – see commentary.
A good public transport experience				
Outcome 5: The public transport network will meet the needs of a growing London				
More trips by public transport - 14-15 million trips made by public transport every day by 2041.	Trips per day by trip origin. Reported as 3yr moving average. Base year 2013/14 - 2015/16.	275,000 372,000	2021 2041	It is unclear whether this indicator measures trips by borough of residence or trips by borough of origin. Clarification from TfL is required.

Objective	Metric	Borough target	Target year	Additional commentary
Outcome 6: Public transport will be safe, affordable and accessible to all				
Everyone will be able to travel spontaneously and independently.	Reduce the difference between total public transport network journey time and total step-free public transport network	-64%	2041	Reduce the difference between average step free journey time and full network journey time from 12 minutes in 2015 to 4 minutes in 2041
Outcome 7: Journeys by public transport will be pleasant, fast and reliable				
Bus journeys will be quick and reliable, an attractive alternative to the car	Annualised average bus speeds, base year 2015/16	10.9 11.3	2021 2041	11.3mph represents a 5% increase in bus speeds compared with the 2015 observed figure of 10.8mph
New homes and jobs				
Outcome 8: Active, efficient and sustainable travel will be the best options in new developments				
Outcome 9: Transport investment will unlock the delivery of new homes and jobs				

Objective	Metric	Borough target	Target year	Additional commentary
No local targets				