**LONDON BOROUGH OF CROYDON**

To: Croydon Council website
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# STATEMENT OF EXECUTIVE DECISIONS MADE BY THE EXECUTIVE DIRECTOR PLACE ON 26 FEBRUARY 2019

This statement is produced in accordance with Regulation 13 of the Local Authorities (Executive Arrangements) Meetings and Access to Information) (England) Regulations 2012. Further to the associated public notice of key decisions no scrutiny call-in has been received, and therefore the following decisions can be implemented.

The following apply to the decisions listed below:

**Reasons for these decisions:** are contained in the Part A report attached

**Other options considered and rejected**: are contained in the Part A report attached

**Details of conflicts of Interest declared by the Executive Director:** none

**Note of dispensation granted by the head of paid service in relation to a declared conflict of interest:** none

The Leader of the Council has delegated to the Executive Director Place the power to make the executive decisions set out below:

**KEY EXECUTIVE DECISION REFERENCE NO.: 0119PL**

**Decision Title:** Third Local Implementation Plan (LIP3)

Having carefully read and considered the Part A report, and the requirements of the Council's public sector equality duty in relation to the issues detailed in the body of the reports, the Executive Director Place in consultation with the Cabinet Member for Environment, Transport & Regeneration (Job Share)

**RESOLVED:** To approve the final LIP3 for submission to the Mayor of London for his approval.

Notice date: 6 March 2019

**CROYDON COUNCIL**

**PLACE**

**RECORD OF DELEGATED DECISION**

| | |
|---|---|
| **TITLE** | THIRD LOCAL IMPLEMENTATION PLAN (LIP3) |
| **REFERENCE NO.** | 033 (19) DD<br>Key decision number 0119PL |
| **SUMMARY (include all appropriate considerations to the decision)** | The Mayor's Transport Strategy (MTS) was published in March 2018 and sets out the strategic direction for transport in London over the next two decades. The MTS seeks to deliver the integration of land use and transport, and the provision of a robust and resilient public transport network, with an ambitious aim to reduce Londoners' dependency on cars in favour of increased walking, cycling and public transport use. It sets out three priority themes for delivery:<br>• Healthy streets and healthy people<br>• A good public transport experience<br>• New homes and jobs<br>Borough councils are required to set out their proposals for implementing the MTS in their area. This is through the Local Implementation Plan (LIP). It is a legal requirement under the GLA Act 1999 section 145 for borough councils to prepare a LIP "as soon as reasonably practicable" after the Mayor has published his transport strategy.<br><br>The draft Croydon LIP3 was submitted to the TfL, GLA and other statutory consultees (including general public) in November 201. TfL, GLA and statutory consultees responded to the draft LIP3 with comments by the end of December 2018. Borough councils then have until 16th February 2019 to submit their final LIP3 to TfL reflecting the comments received in the consultation period.<br><br>The Mayor is due to approve the documents by the end of March 2019.<br><br>The draft Local Implementation Plan was considered (largely in outline) by Cabinet at its October meeting: https://democracy.croydon.gov.uk/ieListDocuments.aspx?CId=183&MId=1548<br>The Cabinet resolved (ref 81/18) to:<br>2. Approve the draft LIP3 core components at appendices A to D of this report as the basis of the draft LIP3 to be finalised by the Executive Director, Place, in consultation with the Cabinet Member for Environment, Transport and Regeneration (Job Share).<br><br>3. Agree that the Executive Director, Place, in |

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|---|---|
| | consultation with the Cabinet Member for Environment, Transport and Regeneration (Job Share), be delegated authority to submit the draft LIP3 document to the Mayor of London for his review by the November 2018 deadline and to consult more widely on the draft LIP3.<br><br>4. Agree that the Executive Director, Place, in consultation with the Cabinet Member for Environment, Transport and Regeneration (Job Share), be delegated authority to finalise the LIP3 document for submission to the Mayor of London for his approval by the February 2019 deadline.'<br><br>On the 29th November 2018 the Executive Director, Place exercised the authority delegated under 3. above. The draft LIP3 was submitted to TfL and consulted on more widely. The draft was then revised in the light of feedback from TfL and consultation responses. The final draft of the LIP3 is attached and the Executive Director is recommended to exercise the authority delegated under 4.<br><br>Approval by the Mayor of London is the end of the statutory LIP making process. However, the LIP is part of the Council's Core Strategy and hence will need to go to a meeting of the Council for adoption after Mayor of London approval. |
| **RECOMMENDATIONS** | Having carefully read and considered this report, and the requirements of the Council's public sector equality duty in relation to the issues detailed in the body of the document, the Executive Director Place is recommended to:<br><br>1. Approve the final LIP3 for submission to the Mayor of London for his approval. |

**I agree**~~/do not agree* to the recommendation (as amended*)~~
* delete as appropriate

Shifa Mustafa

Executive Director - Place Date: 26 February 2019

Appendices

1. Final draft Local Implementations Plan (including Appendix A: Summary Evidence Base and Local Implementation Plan (LIP) 2019/20 Annual Spending Submission and Programme of Investment Form)

2. Local Implementation Plan Strategic Environmental Assessment – Environmental Report

# London Borough of Croydon

# Third Local Implementation Plan

February 2019

# Foreword

The development of this third Local Implementation Plan comes at an opportune time for Croydon. We are facing some unprecedented challenges in the form of increasing population growth, rising car ownership, increasing traffic congestion, an obesity-linked health crisis and mounting evidence of the impacts that air pollution has on us and the health of our children.

In Croydon we rebuilt our street environment around the car, which has contributed to making us less active and means we have a bigger challenge than many other areas. However, Croydon's Growth Zone programme offers a once in a lifetime opportunity to transform our town centre public spaces and improve the health and wellbeing of all, transforming Croydon into Outer London's most liveable and attractive borough.

The Growth Zone transport programme includes spending £160 million to support the delivery of a huge number of projects, including: the Fiveways project; a new and improved West Croydon Station; Brighton Mainline Upgrade and a new East Croydon Station; greater tram network capacity; tram extensions; additional bus services and bus priority measures; a safe and pleasant network of cycle routes; and enormously improved public spaces and walking environment in the town centre.

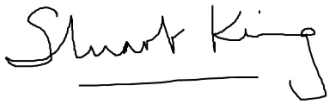
This programme is essential for us to continue in our ambitions to be London's most dynamic growth borough, supporting our aims of providing better transport capacity throughout Croydon, reduced air pollution and an exciting cultural offer for all to enjoy.

Of all the London boroughs Croydon has the greatest potential for cycling and walking. This is because we make a great many short journeys by car that could easily be walked or cycled given the right conditions. We are already bucking the London trend of declining bus usage with 8% growth between 2013 and 2017.

The Mayor's priorities set out how to help everyone make the most of London and we are committed to delivering healthier streets and sustainable improvements for Croydon. Our plans will help support the Mayor's Transport Strategy and will see road danger and traffic levels in Croydon reduced. It will also promote healthy streets and liveable neighbourhoods across the borough.

I want to ensure that in ten years' time that Croydon Town Centre is renowned for attractive and high quality public realm, and people choose to walk and cycle to get there. We will have a well-developed cycling culture and cycling will be seen as the norm rather than the exception, and Croydon's economy is thriving and businesses flock to the Town Centre because it is the best connected in South London.

*Signature*



Councillor Stuart King

**Cabinet Member for Transport, Environment and Regeneration**

# Executive summary

Croydon's third Local Implementation Plan (LIP3) sets out our priorities and proposals to support and implement: the Mayor of London's Transport Strategy (MTS) objectives and priorities; draft London Plan growth objectives; and our Corporate Plan and Local Plan ambitions, in order to deliver 'Good Growth', ensuring that a future Croydon and London are not just bigger but are even better places.

The Growth Zone (Croydon Town Centre), with its excellent public transport accessibility and connectivity, is the focus for much of this growth. The Growth Zone is also the name given to our financing mechanism to deliver the infrastructure to ensure Good Growth. Our Growth Zone financing will support national rail, tram, bus walking and cycling infrastructure improvements and major improvements to the public realm.

The overarching aim of the MTS is 80% of all journeys in London to be made by sustainable means (namely on foot, by cycle or public transport) by 2041. Croydon is currently at 49%. TfL estimates that Croydon needs to reach a 63% sustainable mode share by 2041 if the London-wide target is to be achieved. It is at the Growth Zone that we will need to work hardest to achieve this Borough-wide objective. It is here that the potential for walking and cycling is greatest and public transport is at its best. By 2041 the sustainable mode share for the Growth Zone will need to approach the 80% target set for London as a whole, if are to reach 63% of all journeys made by sustainable means averaged across the Borough.

The LIP3 ranges from mega-rail infrastructure projects to small local initiatives to create safer and healthier streets. It features:

- the £2.5 billion project to increase capacity on the Brighton Mainline and rebuild East Croydon Station into a bigger and world class station.
- Proposals to work with TfL to:
    - investigate means of financing extensions to the Tramlink network and to deliver extensions supporting the Growth Zone and wider Good Growth;
    - review bus services in the north and south of the Borough to deliver the bus capacity and new types of service to meet the differing patterns of growth north and south;
- Major Healthy Street Approaches and Liveable Neighbourhood proposals on the main road and street corridors radiating from the Growth Zone;
- Working with schools and the neighbouring communities to develop and deliver 'Healthy Schools Neighbourhoods' in which it is easier and more enjoyable for all to move around on foot and on bike.

Consultation and engagement activities have been undertaken with over 1,000 residents, businesses, visitors and workers responding. They identified that traffic dominance and the fear of road danger were key factors in why people in Croydon were not walking or cycling more often. They also identified that the school run and

associated vehicle trips were key causal factors for congestion and high car trips in the Borough, and should be an area of intervention that is prioritised.

The core transport challenge affecting the Borough is the level of car use and the resulting dominance of vehicular traffic, which gives rise to impacts including noise and air pollution, road danger and community severance. A shift away from the private car, particularly for short (and medium-length) local trips is essential, if the growth, health, access and environmental objectives identified in the local policies and the MTS are to be achieved.

The Council will focus the limited resources that are provided through LIP funding on areas of the Borough that have been identified as having the greatest potential for meeting the MTS outcomes and targets. This will include factors such as; accident history, propensity to walk and cycle, propensity to shift from car use, higher levels of deprivation, poorer air quality and the number of schools and other sensitive sites such as hospitals.

The LIP3 document outlines a 3 year programme of investment that delivers: improvements to walking and cycling routes; the rollout of electric vehicle charging infrastructure and Car Club vehicles; a Healthy Schools Neighbourhoods programme; virtual hub and electric bike share schemes; improved bus accessibility in suburban areas; Vision Zero Safer Streets schemes; traffic reduction strategies; and a Liveable Neighbourhood proposal to reconnect Old Town with adjacent residential areas, reversing the severance caused by the ring road.

Beyond the 3 year programme of investment the plan outlines a programme of longer term projects and transport aspirations that will be delivered through other means but will also contribute to delivering the Mayor's Transport Strategy outcomes.

# 1 Introduction and preparing a LIP

## 1.1 Introduction

1.1.1 The Local Implementation Plan (LIP) is prepared under Section 145 of the GLA Act and sets out how Croydon Council proposes to support delivery of the Mayor's Transport Strategy (MTS) in the Borough, it is the third LIP (LIP3) for Croydon. The LIP3:

- covers the same period as the MTS, i.e. up to 2041.
- also takes account of the transport elements of the draft London Plan, and other relevant Mayoral and local strategies, plans and policies.
- sets:
    - long terms goals and transport objectives for Croydon for the next 20 years
    - a three-year programme of investment and delivery proposals for the period 2019/20 - 2021/22
    - targets and outcomes.
- explains how we will work to achieve the MTS goals of:
    - Healthy Streets and healthy people
    - A good public transport experience
    - New homes and jobs

1.1.2 The overarching aim of the MTS is 80% of all trips in London to be made by sustainable means namely on foot, by cycle or public transport by 2041 (currently 63%), Central, Inner and Outer London need to follow differing trajectories of the London wide target is to be met. The sustainable mode share for Croydon is currently 49%. TfL has estimated that Croydon needs to reach a 63% sustainable mode share by 2041 if the London wide target is to be achieved. The LIP3 sets out our priorities, proposals and targets to help achieve this aim as well as the wider outcomes, polices and proposals of the MTS. Ultimately the LIP3 is about delivering 'Good Growth', ensuring that a future Croydon and London are not just bigger but are even better places.

## 1.2 Local approval process

1.2.1 An initial draft of the LIP3 was considered by Cabinet on 15th October 2018. The LIP is part of the Council's Core Strategy. As such it was adopted by a meeting of the Council on XXXX following its approval by the Mayor of London.

## 1.3 Statutory consultation

1.3.1 As part of the pre-consultation and engagement process and to involve representatives of potentially affected groups within the equalities impact analysis screening process, key stakeholders were invited to participate in two workshops on the 6th September 2018. The stakeholder workshop participants included local residents, council officers, councillors, and the representatives from the mobility forum and cycle forum.

1.3.2 The Croydon Cycling Forum is made up of representatives from the following organisations:

- Croydon Cycling Campaign (part of the London Cycling Campaign)
- Wheels for Wellbeing
- CyclingUK (Cyclist Touring Club)
- Right to Ride Network
- British Cycling

1.3.3 The Croydon Mobility Forum is made up of representatives from:

- Croydon Disability Forum
- Croydon Vision
- Disabled Motoring UK
- Access for All

1.3.4 An online engagement campaign[1] was undertaken asking residents and visitors to complete an online survey giving their views on transport in Croydon in order to shape the LIP3. The surveys were active until the end of September 2018 and over 1,000 people responded to the survey. A summary of results reveal that:

- 86% of respondents agreed that traffic levels are too high in Croydon.
- 44% of respondents agreed that traffic speeds are too high, with 37% disagreeing, 19% were not sure.
- Less than 5% agreed that the street environment encouraged them to cycle, whilst 77% disagreed, with over 52% disagreeing strongly.
- Over 55% agreed that children should be able to play in residential streets, 26% disagreeing.
- 74% stated that they are concerned about air quality.
- 72% agreed that traffic levels need to be lower.
- 40% agreed they would cycle more if conditions were right, with 43% disagreeing.
- 64% stated they would use public transport more if it was convenient.
- 61% would travel by car less if the alternatives were better.
- 78% agreed that less vehicles would mean better air quality.

[1] https://getinvolved.croydon.gov.uk/KMS/DMart.aspx

1.3.5 The feedback and responses from both the workshops and the online survey were considered when developing the draft LIP3 objectives and proposals.

1.3.6 A subsequent consultation exercise was undertaken seeking comments and feedback on the draft LIP3 document following submission of the draft to TfL. A consultation questionnaire was published online and copies of the draft LIP3 were placed in Croydon libraries and on the Council's website. The consultation ran for six weeks from 06th December 2018 to 20th January 2019.131 people participated in the online survey and the responses were overwhelming supportive of the proposals.

1.3.7 A summary of the responses received and the Council's commentary will be outlined in the LIP3 consultation report which will be posted on the Council's website[2].

1.3.8 The GLA Act 1999 places a duty on local authorities when preparing a LIP, to consult:

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

All were invited to comment on the draft LIP3 and respond to the consultation.

1.3.9 The following groups were also consulted:

- Historic England, Natural England and The Environment Agency
- All Councillors
- All Council Department Directors
- All emergency services
- South London Partnership (made up of the following councils: Merton, Croydon, Kingston, Sutton and Richmond), and
- Croydon's Chamber of Commerce/Business Improvement Districts (BID).

[2] https://www.croydon.gov.uk/transportandstreets/policies

## 1.4 Statutory duties

1.4.1 Croydon Council has taken into account all the statutory duties and processes as set out in the requirements in the GLA Act in the preparation of this LIP.

1.4.2 The making of the LIP3 has been informed by a process of Strategic Environmental Assessment (SEA). The draft LIP3 proposals and outcomes were informed by the SEA scoping report, and initial EA and HIA, and where issues or weaknesses have been identified actions and changes have been taken to mitigate and reduce impacts.

1.4.3 The SEA Scoping Report, including a non-technical summary, and a draft of the initial EA were available on the Council's website during the consultation period. The Environmental Report and Environmental Statement, and the final EA will be placed on the website at this link: www.croydon.gov.uk upon final submission.

## 1.5 LIP approval

1.5.1 The final LIP3 was approved by the Mayor on XX XXX. It was adopted on XXXXX.

# 2 Croydon Transport Objectives

## 2.1 Introduction

2.1.1 This chapter sets out the local policy context for the LIP3. It covers Croydon Council's local policies and proposals which will help deliver the MTS, such as the Croydon Local Plan. The chapter also considers the link between the LIP3 and other key frameworks against which the Council plans and delivers local services.

## 2.2 Local context

***Overview***

2.2.1 Croydon is the second most populous borough in London after Barnet with over 385,000 residents, a population that is projected to rise by 14% to 445,000 by 2031.[3] If Croydon was not part of Greater London it would be the 12th largest city by population in the United Kingdom.[4]

2.2.2 By area, Croydon is also one of the largest London boroughs at 87 square kilometres. It is bordered by the London Borough of Bromley to the east, Lambeth to the north and Merton and Sutton to the west. To the south are the Surrey County districts of Reigate and Banstead, and Tandridge.

2.2.3 The Borough is strategically placed on the main rail connections between London and Gatwick Airport, and the South Coast. East Croydon is in the top 20 busiest stations in the UK and the second largest in the UK in terms of passengers interchanging[5]. Train services from East Croydon station provide direct connections to a number of London main line terminals including Victoria Station (15 minutes), London Bridge (15 minutes) and St Pancras International (30 minutes) and to Gatwick Airport (15 minutes). Croydon has good connections to the City, Docklands and East London via the London Overground.

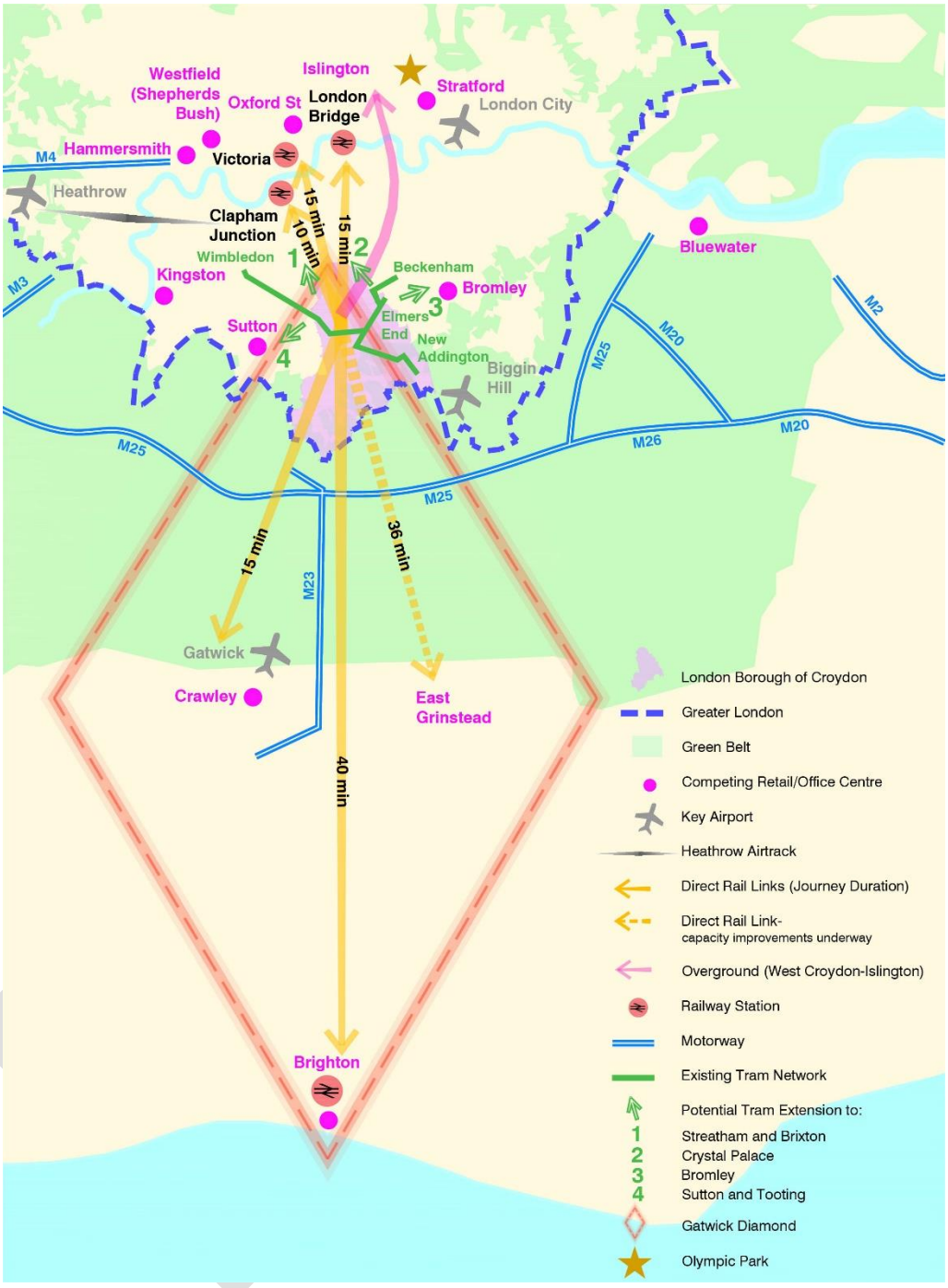
2.2.4 Croydon Tramlink provides high quality and high capacity east-west connections across the borough and South London sub-region and carries 30 million passengers per annum. The connectivity and accessibility of Croydon Metropolitan Town Centre, is only rivalled by that of the City of London and West End. This connectivity has resulted in Croydon being a main focus for regional and sub-regional growth strategies.

[3] https://www.croydon.gov.uk/sites/default/files/articles/downloads/DRAFT%20Corporate%20Plan%202018-22.pdf Page 6

[4] https://thegeographist.wordpress.com/2016/04/07/largest-cities-uk-population/

[5] https://www.croydon.gov.uk/sites/default/files/articles/downloads/DRAFT%20Corporate%20Plan%202018-22.pdf Page 6

**Figure 1: Croydon in its wider sub region context** [Source: Local Plan]



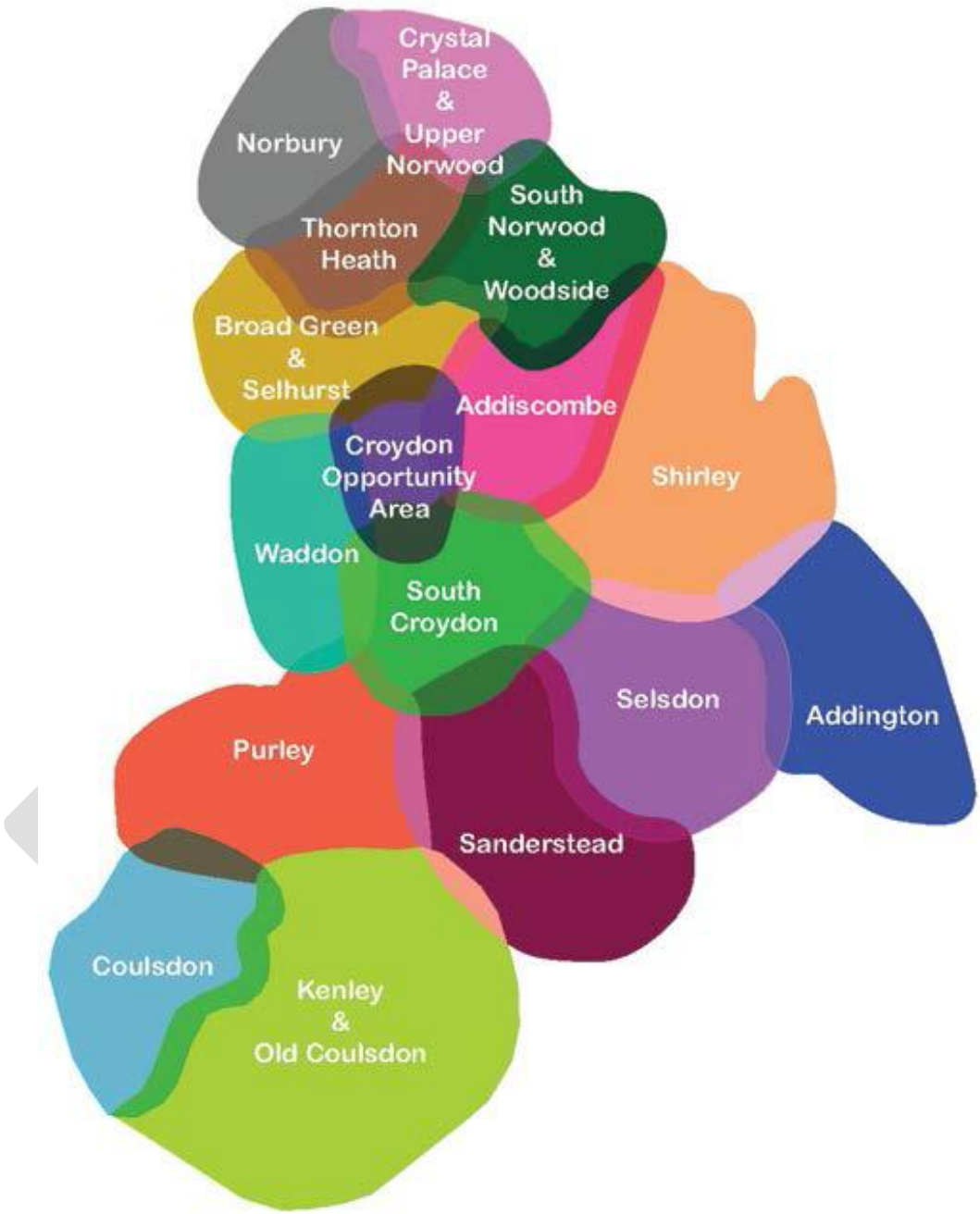

### *Local Policy Context*

2.2.5 This section sets out the Croydon policy and strategy documents and plans that influence or complement the Local Implementation Plan and vice versa. Further details on each of these documents can be found in the appendix A, section 1.

- Corporate Plan 2018-2022 – 'Ambitious for Croydon'
- A Transport Vision for Croydon: Moving towards a more liveable place
- Croydon's Community Strategy 2016-21
- Croydon Local Plan 2018

2.2.6 The Croydon adopted Local Plan 2018[6] sets out the spatial vision for the Borough. It is focused on Croydon Town Centre, one of London's Metropolitan Centres, (and an Opportunity Area) and across the 16 places of Croydon.

**Figure 2 Croydon's Places** [Source: Local Plan]




[6] https://www.croydon.gov.uk/planningandregeneration/framework/localplan/clppolicies

### Growth and regeneration

2.2.7 The Local Plan identifies the areas of specific growth which are primarily centred on Croydon Opportunity Area and a number of the identified places in the Borough in Figure 2. The housing target set in the Local Plan for the Borough is to deliver 32,890 new homes by 2036. More than 10,000 of these homes would be delivered in Croydon Opportunity Area. A further 10,000 new homes will be delivered through small scale suburban 'Windfall' developments. With the remainder being provided in district and local centres and areas of 'Focused Intensification' that have been identified in the Draft Suburban Design Guidance Supplementary Planning Document (SPD2)[7]. The Croydon Local Plan will be refreshed in the light of the New London Plan, once adopted. The Draft London Plan (minor amendments 2018) has set out new housing and growth targets for Croydon and requires Croydon to achieve 14,500 new homes and 10,500 new jobs in the Growth Zone between 2019 and 2041.[8]

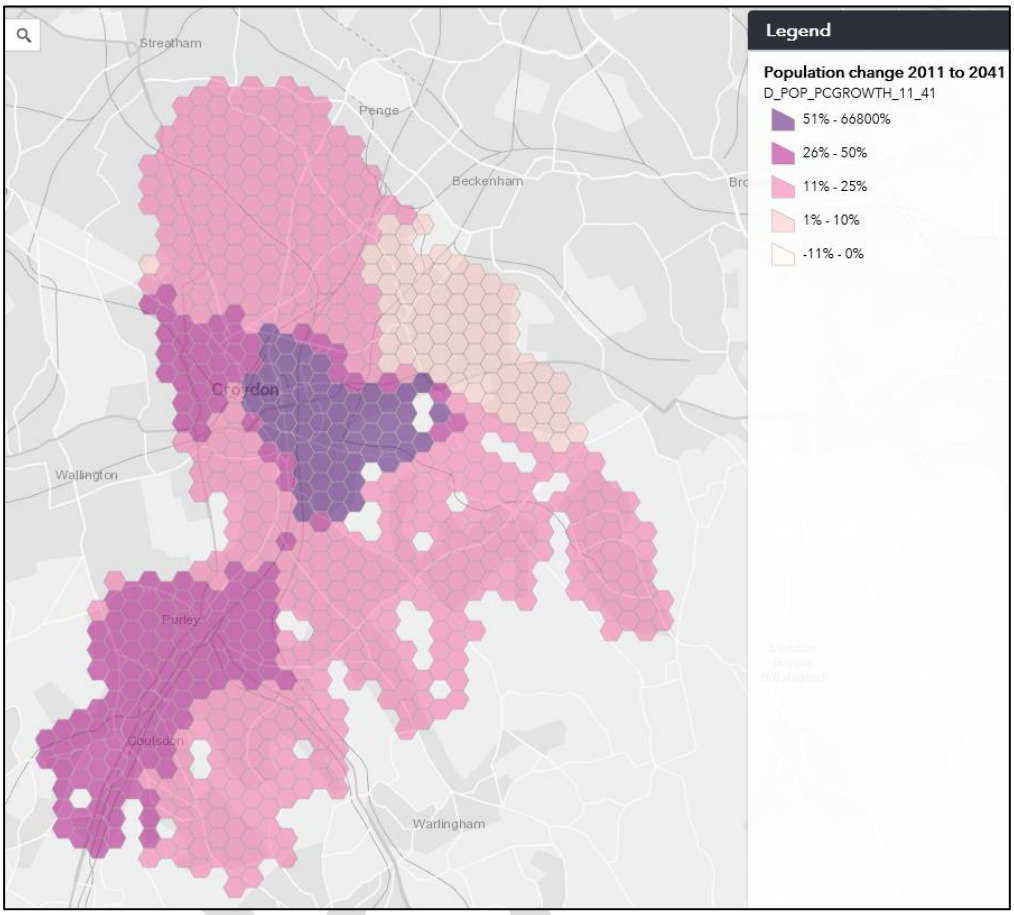
2.2.8 The 10 year net target set in the Draft London Plan for Housing Completions for Croydon between 2019 and 2029 is 29,490 with an annualised average target of 2,949 per year.

2.2.9 The Croydon Opportunity Area Planning Framework [OAPF][9] was adopted in 2013, it covers Croydon Metropolitan Centre and guides development over the 20 year period to 2031. The Croydon Opportunity Area (COA) is now also referred to as the 'Croydon Growth Zone'. It is the location of a Tax Incremental Financing mechanism that will provide the delivery framework for much of the transport and other infrastructure measures in and focussed on the Growth Zone. The intention is that it will run for an initial 16 years and seeks to support delivery of the new homes, jobs and renewal of Croydon's Town Centre, ensuring it is an attractive place to live, work and invest. The projects and programmes being funded through the Growth Zone are detailed in the Delivery Plan for this LIP3.



[7] https://www.croydon.gov.uk/planningandregeneration/framework/localplan/spdandoapf
[8] https://www.london.gov.uk/what-we-do/planning/london-plan/new-london-plan/download-draft-london-plan-0 Table2.1
[9] https://www.london.gov.uk/what-we-do/planning/implementing-london-plan/opportunity-areas/opportunity-areas/croydon-opportunity

**Figure 3: Location of population growth in Croydon from 2011 to 2041** [TfL Play Book]




***Demographics***

2.2.10 Demographically Croydon is young borough with 95,000 residents aged 17 or under, the highest number in London. It is also has an ageing population with over 50,000 residents aged 65 and above, this figure is expected to increase by 41% by 2031. In contrast the population aged between 20 and 64 will have increased by just 2.5%.[10]

2.2.11 Croydon has a diverse population with 52% Black, Asian and Minority Ethnic (BAME) population[11]. This proportion is expected to rise to 55.6% by 2025. The younger population is more diverse than the older population. Over 100 different languages are spoken in the Borough.

10 https://www.croydon.gov.uk/sites/default/files/articles/downloads/DRAFT%20Corporate%20Plan%202018-22.pdf Page 6

11 GLA 2018 Ethnic Group Projections

2.2.12 The north of Croydon is more densely populated than the south of the Borough. It has many similar characteristics to parts of Inner London such as Lambeth. The south and east of the borough are lower density and more suburban with similarities to neighbouring outer London areas such as Sutton, Bromley or adjacent settlements in Surrey. Refer to Figure 4 below.

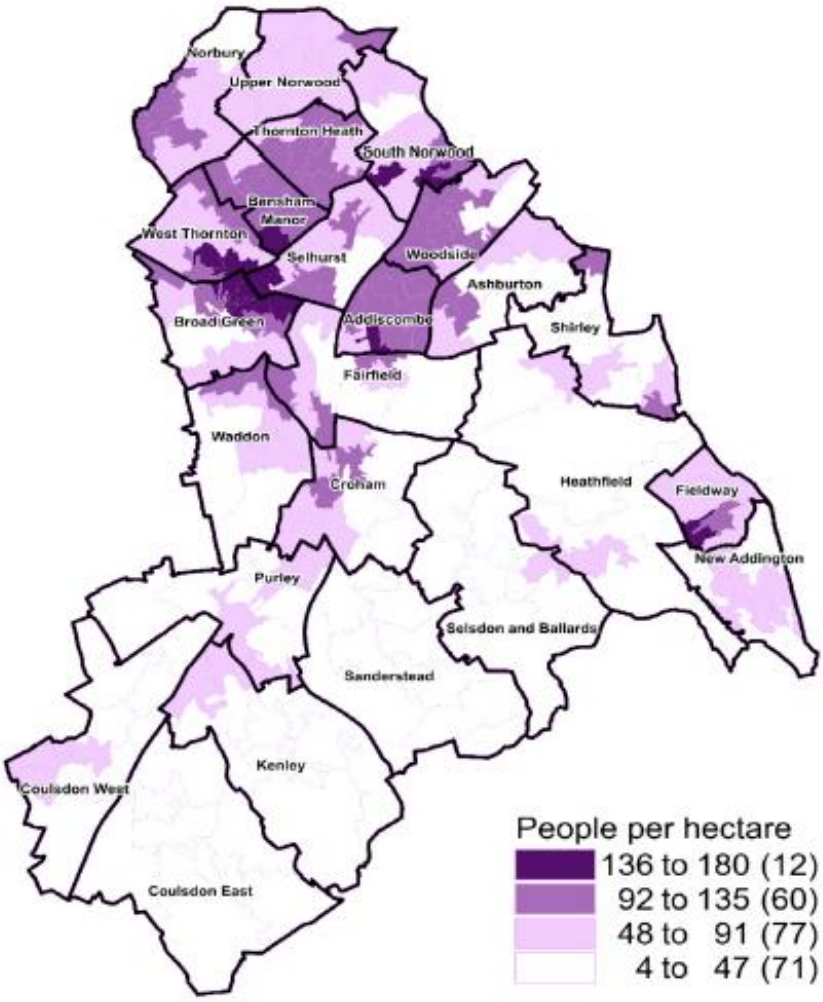



**Figure 4 Population density in 2015** [Source: Local Plan]

***Deprivation***

2.2.13 Overall Croydon is the 17th most deprived borough in London. There is a significant variation in deprivation across the Borough with greater concentrations in the north and in Addington and Shirley.[12] About 10,000 people live in areas considered to be within the 10% most deprived in the whole country. (Further information on deprivation in Croydon, see appendix A, section 2).

[12] https://www.croydonobservatory.org/wp-content/uploads/2016/11/Report_IMD2010-versus-IMD2015-LSOA-level_Full-ReportV2-1.pdf - Page 15

### *Health and Obesity*

2.2.14 Inactivity is having profound health effects and is a major contributory factor to the levels of obesity in Croydon. One in five children in the school reception year is overweight or obese and this rate more than doubles between reception and year 6. Early childhood is a critical time to tackle childhood obesity as children are developing and learning healthy or unhealthy behaviours from a young age. By year 6 (age 10 to 11 years) a greater proportion of children in Croydon carry excess weight than in London or nationally. Two in five children aged 10 to 11 years in Croydon are overweight or obese and this proportion is increasing over time.[13]

2.2.15 For adults the situation is more serious. A staggering two in three adults or 62% of the population are overweight or obese and one in thirty one working age people in Croydon have diabetes, a figure which is predicted to increase by 10% by 2025. Amongst older adults (over 65) one in eight are predicted to have diabetes and one in four are obese.[14] Children in Croydon are growing up in a borough where it is normal to be overweight.

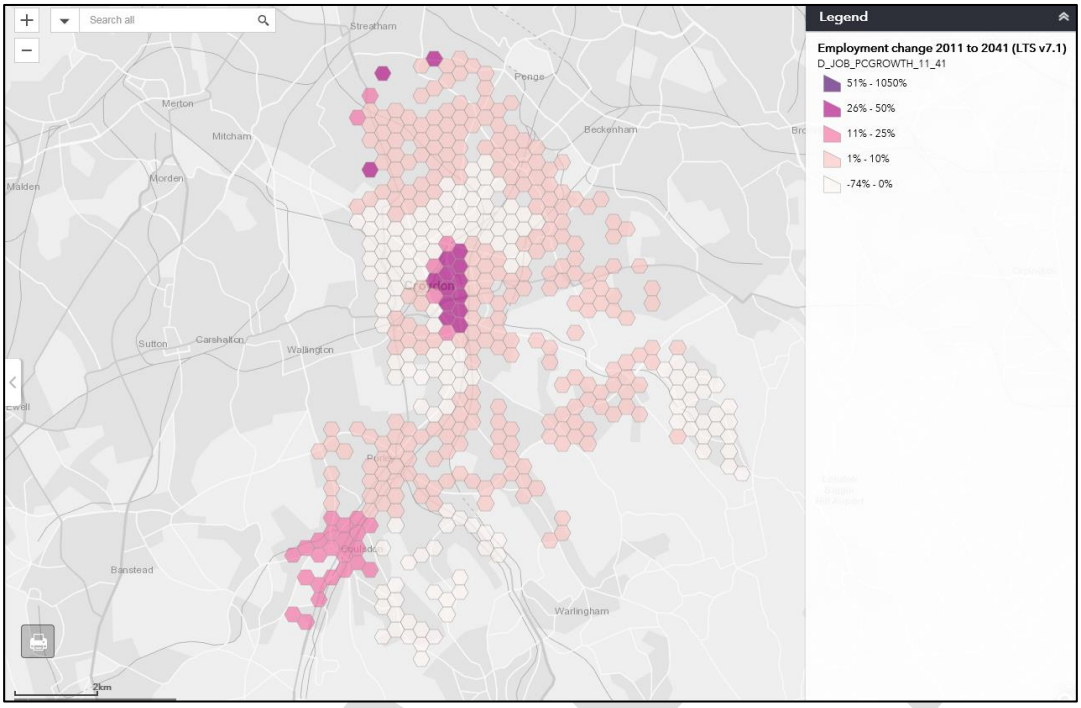
### *Economy*

2.2.16 Croydon Town Centre is one of London's Metropolitan Centres and is a major location for employment. There are 141,000 jobs in the Borough although there are 11,000 fewer jobs than in 2007.[15] It has the largest stock of offices outside the West End, City and Canary Wharf. The wider Central Croydon area is a major retail centre with more shops than anywhere else in London apart from the West End with a large out of town retail offer on Purley Way. Retail provides more than 15,000 jobs.

2.2.17 Much of the employment growth in Croydon in recent years has taken place in areas with lower levels of public transport accessibility which has implications for future travel patterns and of people being able to access jobs by sustainable means of transport.[16] The majority of future employment growth is planned in the Growth Zone which has excellent public transport accessibility.

[13] https://www.croydon.gov.uk/sites/default/files/articles/downloads/Healthy%20Weight%20Action%20Plan%202017-2020.pdf Page 2
[14] https://www.croydon.gov.uk/democracy/dande/policies/health/annual-public-health-report Page 30
[15] Croydon Local Plan 2018
[16] Croydon Local Plan 2018

**Figure 5: Location of employment growth changes 2011 to 2041** [Source: TfL Playbook]




***Environment***

Climate Change

2.2.18 Road transport produces 24% of total carbon dioxide emissions in Croydon[17]. The total emissions from road transport has decreased consistently since 2005. Cars emit about one third of road transport carbon dioxide emissions. The challenge is to reduce car use and to continue the move away from fossil fuel powered private vehicles.

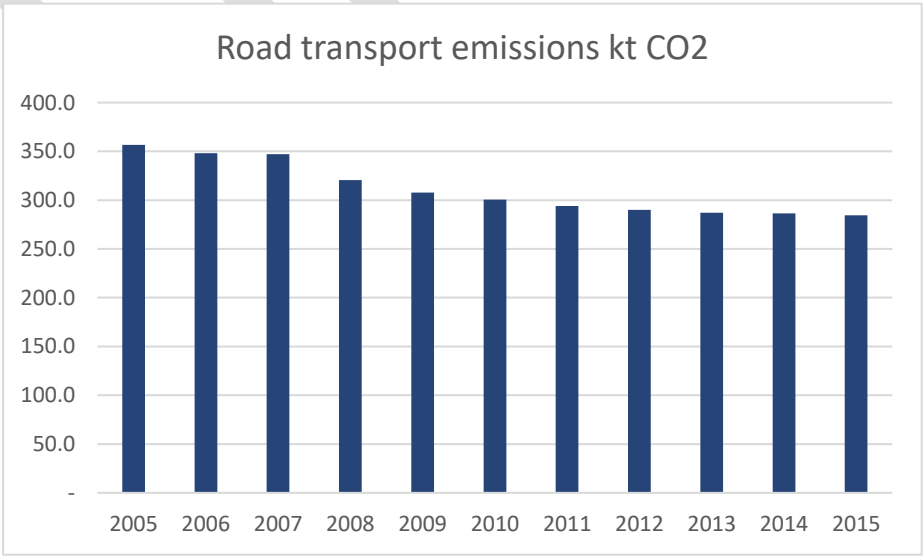



**Figure 6 Carbon emissions [Source: DfBEIS]**

[17] Croydon Local Plan 2018

2.2.19 Carbon dioxide emissions as a whole have decreased by 38% per head of population over the same period. The Council has adopted a target of reducing carbon dioxide emissions by 34% from 2005 level by 2025. Carbon dioxide emissions have already been reduced by 32% by 2015.[18]

Air Quality

2.2.20 An Air Quality Management Area (AQMA) has been declared across the whole of the Croydon. The AQMA was based on nitrogen dioxide concentration exceedances of the EU annual average limit for this pollutant at some of our monitoring stations, and modelling indicates it being breached at a number of other locations (generally along the busier road corridors).

2.2.21 An Air Quality Focus Area is a location that has been identified as having high levels of pollution and human exposure. There are five focus areas in the Borough.

- London Road, Norbury
- Purley Cross and Russell Hill
- Thornton Heath / Brigstock Road/ High Street / Whitehorse Lane
- London Road between Thornton Heath Pond and St James Road
- Wellesley Road

2.2.22 Croydon has the highest hospital admissions for asthma amongst children and adults in London in 2017[19], with 720 emergency admissions in 2016/17, this equates to 188 admissions per 100,000 people. It also has the third highest number of asthma deaths in the capital.[20]

2.2.23 A new Air Quality Action Plan for the Borough was consulted upon in 2017 and was adopted in 2018.[21] Further information and mapping of air pollution in the Borough can be found in appendix A, section 7.

***Transport and Travel in Croydon***

Public Transport

2.2.24 There are 17 rail stations in the Borough. Of these ten have more than one million entries and exits each year with East Croydon station by far the busiest with 22.6 million entry and exits in 2016/17. Details of entry and exit figures and accessibility status of rail stations in Croydon can be found in the appendix A, section 3.

[18] Croydon Local Plan p.143
[19] https://www.croydon.gov.uk/democracy/dande/policies/health/annual-public-health-report Page 27
[20] https://www.asthma.org.uk/get-involved/campaigns/publications/inequality/?utm_source=twitter%2c+facebook%2c+print+media&utm_medium=social&utm_campaign=health+inequality
[21] https://www.croydon.gov.uk/environment/pollution/air-pollution

2.2.25 Rail services in the Borough are principally operated by Govia Thameslink Railways which operates both Southern and Thameslink services. Fast non stopping services operated by Southern and Thameslink offer frequent and fast journeys to London Bridge, Farringdon, Kings Cross St Pancras, Clapham Junction, London Victoria, Gatwick Airport and Brighton from East Croydon, Norwood Junction, Purley and Coulsdon South stations. Other stations in the Borough are served by Southern local stopping services. London Overground services (operated by Arriva for TfL) serve West Croydon and Norwood Junction connecting the Borough to East London, Canary Wharf and Highbury.

2.2.26 The Tramlink network focused on Croydon Town Centre has branches to Wimbledon, Elmers End and New Addington with a total of 39 stops. Patronage increased from 19 million journeys when it opened in 2001 to a peak of 31 million journeys in 2013/14. Since then passenger numbers have dropped slightly with 29 million journeys made in 2017/18.[22] However, the trend is predicted to continue to rise. [23]

2.2.27 The Borough is well served in certain parts by buses, with 51 daytime routes and 7 night bus routes operating in the borough. The main bus corridors are on the north-south radial routes into and out of Croydon town centre particularly London Road, Brighton Road and Whitehorse Road. There are issues associated with bus congestion in the Croydon Town Centre area particularly around West Croydon. Some areas are considered to be poorly served by buses such as Waddon and some of the more suburban areas to the south of the Borough, particularly with regards to east-west connectivity.

2.2.28 Bus services are more heavily used to the north of Croydon Town Centre, predominantly in Norwood and Thornton Heath where the bus network is denser. Here more than 30% of residents using the available services to travel to work. In contrast, to the east and south of the Borough, buses are used by 10% or less of the population to get to work.

2.2.29 The map below [Figure 7] shows the access to public transport across the borough. In general the north and centre of the Borough is well served by public transport but large areas to the south and east of Croydon are poorly served.

[22] DfT Light Rail and Tram Statistics, England 2017/18
[23] MTS Figure …and 'Trams for Growth' http://content.tfl.gov.uk/trams-for-growth-presentation.pdf

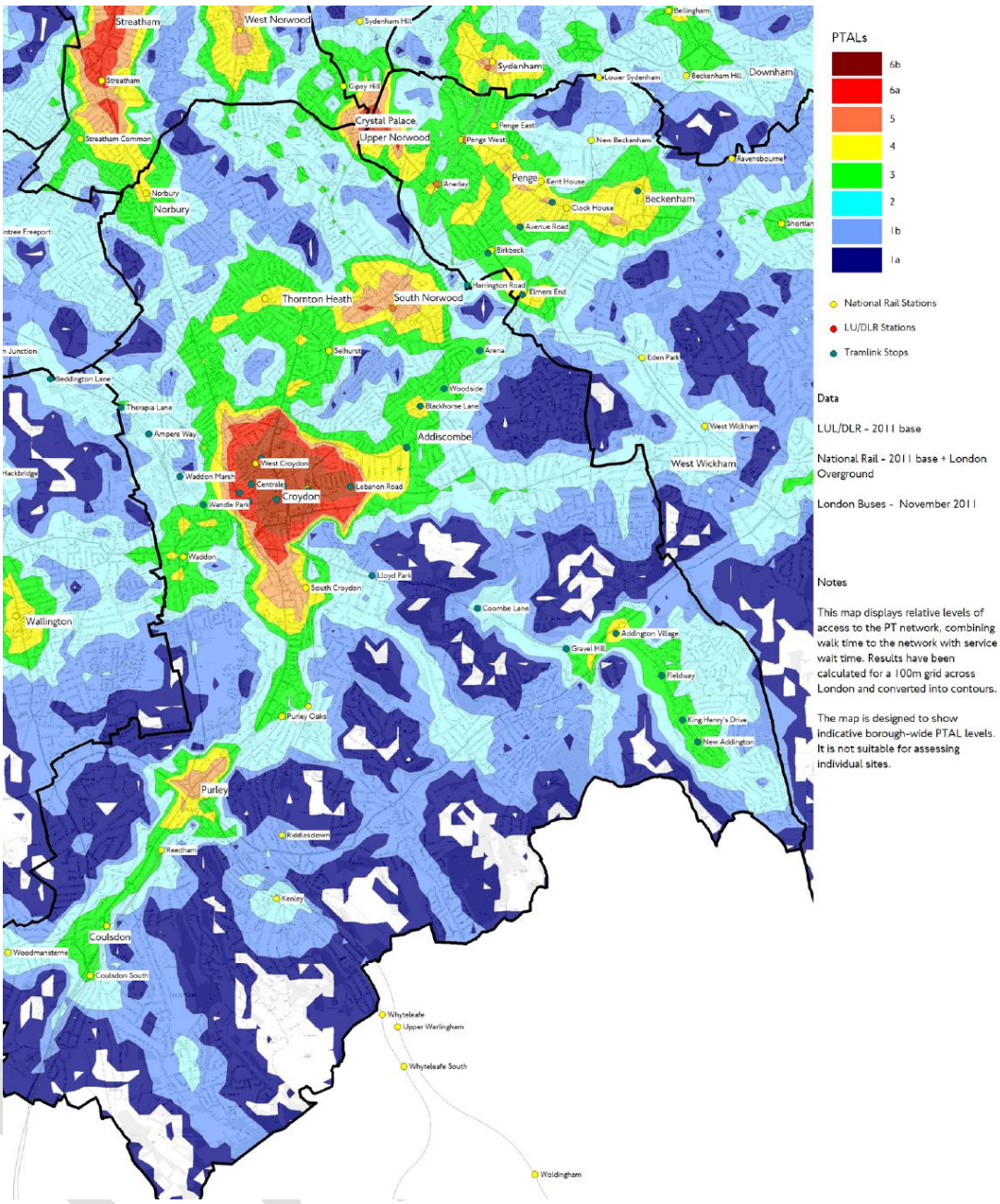



**Figure 7 Public Transport Accessibility Level [PTAL] map 2012** [Source: TfL]

Highway network

2.2.30 There are 777km of public highway in the borough, of which 77km are 'A' roads including TfL Road Network (TRLN).

Road traffic volumes

2.2.31 The highest flows of traffic in Croydon are on the A23 TLRN corridor along the west side of the Borough, as well as on the ring road around the Metropolitan Centre including the A232 Croydon Flyover, Roman Way and Wellesley Road.

2.2.32 Over the last 10 years the volume of traffic on Croydon's roads decreased following the economic crisis of 2008 but has started to increase again in recent years as shown in Figure 8.

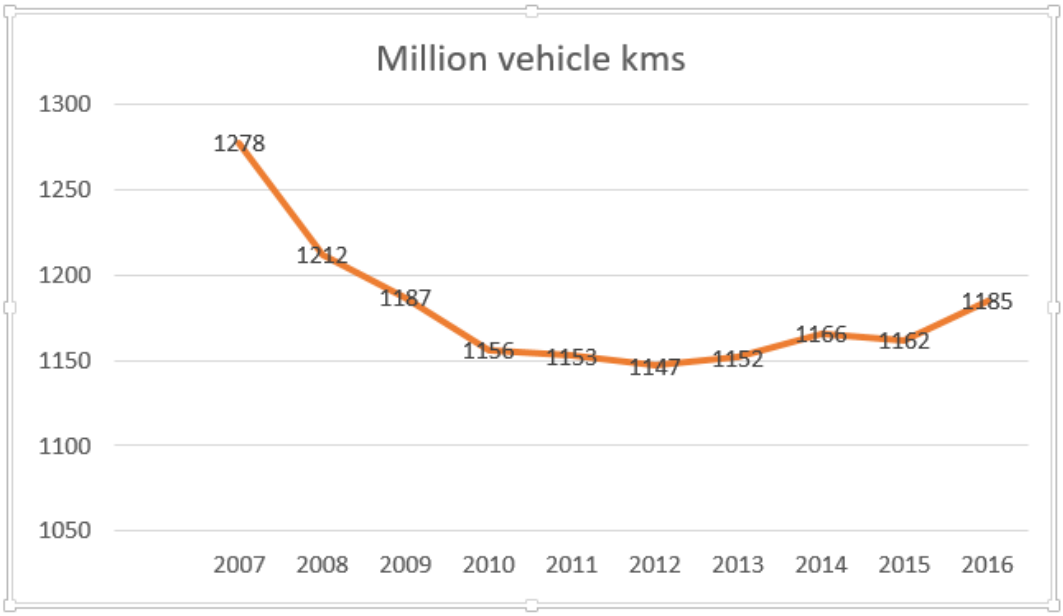


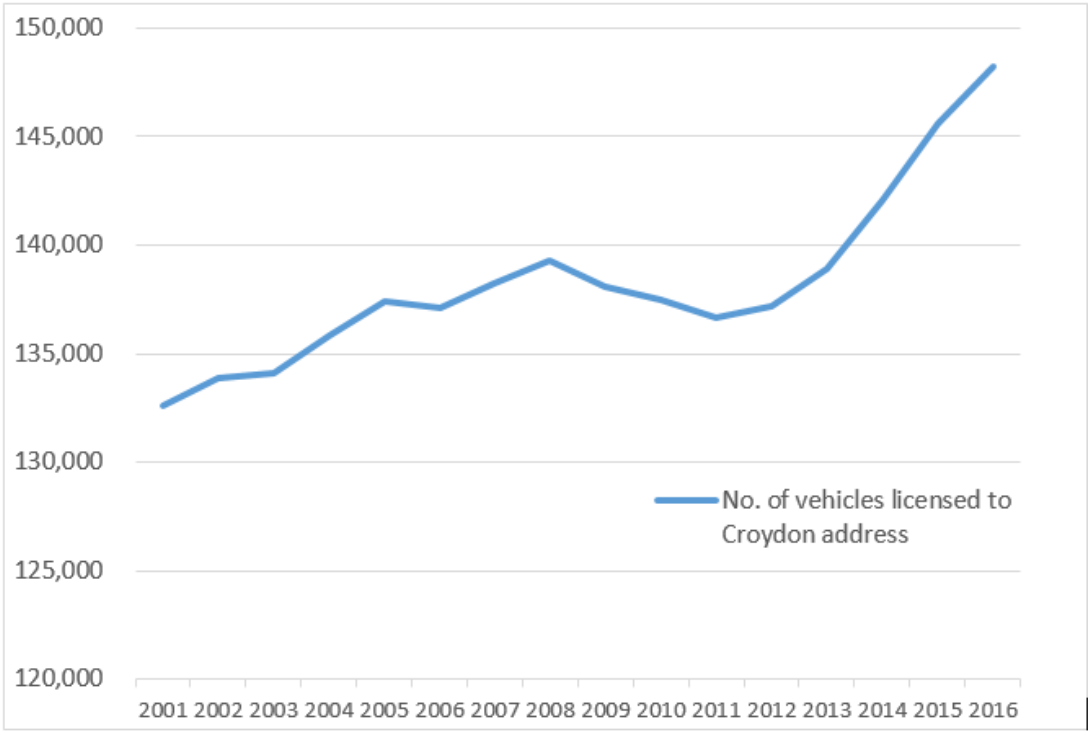

**Figure 8 Volume of Traffic** [Source: DfT Traffic Statistics[24]]

Car ownership

2.2.33 According to the 2011 Census 66.5% of Croydon households had access to a car or van. This is a 5% reduction compared to 2001 but is still higher than London as a whole (58%). However recent data provided by TfL from the DVLA suggests a dramatic increase in the number of vehicles licensed to addresses within the Borough. Figure 9 below shows the number of vehicles licensed to an address in Croydon increasing from 132,572 in 2001 to 148,256 in 2016 with an increase of almost 10,000 vehicles alone in the three years up to 2016. Further analysis and investigation is required to understand where and why this increase is occurring.

[24] https://www.gov.uk/government/collections/road-traffic-statistics

**Figure 9: Number of Vehicles Licensed to Croydon addresses 2001-2016** (Source: TfL & DVLA)




2.2.34 There is a distinct variation in car ownership across the Borough with much higher levels of ownership in the south and east of the Borough, see Figure A11 in appendix A, section 2.

Travel to Work

2.2.35 Croydon has the largest within borough commuter flows in London. The general journey to work is still dominated by the car for those that live and work in the Borough but is especially the case for those who live outside the Borough but work in Croydon.[25]

2.2.36 According to the 2011 Census, 54.8% of the 88,300 people who were recorded as working in Croydon in 2011 also lived in Croydon. However this group only accounts for 34.4% of the 140,600 Croydon residents whose place of work was recorded in the 2011 Census. The main methods of transport to work varied between those who lived and worked in Croydon, those who lived in Croydon but worked outside the Borough, and those who lived outside of the Borough but worked in Croydon. The most popular mode of travel for those who work in and live in Croydon is driving a car or van (41%); followed by bus, minibus or coach (22.3%); or walking to work (20.6%).

2.2.37 The method of travel to work for workers commuting in from outside of the Borough was somewhat different with a higher proportion driving to work (49.6%) and a larger number travelling by train (21%).

[25] 2011 ONS Population Census

**Figure 10: Method of travel to work for those who live & work in Croydon** [Source: ONS 2011 Census]

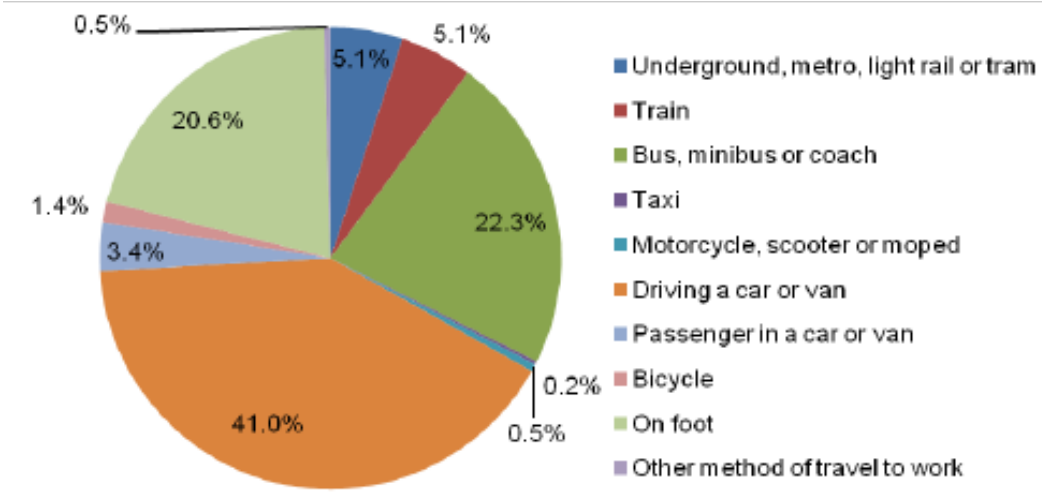
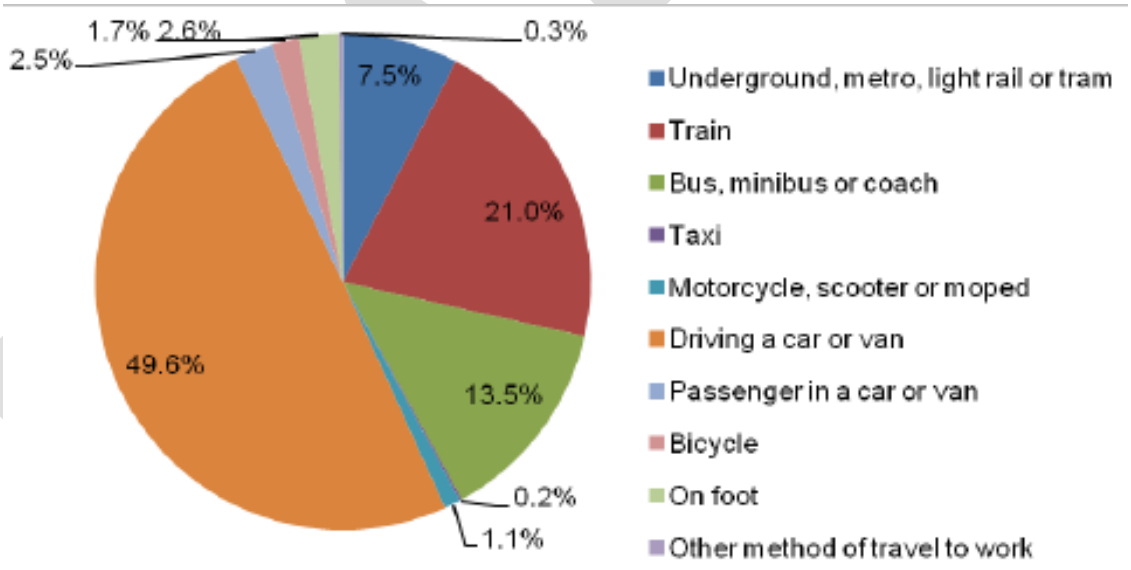



**Figure 11: Method of travel to work for those who live outside of the Borough and work in Croydon** [Source: ONS 2011 Census]



## 2.3 Changing the transport mix

2.3.1 The MTS sets a challenging but necessary target for 80 percent of journeys in London to be by active and sustainable means (walk, cycle, public transport) by 2041. Central London is already at the target and Inner London near to it. It is Outer London places like Croydon that will have to work the hardest to change the transport mix if London is to meet its overall target. TfL calculates that Croydon needs to move from an active travel mode share of 49% to 63% by 2041 if it is to play its full part in enabling London meet the target. This required trajectory is reflected in the targets set in this LIP3. The actions and proposals in this LIP3 are predominately working towards changing the transport mix to achieve the active travel mode share target.

**Challenges**

2.3.2 There has been significant population growth in Croydon since the last MTS which has resulted in increasing demand for and pressure on the transport system. The Croydon Growth Zone is the focus of new economic development and has excellent public transport connectivity, however current travel trends and a dominance of car travel (51% of all journeys 7 days a week[26]) places pressure on the existing road network, the local environment and people's health.

2.3.3 The core transport challenge affecting the Borough is the level of car use and the resulting dominance of vehicular traffic, which gives rise to impacts including noise and air pollution, road danger and community severance. A shift away from car use, particularly for short (and medium-length) local trips is essential, if the growth, access and environmental objectives identified in the local policies and the MTS are to be achieved.

2.3.4 Despite (and in part due to) strong spatial policies to promote sustainable development in Croydon, growth is predicted to increase demand on existing transport networks. Without transformative change:

- congestion, delay and pollution are predicted to increase on the strategic road network;
- crowding is predicted to rise on public transport; and
- growth plans, the economy and quality of life will be adversely affected.

[26] http://content.tfl.gov.uk/borough-local-implementation-plan-performance-indicators.pdf TfL LTDS

2.3.5 The loss of 11,000 jobs in Croydon Metropolitan Centre since 2007 resulted in some residents having to travel further afield for work, many of them to neighbouring borough town centres such as Bromley and Sutton.[27] Orbital public transport connections to these locations compare poorly with driving suggesting these residents are more likely to drive to work. For example, travelling from Croydon Town Centre to Bromley Town Centre by public transport took 53 minutes in 2012 (predicted to increase to 55 minutes in 2031 without addition improvements). By comparison, driving took 39 minutes in 2012 (predicted to rise to 41 minutes in 2031 due to increased traffic congestion).[28]

2.3.6 The above challenges point to the need for new ways of managing traffic demand on the road network across Croydon but especially around the Metropolitan Centre Growth Zone. The traffic demand management tools we will need to consider to restrain traffic growth may include additional parking controls, vehicle access restrictions and a workplace parking levy.

2.3.7 At the same time there is an urgent need to invest in and improve public transport, walking to:

- accommodate population and employment growth;
- improve journey times; and
- make them attractive alternatives to the private car.

2.3.8 Table 1 below indicates a modest decrease in the car mode share across South London boroughs. The 2.8% decrease in Croydon is however below the Outer London average change of -4.8%.

**Table 1: Changes to mode share by car for South London boroughs 2006-2016[29]**

| Borough | Car mode share 2006 | Car mode share 2016 | Difference |
|---|---|---|---|
| **Croydon** | **52.9%** | **50.1%** | **-2.8** |
| Merton | 41.2% | 40.4% | -0.8 |
| Sutton | 56.9% | 52.8% | -4.1 |
| Kingston | 47.6% | 45.8% | -1.8 |
| Richmond | 43.2% | 38.5% | -4.7 |
| *Outer London* | *50.1%* | *45.3%* | *-4.8* |

[27] South London Sub-Regional Transport Plan, 2016 Update, TfL;
[28] South London Sub-Regional Transport Plan, 2016 Update, TfL; Page 96
[29] Analysis of the London Travel Demand Survey (LTDS) 2006 to 2016 data by TfL for the South London Sub-regional Transport Plan (2016 Update)

2.3.9 The data in Table 2 reveals that not only does Croydon have the lowest cycle mode share of all South London boroughs but we are also the only borough where it has decreased since 2006.

**Table 2: Change in cycling mode share in South London boroughs 2006-2016[30]**

| Borough | 2006 cycle mode share | 2016 cycle mode share | Change in cycle mode share |
|---|---|---|---|
| **Croydon** | **1%** | **0.7%** | **-30%** |
| Merton | 1.3% | 2.6% | +100% |
| Sutton | 0.8% | 1.7% | +113% |
| Kingston | 1.7% | 3% | +76% |
| Richmond | 3.1% | 6.2% | +100% |

2.3.10 Table 1 and 2 highlight the scale of the challenge facing Croydon in achieving the mode share targets set by the Mayor.

**Opportunities**

2.3.11 Through the Growth Zone framework Croydon's Metropolitan Centre is undergoing a renaissance with new retail, residential, leisure and office development planned to deliver 10,500 new jobs and 14,500 homes between 2019 and 2041. New development within the Growth Zone will be high density and car free to enable as many people as possible to live close to workplaces, fast public transport connections and to be able to use active travel to access the amenities they need.

2.3.12 Analysis undertaken by TfL (as part of the South London Sub-regional Transport Plan 2016 Update) suggests that north and central Croydon have some of the highest potential for mode shift away from the private car in South London (Figure 12 below (red and orange hexcells reflecting areas with highest potential for mode shift).

[30] Analysis of the London Travel Demand Survey (LTDS) 2006 to 2016 data by TfL for the South London Sub-regional Transport Plan (2016 Update)

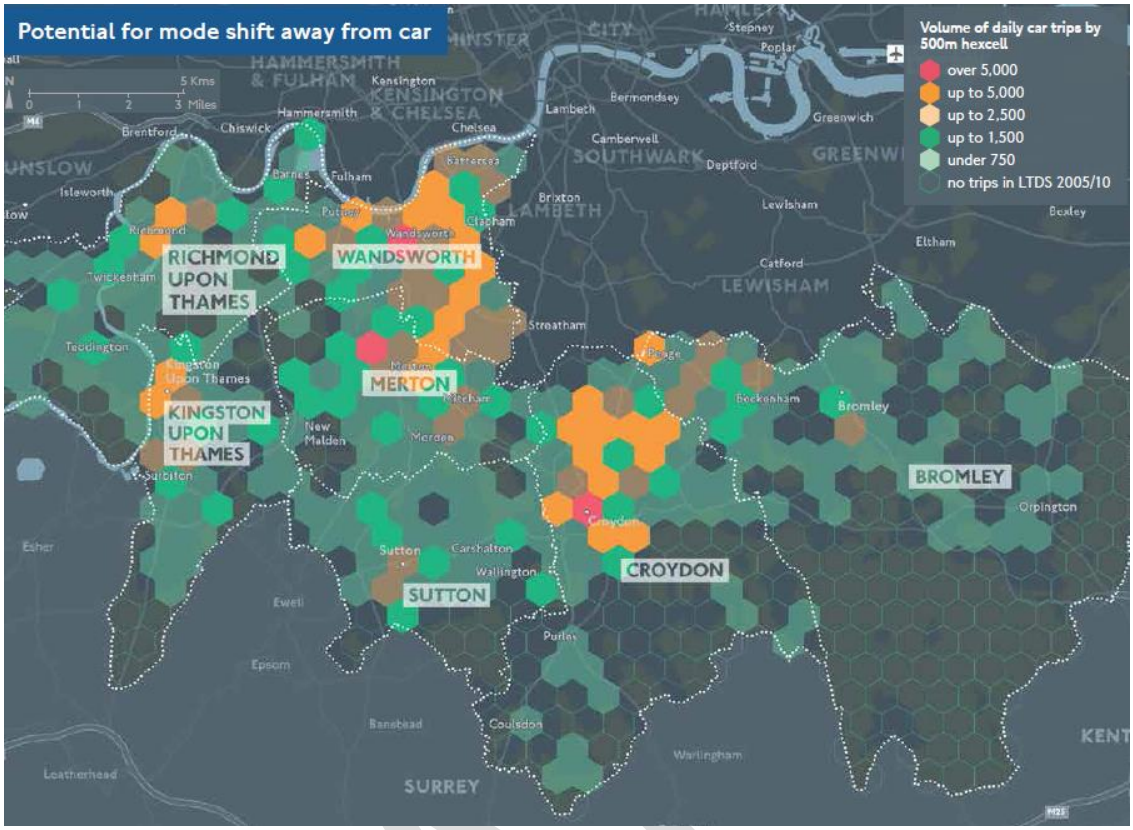



**Figure 12: Potential for mode shift away from private car** [Source: South London Sub-regional Plan 2016; page 80]

2.3.13 The greatest opportunity to move from car use to active and sustainable modes is around the Growth Zone and in the north of the Borough. These areas already have lower levels of car ownership, good public transport accessibility, and younger demographic that exhibits higher propensity to shift away from car use. In the south of the Borough it will be more challenging to reduce car use because of the relatively poor public transport coverage, high car ownership, and older population demographic. However we will strive to achieve mode shift in these areas, in particular working with TfL to expand bus accessibility.

**Overarching Borough objectives and goals:**

i) Croydon will reduce reliance on the car for local in-borough car journeys by creating streets and a transport network that prioritises walking, cycling and public transport.

ii) Croydon will reduce the number of local car trips and to ensure that by 2021/22 at least 50% of all journeys made residents are by walking, cycling and public transport. By 2041, 63% of all journeys made by residents are by walking, cycling and public transport.

## 2.4 Mayor's Transport Strategy outcomes

2.4.1 The outcomes the MTS is working towards are interrelated and mutually supportive. As a consequence, challenges to meeting one of the MTS outcomes are often common to the other outcomes, as are many of the opportunities. If grasped, each opportunity has the potential to support a number of the MTS outcomes. In Croydon, it is often the case that a transport challenge is also an opportunity.

## 2.5 London's streets will be healthy & Londoners will travel actively

**Outcome 1**

**Key challenges**

- Low physical activity amongst residents resulting impacts on obesity, poor physical health, mental health and social isolation
- Very low and decreasing cycling levels (unique in London)
- Poor access to cycles
- Hilly topography in north & south of borough
- Ageing population
- Accessibility through parks after dark
- Physical severance by road and rail infrastructure
- Traffic dominance and street environment designed for the car
- Fear of cycling and lack of safe cycle routes

**Key opportunities**

- Largest young population in London
- Huge potential demand for active travel trips across the Borough but particularly in the Growth Zone
- Growth Zone funding framework offers once in lifetime opportunity to transform the public realm and remove pedestrian severance
- Growth Zone funding framework provides unique opportunity to create a comprehensive cycle network focused upon the Growth Zone
- Increasing densities and new developments that can incorporate designs that support walking and cycling
- Remodelled Fiveways A23/A232 junction with greatly improved pedestrian and cycle facilities

*Further background information and evidence on these challenges and opportunities can be found in* ***appendix A, section 4****.*

## Meeting the Challenges and Taking the Opportunities

2.5.1 To meet the outcomes set in the MTS, we will need to continue to implement measures that reverse the traffic dominance around the Growth Zone and create healthy streets that prioritise active travel.

### *Active Travel by Croydon Residents*

2.5.2 This LIP3 adopts a target of 63% of Croydon residents' journeys to be by active and sustainable modes by 2041. The current rate is only 49%, significantly lower than in our neighbour boroughs to the north in Inner London, but on a par with our neighbouring boroughs to our east and west.

2.5.3 Currently only 26% of Croydon residents are undertaking at least two x 10 minutes of active travel a day that is needed to stay healthy and we have been set the target or reaching 35% by 2021 and 70% by 2041.

2.5.4 The number of older people living in Croydon is increasing. Encouraging more older people to travel actively will mean more staying fitter and healthier for longer, in turn placing less burden on health services.

2.5.5 Croydon has the largest number of residents aged 17 and under in London. This presents an excellent opportunity to influence a generation that embraces new technology, active travel and does not necessarily aspire to drive their own car.

2.5.6 Croydon has huge potential for increased active travel. The typical weekday car journey into Croydon Metropolitan Centre is only 5km, a distance most people could easily cycle.[31] TfL estimates there are 400,000 potentially cycleable trips made in Croydon each day but just 6,000 cycle trips are made per day.[32] Currently 222,100 trips are made on foot each day, but an additional 125,600 walking stages could be made, the highest in London (see Figure A17 in the appendix). 29,000 of these are to or from the Croydon Metropolitan Centre. Combined with walking trips associated with accessing public transport, TfL estimate that there are nearly 180,000 potentially walkable trips and stages by Croydon residents, the highest figure in London.

2.5.7 TfL analysis looking at demographic propensity to walk and cycle, and the type of trips being made indicates areas with the greatest potential for active travel. Figures 13, 14 and 15 suggest key target areas should be in and around the Growth Zone, the areas to the north of the Growth Zone and an area to the south along the A23 and London Road corridors to Purley. These locations overlap with the areas of largest growth and development in the next decade.

[31] Croydon Cycling Strategy 2018

[32] http://content.tfl.gov.uk/analysis-of-walking-potential-2016.pdf

**Figure 13: Active travel potential in Croydon vs future demand**

[Source: TfL South London Sub-regional Transport Plan 2016 Update]

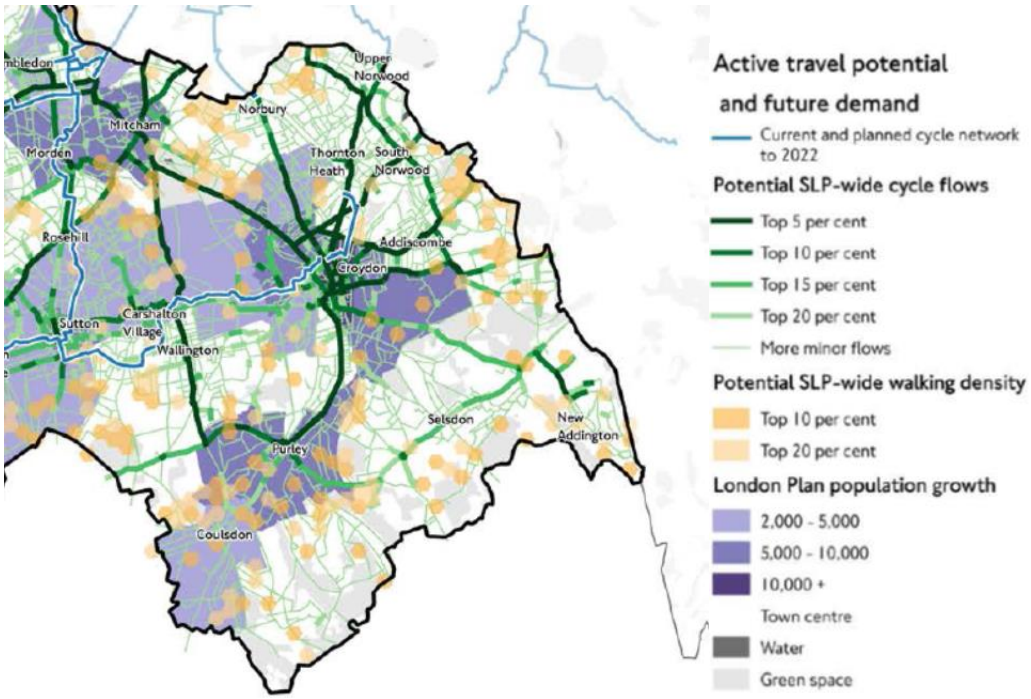



**Figure 14: Areas of greatest cycling potential**

[Source: TfL Playbook/LTDS 2010-2015]

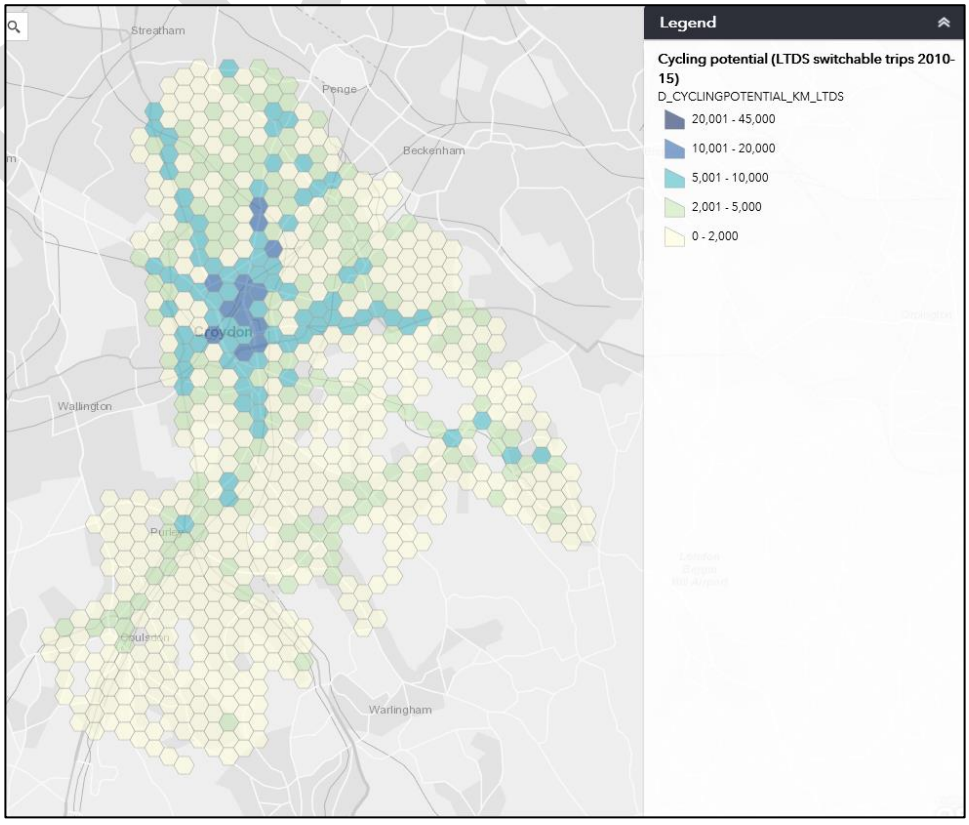
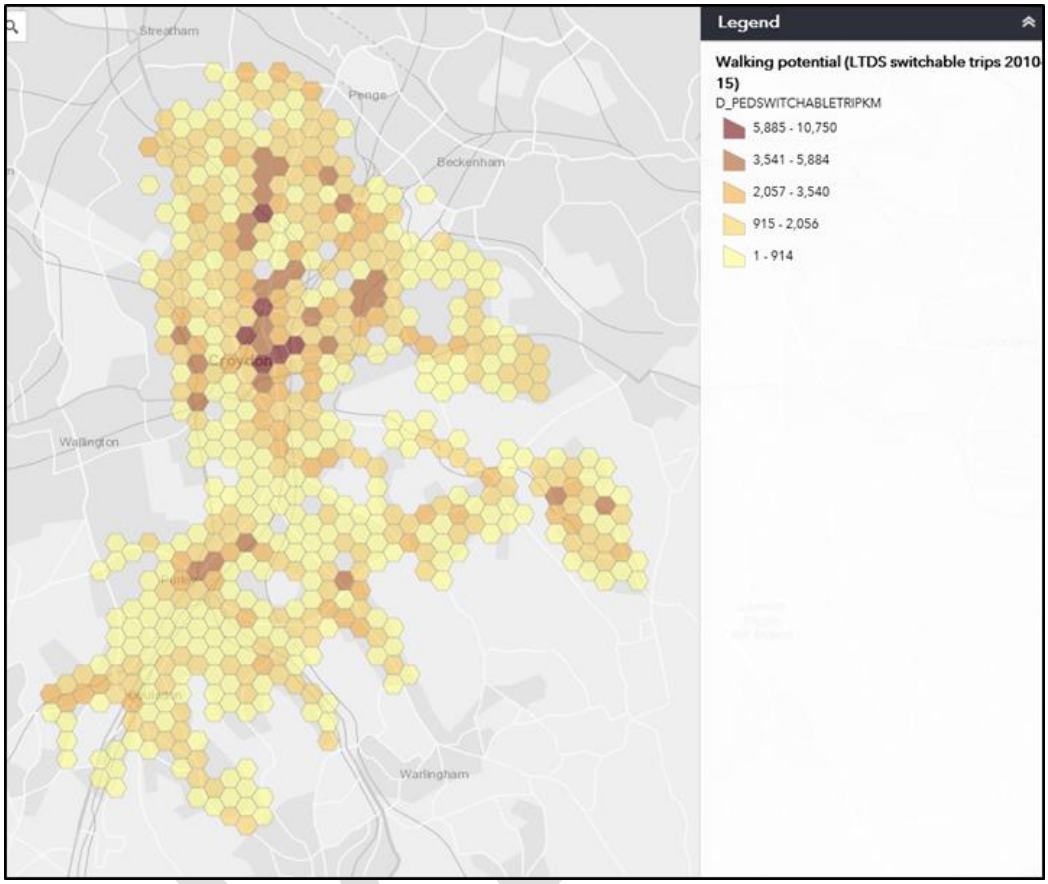


**Figure 15 – Areas of greatest walking potential**

[Source: TfL Playbook/LTDS 2010-2015]



### *Croydon's Street Environment and Severance*

2.5.8 The reconstruction of the Croydon Town Centre in the 1960s resulted in a traffic dominated road environment that prioritised access by car. As a result the Growth Zone is currently constrained by urban motorways built as a ring road around and through the Town Centre.

2.5.9 Vehicle dominance and infrastructure around the Town Centre limits pedestrian permeability and reduces its visual appeal and aesthetics making it an active travel-unfriendly environment. The flyovers and underpasses act as a physical barrier to active travel. They are also a psychological barrier resulting from the noise generated by the fast moving traffic, poor air quality, the fear of crossing the road and intimidating subways, potentially affecting the health and mental well-being of residents.

2.5.10 Croydon's biggest active travel challenge, the hostile pedestrian and cycle environment, gives rise to its greatest potential. Croydon has the highest potential for cycling and walking amongst all London boroughs. This potential is greatest in and around the Growth Zone. This potential is due to the large number of short trips being made by motorised means (predominately by private car) that could be readily walked or cycled if conditions were right.

**Image 1: Subway under the Croydon Flyover – the only pedestrian route through Old Town Roundabout**

***Walking and Public Realm Improvements***

2.5.11 We have been implementing a major programme of public realm and walking improvements in the Town Centre over recent years. This has now been given a major boost through the Growth Zone financing mechanism.

2.5.12 The Growth Zone includes significant investment in the public realm and street environment to cater for the projected growth in residents and visitors. Improvements to the streets in the Growth Zone are required to facilitate the safe movement of significantly more people and provide a public realm that is befitting of a modern, prosperous city centre.

2.5.13 Our Growth Zone programme includes:

- A £25m Cycling and Walking programme focused on routes feeding into the Growth Zone area and predominantly funded via the Growth Zone. This includes a programme to remove the remaining pedestrian subways, replacing them with surface level pedestrian and cycle crossings.
- A £45m Public Realm Improvement programme focused on places and spaces solely within the Growth Zone.
- A £1.8m Culture and Creative Lighting programme adding interest and intrigue in to the public realm.
- A £4.1m Junction Improvement scheme at the A232 Chepstow Road / Addiscombe Road.
- A £25m contribution towards the remaking of the Fiveways Junction and surrounding area.
- A £4.9m Movement Corridor Improvement scheme for Brighton Road (following the Healthy Streets Approach mentioned above).
- A £8.3m Movement Corridor Improvement scheme for London Road (following the Healthy Streets Approach mentioned above).
- A £6.5m Movement Corridor Improvement scheme for Mitcham Road (following the Healthy Streets Approach mentioned above).

2.5.14 Whilst the Growth Zone Cycling and Walking and Corridors programmes stretch from the Growth Zone towards the corners of the Borough, active travel is being further aided beyond the Growth Zone by the TfL LIP Corridors, Neighbourhoods and Supporting Measures core funding. The £2.6m from LIP Corridors & Neighbourhoods over 3 years spent on Walking & Pedestrian Improvements, and Cycling Strategy Delivery programmes will continue to:

- provide new safe and secure pedestrian crossing facilities, with dedicated pedestrian phases and pedestrian countdown where appropriate.
- make accessibility improvements to the public realm to ensure older residents and others with mobility issues are able to access local amenities and public transport.
- improve and upgrade Public Rights of Way.

2.5.15 We are ensuring that new development contributes directly (and / or financially) to creating a more pleasant walking and cycling environment through developer contributions in the form of S106 and S278 agreements.

2.5.16 Via this new LIP3 we are taking the opportunity to focus our school related active travel promotion activities to help bring about the Healthy Streets objective via 'Healthy Schools Neighbourhoods'. In such Neighbourhoods we will work with the schools as a means of also engaging with the wider community to find and implement ways of helping all move through the neighbourhood more easily and safely on foot and by bike whilst also improving the environment within the Neighbourhoods. Active travel promotion activities including BikeIt will be directed to participating schools. This is with a view to not just improving the environment here and now, but to help ensure that our young people develop the active and healthy travel habit.

2.5.17 As part of our Healthy Schools Neighbourhood programme, but also more widely, we will expand and build on our award winning School Pedestrian Zone pilots. These zones prevent parents and carers driving up to the school gates helping to reduce the local impacts associated with the car based school run and also leading to more active travel as part of the journey to/from school.

**School Pedestrian Zones**

At key times of the school day there is a significant increase in traffic flow and in some cases irresponsible parking. At some locations this can create obstructions, which in turn cause hazards that could endanger residents, road users, pedestrians and school children.


In order to tackle this issue Croydon Council has very successfully piloted a scheme restricting vehicle access to four school zones within the borough. The scheme was implemented as a pilot in September 2017 with the aim of restricting traffic from entering the street during the prescribed hours at the start and end of the school day. This scheme has now become permanent at the four sites identified and acknowledged by many as a success.

The scheme has resulted in significant reduction in traffic around the school gates at each of the schools and in we have observed more children cycling or taking public transport to their school instead of being dropped off at the school gate.

Given the success of the scheme and the positive results the Council has decided to make the scheme available to other suitable school roads in the Borough.

**Liveable Neighbourhood Bid Proposal – Reconnecting Old Town & Removing the Ring Road Severance**

Our Liveable Neighbourhood proposal involves reducing traffic dominance of the Croydon Ring Road by reallocating roadspace to pedestrians and cyclists and introducing new green infrastructure, innovative lighting and public art. These interventions will help counter the grey concrete, traffic noise and air pollution, and transform the perception of the underpasses, turning them into an attraction in their own right.

**Visualisation sketch showing what the ring road could look like in front of the Minster**

The proposal includes a number of the schemes outlined in the Old Town Masterplan including the plans to enhance the urban realm, particularly around the historic Croydon Minster and to create a new public space at Reeves Corner.

**Pedestrian underpass at Reeves Corner**

A Super Zone concept is being developed by Public Health in partnership with other departments in the Council and will focus on the 400 metres around a school within the proposed Liveable Neighbourhood area.

### *Cycling by Croydon Residents*

2.5.18 As previously mentioned, very few people cycle in Croydon. Less than 1% of journeys by Croydon residents are by bike. Only 1% of Croydon's residents cycle for at least 30 minutes five times a week. This may be reflective of the fact that currently zero percent of the Croydon population live within 400 metres of part of the London strategic cycle network (i.e. a Cycle Superhighway and Quietway). Croydon not only has the lowest cycle mode share of all London boroughs, we are also the only borough where it has decreased since 2006.

2.5.19 Our recently adopted Cycling Strategy[33] identified four challenges to getting more people cycling:

- Culture – need to change the perception that cycling is not for everyone to thinking that cycling is something people of all ages and abilities can do.
- Safety- the fear of traffic and road safety in general deter most people from cycling.
- Availability – availability of cycles in the household is lower in Croydon than most other outer London boroughs. The lack of cycle parking at the home end and at the destination is also a problem for many potential cyclists.
- Topography – Croydon is hilly in the northern and southern areas of the Borough which deters some people from cycling.

### The Growth Zone and the Healthy Streets Approach

2.5.20 It is at the Growth Zone where some of our most unhealthy streets and roads were constructed. It is also at the Growth Zone where (through our major Public Realm and Walking and Cycling Programmes) we will be doing the most to right the past mistakes and turn harsh road infrastructure back towards more pleasant, enjoyable and healthier streets.

2.5.21 The main street corridors leading into the Growth Zone are also amongst the locations where the need to pursue the Healthy Streets Approach is strongest. On each corridor the Approach will be tailored to address the differing issues and challenges. What is common to all is the need to move more people using far fewer cars and creating far less impact.

2.5.22 Our first Healthy Streets objective for the Brighton Road is to introduce high quality cycle lanes connecting the Growth Zone to Purley. This will be linked with increasing the quality of public realm at some of the important places on the route and introducing more street trees and other soft landscaping where we can.

2.5.23 The Roman Way and Mitcham Road is the focus area for our first Liveable Neighbourhood proposal. We need TfL to work with us and transform the pedestrian and cycling environment at the Lombard Roundabout if we are to

[33] https://www.croydon.gov.uk/sites/default/files/Cycling_strategy_2017.pdf

make this important movement corridor, one that can support and encourage healthier travel and be a more liveable place.

2.5.24 Along the London Road from Thornton Heath Pond to the Growth Zone we will continue our programme of public realm improvement, increased provision for cyclists and continue to green the corridor.

**Measures to Help People Get Cycling**

2.5.25 To help address low levels of cycle ownership we:

- will require cycle parking as part of new built development;
- are retrofitting cycle storage at Council housing estates and on street (in the form of Cycle Hangars) with 'S106' funding secured through planning obligations relating to the new development;
- rolling out Brompton bike hire docks; and
- researching the optimum means of providing a bike share scheme in Croydon with the intention of delivering a scheme that is convenient and easy to use but with little street clutter and footway obstruction.

2.5.26 The dockless and virtual hub based bike share scheme would include electric bikes. The prime reason is to contribute to improving accessibility in areas to the south of the Borough with hillier terrain and poorer public transport coverage. A dockless and e-bike share scheme will be one means for supporting the intensification areas in the south of Croydon identified in the Croydon Local Plan and intensification in and around the Growth Zone.

2.5.27 Beyond the Healthy Schools Neighbourhoods we will continue our work with schools through the School Travel Plan process to help them:

- increase cycle storage and parking
- promote cycling
- deliver cycle training

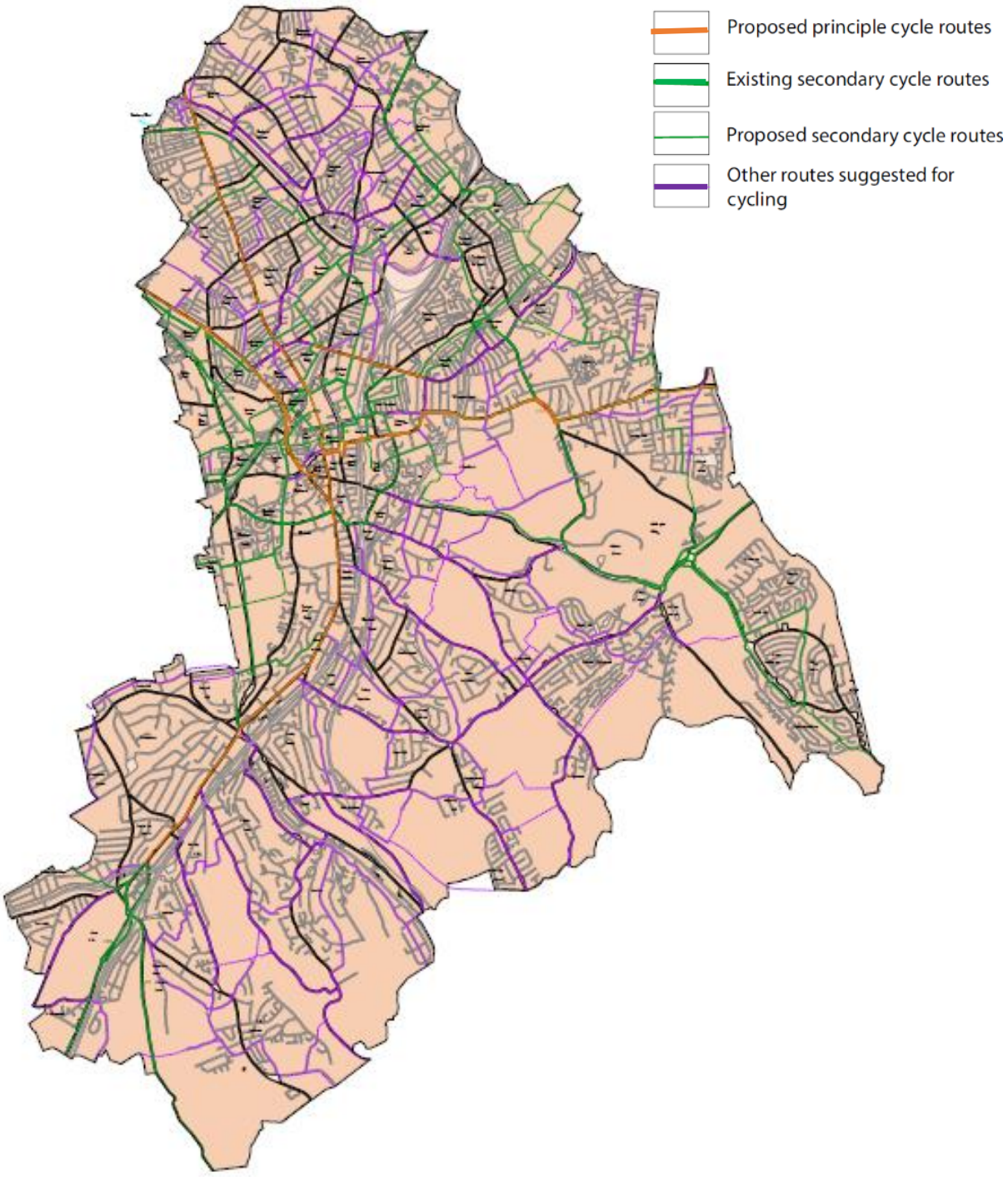
2.5.28 All of the above activities are intended to provide the next generation with a basic life skill and ultimately help contribute to bring about a cycling culture in Croydon.

**Cycle Route Network**

2.5.29 Our Growth Zone Cycle Route Network programme is the cornerstone of our Cycling Strategy. This network of high quality routes is designed to help overcome concerns regarding road danger associated with cycling, and to tap the areas of greatest cycling potential, (identified in Figures 13 and 15). The routes include key corridors leading to the Growth Zone such as Brighton Road, Mitcham Road, London Road and the A232 east towards Bromley, as well as secondary routes on quieter roads and off road routes. It also includes St James Road (A222) where there was a fatal cyclist collision in May 2016. Further details can be found in Appendix A, section 4.

2.5.30 Through the LIP3 process Croydon has engaged with our neighbouring boroughs (Bromley, Lambeth, Merton and Sutton) to ensure that our proposed route network links up with their proposed cycle routes and the wider London Strategic Cycle Network.

**Figure 16: Croydon Cycle Route Network 2019** [Source: Croydon Council Strategic Transport]



**Borough objectives:**

iii) Croydon will create healthy streets and neighbourhoods that encourage walking and cycling, and where traffic volumes and speeds are low.

iv) Croydon will improve accessibility for pedestrians and cyclists through increased priority at key junctions and reduce severance caused by major roads, railway lines and parks.

v) Croydon will implement and deliver the network of cycle routes and proposals outlined in the Croydon Cycle Strategy.

**Short to medium term delivery objectives and proposals:**

- Deliver direct, safe and high quality cycle highways between central Croydon and local centres by 2023.
- Deliver a network of safe and quiet cycle routes through low traffic residential neighbourhoods to encourage new cyclists.
- Secure funding & deliver a Liveable Neighbourhood scheme to the west of the Growth Zone area.
- Reduce severance by removing or improving intimidating subways and underpasses.
- Improve access for pedestrians and cyclists through our parks and open spaces after dark by introducing lighting and improving security.
- Improve access to cycles for our residents by introducing a shared cycle hire scheme that includes e-bikes.
- Expand and upgrade our network of greenways and public rights of way to encourage more leisure walking and cycling trips.
- Continue to create attractive high streets and district centres with high quality public realm, good signage and legibility.
- Continue the delivery of visitor cycle parking at key destinations and secure residential cycle parking.
- Pilot the Healthy Schools Neighbourhoods programme to work with schools, parents and local residents to increase walking and cycling trips in these neighbourhoods.
- Ensure the successful delivery by TfL of the Fiveways Junction scheme.

**Long term goals**

- By 2041 Croydon will have a well-developed cycling culture, and cycling will be seen as the norm rather than the exception.
- By 2041 Croydon Metropolitan Town Centre will be renowned for attractive and high quality public realm, and people choose to walk and cycle to get there.

## 2.6 London's streets will be safe and secure

### Outcome 2

**Key Challenges**

- Speeding traffic and poor driver behaviour resulting in road danger and fear of cycling and walking.
- Lack of enforcement and lack of traffic police presence on London's roads.
- Lack of safe pedestrian and cycle provision at key high risk junctions.
- Finding space to accommodate cycle routes alongside bus priority on main movement corridors.
- Increased heavy vehicle construction traffic at the Growth Zone and risk to vulnerable road users.
- Threat posed by vehicles being used in terrorist attacks in high footfall areas.

**Key Opportunities**

- 20mph speed limits recently delivered across most of the Borough with more to come.
- Creation of a network of quality cycle routes focused on the Growth Zone.
- Growth Zone funded Movement Corridors programme following the Healthy Streets approach.
- Remodelled Fiveways (A23/A232) junction with greatly improved pedestrian and cycle facilities.
- Removal of the intimidating pedestrian subways in the Growth Zone.
- More walking and cycling leading to increased natural surveillance in the street environment.
- Applying Safer by Design principles to the proposed replacing of East and West Croydon Stations with new world class stations.
- Behaviour change opportunities through the Growth Zone.
- Advent of connected and autonomous vehicles.

*Further background information and evidence on these challenges and opportunities can be found in* ***appendix A, section 5****.*

### Meeting the Challenges and Taking the Opportunities

**Road Danger**

2.6.1 Road safety concerns are key reasons preventing many more people cycling and walking in the Borough. Lack of safe cycle routes, obstructed pavements and lack of safe and convenient pedestrian provision at key road junctions and links deters people from making active travel journeys. This in turn curtails independent mobility, particularly of children, young people, older and people with disabilities, with resulting inactivity and health consequences.

2.6.2 The MTS Vision Zero aim seeks to achieve zero people killed or seriously injured on London's streets by 2041. This requires a different approach to reducing road collision casualties in which road danger is reduced at source and a more pro-active approach is taken to identify and mitigate road danger. By managing traffic speeds through 20mph speed limits the severity of road collisions can be reduced and offers more scope for more cycling as the perception of danger from road traffic is reduced.

2.6.3 Croydon has delivered an ambitious programme of 20mph speed limit areas on our residential roads. At least 85% of Croydon Council controlled roads are now covered by a 20mph speed limit, (see Figure 17). However to improve their effectiveness and to play their potential major role in achieving the Vision Zero and Heathy Streets objectives, we need the Metropolitan Police to enforce them much more intensively.

2.6.4 Croydon Council already uses a number of techniques to improve compliance with speed limits and improve driver behaviour such as the installation of ANPR speed activated warning signs. In street environments with:

- high densities of pedestrians and cyclists; or
- where there are known road danger concerns or speeding issues

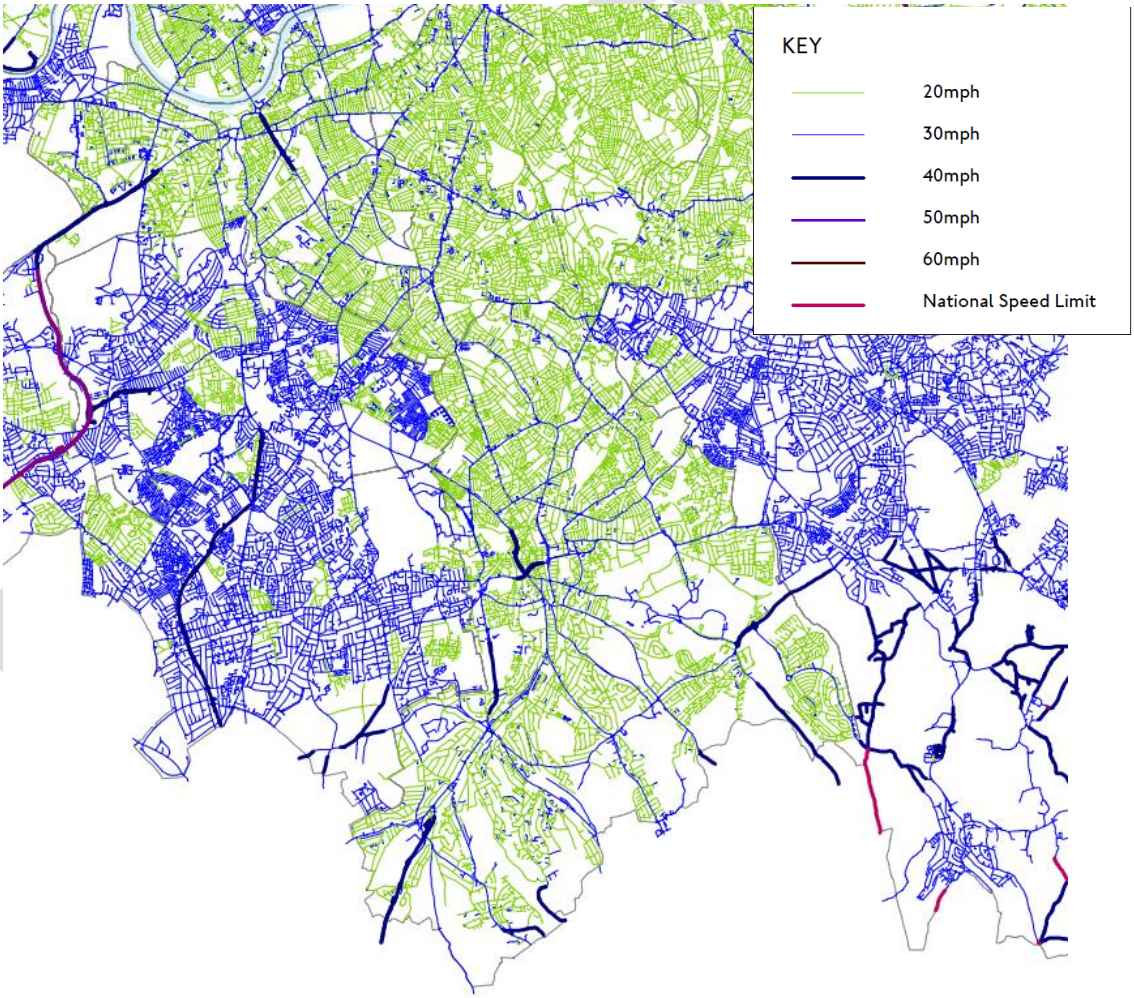
then we will work to create speed-safe environments.

2.6.5 This will be achieved through traffic engineering measures and the redesign of our streets to reduce road danger. In locations with a serious collision history or with specific circumstances such as high volumes of construction traffic then we will consider the introduction of enforcement technology such as Average Speed Camera Systems.

2.6.6 Road casualties remain focussed on the major road network and street corridors, particularly at the district and town centres that sit on them. Here pedestrians and cyclists are concentrated around the heaviest flows of vehicles often going at significant speed outside of peak times. These corridors tend to focus into the Growth Zone. We will support and encourage TfL with its proposal to cut speed limits by 10mph on stretches of some of its roads leading into the Growth Zone. In turn we will use our Growth Zone Corridor programme and hopefully TfL's Liveable Neighbourhoods programme to improve safety as part of the Healthy Streets approach on some of our busiest roads and streets approaching the Growth Zone.

2.6.7 Fiveways Corner is the traffic dominated and pedestrian hostile major intersection of the A23 (which skirts the western edge of the Growth Zone) and the A232 (connecting into and through the Growth Zone). It is a major block to people walking or cycling locally or to walking or cycling from the west of the Borough into the Town Centre / Growth Zone and an accident hotspot. We are working in partnership with TfL to deliver an £85 million improvement project (£25m from the Croydon) at the intersection. This will put sections of one-way traffic back to two way working, but more importantly deliver greatly improved pedestrian and cycling facilities.

**Figure 17: London Speed Limit Map (Croydon and adjacent boroughs) - Extent of 20mph limits shown in green.** [Source: TfL June 2018[34]]




[34] http://content.tfl.gov.uk/digital-speed-limit-map.pdf

2.6.8 The Growth Zone itself is entering the major phase of redevelopment. In order to minimise and control construction vehicle movements we are implementing a Growth Zone wide programme of Construction Vehicle Planning and Management which includes holding construction vehicles and preventing them moving in the Town Centre during the busy morning peak. This will ensure we are minimising the risk to vulnerable road users from interacting with construction vehicles and HGVs.

2.6.9 Away from the Growth Zone we will be using an evidence led approach to direct TfL LIP Corridors funding to address the links and nodes on our street network with the highest casualty rates (generally at district and local centres).

2.6.10 Looking to the more distant future, autonomous vehicle technology offers increased safety. We are currently working with TfL, as partners in the Streetwise project (part of central government CAV2 programme) to investigate the benefits that might be brought about through such technology.

**Achieving Vision Zero – Safer Streets, Speeds, Fleets & Behaviours**

2.6.11 Croydon's Vision Zero Safer Streets programme will focus upon improving safety in our district centres, junctions and other locations with the highest casualty rates involving vulnerable road users and align our road safety engineering schemes to match Vision Zero principles. We will work with TfL to introduce a risk based methodology that includes a broader consideration of proactive road danger reduction that supports our active travel mode share aspirations.

2.6.12 Croydon will continue the rollout of 20mph zones on main roads in district centres and other locations with higher than average casualty incidences. We will consider how the design of the street contributes to road traffic collisions and where appropriate look at improvements such as junction realignment, gateway treatments and improve pedestrian crossing provision.

2.6.13 We are also working with and lobbying TfL to tackle collisions on the TLRN particularly along the London Road, Thornton Heath Pond, Lombard Roundabout and Purley Gyratory which currently act as a huge barriers to safe pedestrian and cyclist movement.

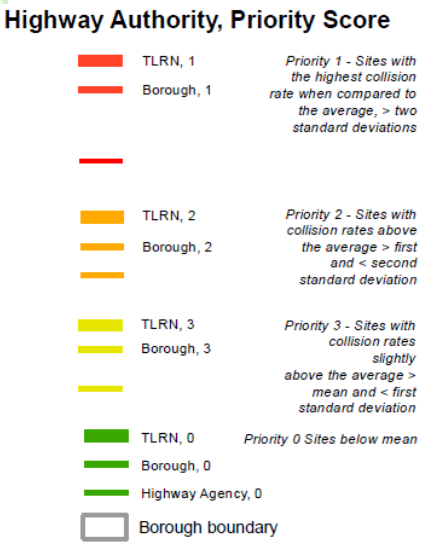
2.6.14 Our Safer Behaviours programme will reflect the new Vision Zero principles by focusing upon changing the behaviour of drivers of vehicles through education and publicity campaigns. It will also continue the successful work that has been undertaken with vulnerable road users through education and training at schools. Funding support for very successful Safe Drive Stay Alive campaign will be maintained and there will be targeted work around motorcyclists and work related road risk.

### Spatial patterns of casualties and priority junctions and links

2.6.15 The map in figure 18 below shows the priority link and junctions for vulnerable road users (pedestrians, cyclists and powered 2 wheelers). It reveals a clear pattern of vulnerable road user casualties on the main road network in the centre and north of the borough. It is noticeable that the London Road corridor is identified as a priority and the north of the borough has a much higher incidence of priority 1 and 2 sites and links than the south. This is likely to be reflective of the higher population densities and traffic levels in the north, and the higher levels of driving (and lower levels of active travel) in the south of the borough.

2.6.16 The key spatial locations for focusing our Vision Zero and Safer Streets programme are shown in Figure 18 below. London Road, the Growth Zone and Brighton Road/South End will be tackled as part of the Growth Zone Programme. The LIP funded Safer Streets programme will focus upon the district centres of Thornton Heath, South Norwood and Upper Norwood the locations of which are shown in Figure 18 (sites B, C and D).

**Figure 18: Priority Junctions and Links for Vulnerable Road User Collisions** [Source: TfL]


| | |
|---|---|
| A | London Road |
| B | Thornton Heath |
| C | Upper Norwood |
| D | South Norwood |
| E | Growth Zone |
| F | Brighton Road / South End |

**Crime**

2.6.17 The Croydon Town Centre was reconceived and remade in the 1960's as a place few people would live. Instead people would drive in on urban motorways, parking at the office or retail centre and drive home at the end of the day. This left us with a pedestrian alien environment.

2.6.18 By delivering thousands of new homes in the Growth Zone accommodating thousands more residents, we are potentially increasing the levels of natural surveillance (both daytime and in the evenings) in the Growth Zone. However we have to remake and environment into one people enjoy being in and find legible and easy to navigate. Hence our multimillion pound programme of public realm improvement.

2.6.19 Our Growth Zone Cycling and Walking programme and other programmes (hopefully with additional support from TfL's Liveable Neighbourhoods programme) will remove the dangerous pedestrian subways built as part of creating the sixties motorcity. Helping more people walk and cycle into the Growth Zone will in turn provide more eyes and ears surveillance and foster a greater community cohesion.

2.6.20 The Growth Zone is a hub on the bus network and a key interchange point for young people traveling to and from school. This interchange activity can indirectly lead to antisocial behaviour. As part of making changes to bus services in the Growth Zone, we will encourage TfL to assess and consider the crime and disorder implications of any proposals.

2.6.21 We have introduced anti-terrorism infrastructure also known as 'Hostile Vehicle Mitigation' measures at East Croydon Station and are reviewing the risk and assessing the need for intervention at other important places such as pedestrianised streets.

2.6.22 The proposed remaking of both East and West Croydon stations provides the opportunity to apply safer by design principles to both the station themselves and the interchanges clustered around them.

**Borough objectives:**

vi) Croydon will Croydon will support and deliver the principles of the Vision Zero Action Plan and work towards ensuring we have the safest roads in London with no deaths or serious injuries on our roads by 2041.

**Short to medium term delivery objectives and proposals:**

- Lobby the Metropolitan Police to enforce 20mph limits on all our residential streets and introduce speed reduction measures on streets where there is evidence of an ongoing speed and safety issue.
- Extend 20mph speed limits onto our main roads in busy pedestrian areas such as district and town centres, and other locations with specific safety concerns.
- Provide safe and secure crossing facilities with dedicated pedestrian phases at all key junctions in the Borough, including pedestrian countdown where appropriate.
- Work with local residents to reduce external through traffic in residential areas using the Low Traffic Neighbourhoods principles.
- Undertake targeted behaviour change campaigns to encourage safer behaviours amongst drivers.
- Robustly manage construction and logistics activity in the Growth Zone ensuring safety proposals for vulnerable road users (FORS, Direct Vision, CLOCS) are required for all development sites as part of the Growth Zone Construction CLP criteria.
- Review vulnerable locations with high pedestrian footfall to determine need for Hostile Vehicle Mitigation measures and ensure all new public realm schemes consider these risks.
- Work with and lobby TfL to tackle safety at high risk junctions and links on the TLRN including Lombard Roundabout, Thornton Heath Pond, London Road and Purley Gyratory.
- Through the Safer Streets programme we will tackle the highest risk junctions and links on the Borough controlled roads.
- Through the Safer Behaviours Programme we will engage with schools and work with TfL on the school behaviour sessions such as Safe Drive, Stay Alive.

**Long term goals**

- By 2041 Croydon will have the safest roads in London with zero deaths or serious injuries on our roads.

## 2.7 London's streets will be used more efficiently & have less traffic on them

**Outcome 3**

**Key challenges**

- External traffic cutting through residential areas.
- School run car trips a key cause of traffic congestion.
- Increasing car ownership in recent years.
- Major increase in construction traffic focussed of the Growth Zone during the period of major redevelopment.
- New car park as part of the redeveloped Whitgift Centre.
- High levels of journey to work by car for trips into and within the Borough.
- High numbers of Council staff driving to and from work.
- Increasing online deliveries and associated freight traffic.
- Increasing population across the Borough including in areas poorly served by public transport.
- Taxi over ranking at East Croydon Station.

**Key opportunities**

- Direct traffic restraint delivering an income stream potentially supporting expansion of Tramlink.
- Many of the journeys currently made by car into the town centre could be made by walking and cycling if conditions are put right.
- Croydon is the London Borough with the greatest potential for walking and cycling.
- The Growth Zone's public transport accessibility and connectivity is only rivalled by that of Central London.
- Thousands of new homes and even more residents in the Growth Zone, side by side with new jobs, retail and leisure facilities
- The construction phase of the Growth Zone resulting in more difficult car journeys within it and the need to promote and encourage access by alternative means.
- Car free and car-lite development supported by on-street parking controls manging on-street parking stress.
- Car clubs removing the need to own a car.
- Increasing number of alternative forms of transport other than the private car.
- Advent of autonomous vehicles (challenge & opportunity).

*Further background information and evidence on these challenges and opportunities can be found in* ***appendix A, section 6****.*

## Meeting the Challenges and Taking the Opportunities

### Road traffic Croydon-wide challenges

2.7.1 A high volume of short journeys by private cars are made at peak hours to schools, contributing to significant congestion and carbon emissions. These short journeys may also be a consequence of a perceived risk of accidents due to unsafe roads and poor accessibility making parents feel concerned about allowing children to walk or cycle to school. This has a direct impact on children's health and well-being due to becoming physically inactive. Sustainable alternatives to the car are also less appealing in the south of the Borough which is hillier and generally has poorer public transport access than in the north. This is a deterrent, especially for more vulnerable and elderly people, to travel by bicycle or on foot.

2.7.2 For Croydon the most significant delays are generally on the main road network in and around the Town Centre and along the A23 corridor.

### Growth Zone challenges and opportunities

2.7.3 The Growth Zone presents significant challenge to those wishing to travel to it by bike and on foot. However it has the greatest potential for changing the transport mix. The Growth Zone is the location that must work the hardest if our ambitious sustainable mode share target set by this LIP is to be achieved. With its public transport connectivity and accessibility only rivalled by that of Central London and its unrivalled potential for walking and cycling, the Growth Zone will need to move closer to the MTS London wide 80% sustainable mode share target. This will mean continuing to prioritise access to the Growth Zone by means other than the private car and continuing to invest in and improve the alternatives.

### Traffic reduction strategy

2.7.4 The MTS states that:

*Traffic reduction strategies should be developed at a borough level as part of Local Implementation Plans, with the aim of reducing car and freight traffic levels across London. This means providing alternatives to car use, discouraging unnecessary trips, looking at how street space is used most efficiently, supporting car-free lifestyles and taking action to reduce and retime freight trips.*

2.7.5 The anticipated form of these strategies is still unclear. We would suggest that the multifaceted approach in this LIP is to invest in walking, cycling, public transport and more liveable neighbourhoods to bring about traffic reduction, and this will form the mainstay of our 'traffic reduction strategy'. However, for that investment to be effective, it has to be accompanied by some form of road traffic restraint. We cannot successfully pursue the Healthy Streets Approach on the main corridors leading into the Growth Zone without it. It is difficult to envisage

a Brighton Road where over time we are able to deliver the following without reduced traffic levels:

- quality cycling infrastructure;
- a significant increase in bus numbers and eventually trams;
- an improved walking environment; and
- significantly enhanced public realm at the important places.

2.7.6 Additional buses and even trams are unlikely to offer an attractive alternative to the car if they are caught in slow moving traffic with journey times significantly slower than cars on the route. Queuing buses and general traffic are not conducive to a healthy and enjoyable street environment.

2.7.7 Helping people out of cars and to travel by healthier and more sustainable means is likely to need both 'carrot' and 'stick'. There is already an inefficient form of congestion charging in Croydon, with the 'charge' paid in time wasted in slow moving traffic and in wasted fuel. The highest 'charge' is paid by those businesses and individuals with the highest value of time. Via MTS proposal 23, the Mayor offers to work through TfL with local authorities to develop and implement appropriate traffic demand management measures. Working with TfL and our sub-regional partners we will investigate the potential for additional and appropriate forms of traffic restraint, including whether a levy on workplace parking spaces would be effective. Our investigation will include:

- the efficiency of the potential mechanism;
- issues relating to equity;
- the ability to influence travel choices;
- the level of environmental gain; and
- The ability of income streams to fund high quality, high capacity alternatives to the car such as extensions to the tram network.

2.7.8 Any direct forms of traffic restraint will need to demonstrate they are delivering significant and tangible alternatives to the private car. Therefore, as we conduct our investigation, we expect TfL to work with us to implement MTS Proposal 89 and to continue to develop proposals to extend Tramlink in Croydon.

**Managing the car parking supply**

2.7.9 When making the Croydon Town Centre Opportunity Area Planning Framework (OAPF (adopted 2013)), it was estimated that there were approximated 7,150 off-street public car parking spaces, with a similar number of private non-residential parking spaces at office developments. The OAPF:

- directs new public car parking to the retail core within the Growth Zone (happening as part of the redevelopment of the Whitgift Centre);
- caps public carpark spaces at 2013 levels; and
- requires a reduction in public car parking spaces in the more peripheral parts of the Growth Zone to ensure the cap is not exceeded.

2.7.10 We are currently removing and redeveloping much of the major Fairfield public car park. It is anticipated that even with the new carpark capacity planned for a redeveloped Whitgift Centre, publically available car parking spaces will reduce well below 2013 levels and the OAPF cap.

2.7.11 Anecdotal evidence from car park operators suggests there been a significant reduction in car park occupancy in the Growth Zone, car parks were once full in 2000, in 2018 they are half empty. The car park operators do not see this as a reflection on the Town Centre's past economic fortune, rather they blame the success of Tramlink.

2.7.12 The efficient and fair management of on-street parking supply is a proven tool for successfully managing congestion and highway safety, it is also an effective way of managing demand for car travel, particularly for short trips.

2.7.13 As part of the Growth Zone framework a review of on street parking demand in and around the centre of the Borough is currently taking place. This review will assess the need to increase the breadth and scope of parking restrictions in light of the development taking place in the Growth Zone.

2.7.14 Growth Zone funding has been allocated for new innovative parking and traffic management technologies such as variable messaging and dynamic parking sensors. The aim is to use this technology to better manage parking demand and traffic flows in order to reduce congestion and keep drivers informed.

2.7.15 The Borough's district centres away from the Growth Zone are also experiencing high levels of parking stress and competing demands for kerbside space. LIP funding will be used to undertake parking management reviews in district centres in the more suburban areas of the Borough to reduce the impacts of commuter parking and ensure sustainable growth in these areas.

**Timed road closures and access restrictions**

2.7.16 As previously mentioned Croydon has successfully introduce School Pedestrian Zones outside a number of schools to tackle the congestion and road danger caused by the school run drop off and pick up. Linked with the Healthy Schools Neighbourhoods programme this has the potential to have a significant impact on traffic congestion in parts of the Borough.

2.7.17 Building upon the success of School Pedestrian Zones and looking at comparable schemes in Waltham Forest, we also plan to investigate the potential for using pedestrian zones or timed road closures to reduce rat running by external traffic on residential roads.

2.7.18 Where supported by local residents we will investigate options for completely closing residential roads to vehicular through traffic to reduce congestion, improve air quality and encourage more active travel.

2.7.19 In our Growth Zone and other hot spots for bus delays we will investigate options for improving bus journey times and reducing traffic congestion through the introduction of further bus and cycle only access restrictions.

### Car Clubs

2.7.20 Car clubs aid traffic reduction aims by reducing individual car ownership and usage. By supporting car free developments in appropriate locations and setting maximum car parking standards for new developments, car club membership and usage are further encouraged. Croydon is still at an early stage of development of a car club network with about 37 car club vehicles available on and off street across the Borough. The significant level of car free and car-lite development being secured in the Growth Zone and elsewhere in the Borough (supported by our Local Plan policy requirements for the provision of Car Club bays as part of new developments) means that there will be substantial uptake of Car Clubs in the near future. As such we will be using LIP funding to support the expansion of Car Clubs in the borough including electric vehicle charging provision and the introduction of flexible Car Clubs in the north of the borough.

### Construction logistics & traffic management

2.7.21 Over £1 million of Growth Zone funding has been allocated for initiatives to better manage construction traffic during the redevelopmentphase. The following measures will be delivered over the lifetime of this LIP document:

- Construction traffic navigation app
- CCTV monitoring
- Utility co-ordination
- Travel demand management tools
- HGV emission control and monitoring
- Communications programme
- HGV holding areas
- Part funding for the establishment of a Construction Consolidation Centre.

### Freight and servicing

2.7.22 Freight movement forms a significant component of traffic flows on Croydon's road network with demand generated by Croydon town centre and the extensive retail and business park areas in the west of the borough. The Borough also has many local and district centres whose businesses rely on deliveries being made on-street by a multitude of suppliers. LGVs and HGVs comprise about 17% of traffic volume with HGVs alone forming 3% of traffic volume although the amount of HGV traffic has decreased over the last 10 years or so.

2.7.23 LIP funding will be used to match fund the Growth Zone funding for the establishment of a Consolidation Centre and assess the feasibility of micro-

consolidation / micro-distribution sites in order to reduce freight movements and deliveries.

2.7.24 We will develop guidance through the planning process to secure area wide Growth Zone specific Delivery and Service Plans that include requirements such as:

- The use of electric or cargo bike delivery schemes linked with edge of town micro-consolidation sites;
- The use of edge of city major consolidation centres;
- Re-timing of deliveries with possible restrictions on entering certain areas at peak hours; and
- Consideration of Zero Emission Streets or loading areas or Ultra Low Emission Zones to restrict more polluting vehicles at certain times.

**Borough objective:**

vii) Croydon will reduce the volume of traffic on our roads and associated congestion through better management of our roads and kerbside space, and by offering pleasant, practical and safe alternatives to private cars and vans.

**Short to medium term delivery objectives and proposals:**

- Implement and deliver the Healthy Schools Neighbourhoods programme to work with schools, parents and local residents to reduce school run vehicle trips and tackle the associated congestion and air pollution.
- Investigate the use of access restrictions, timed road closures and pedestrian zones to reduce rat running and external traffic in residential areas.
- Investigate and deliver new strategies for reducing traffic volumes and congestion in the borough.
- Review the number of Council staff needing to drive their own car for work and reduce the impacts of parking stress around the Council offices.
- Reduce the need for residents to own their own car by increasing access to car club vehicles, and enabling the expansion of flexible car clubs into the borough.
- Manage the impacts of parking demand on our roads by continuing the introduction of parking controls where supported by the local community, and ongoing review of existing schemes.
- Work with businesses and residents to reduce the impact of deliveries and the growth in the online economy on our road network and investigate options for reducing freight traffic in busy areas.
- Secure Growth Zone specific Delivery and Servicing Plans (DSPs) to manage freight traffic in the town centre area.

- Establish a Construction Consolidation Centre as part of the Growth Zone framework.

**Long term goals**

- By 2041 Croydon will be a place of mixed modality with a world class walking and cycling environment, and a reduced reliance on the car.
- By 2041 we will have safely and sustainably accommodated autonomous vehicles on our road network and they will have contributed to the reduction of traffic on our roads.

## 2.8 London's streets will be clean and green

**Outcome 4**

**Key challenges**

- Air pollution along main radial roads from traffic sources
- School run congestion
- Idling engines outside schools and town centres
- New schools being located adjacent to busy roads
- Significant flooding risk across the Borough
- Significant construction levels impacting upon air quality through HGV movements, demolition and construction activities and NRMM
- Noise impacts from roads particularly flyovers and main roads
- Hotter summers and wetter winters due to climate change

**Key opportunities**

- Growth Zone funding for construction management and monitoring
- Mayor's Air Quality Fund
- Low Emission Neighbourhood bid
- New technology for managing traffic movements and parking demand
- Increasing uptake of electric vehicles
- Increased awareness of air quality
- New development opportunities to incorporate SUDs and low emission infrastructure
- Manifesto commitments for electric vehicle charging points and street trees

*Further background information and evidence on these challenges and opportunities can be found in appendix A, section 7.*

### Meeting the Challenges and Taking the Opportunities

**Air quality**

2.8.1 The Council's Air quality Action Plan[35] sets out a long list of interventions for improving air quality with a strong focus upon managing emissions from construction and construction, particularly associated HGV traffic.

[35] https://www.croydon.gov.uk/environment/pollution/air-pollution/improve-airquality

### Growth Zone

2.8.2 With the planned growth in Croydon Town Centre (about 50 major schemes over the next 5 years) there is a particular concern in relation to emissions from construction traffic. The air quality priorities are:

- Tackling emissions from construction sites and construction vehicles through compliance with the Town Centre Construction Logistics Plan.
- Tackling emissions due to servicing and freight vehicles – 17% of transport emissions are from vehicles associated with delivery and servicing.
- To reduce exposure to air pollution and to raise awareness for residents and those who work in Croydon through publicity campaigns and air pollution alerts.

2.8.3 The Growth Zone framework includes funding to monitor and enforce construction related traffic and associated emissions, as well as development related non-road mobile machinery (NRMM).

2.8.4 The measures previously mentioned to reduce construction related vehicle movements such as the Construction Consolidation Centre will have a big beneficial impact on air quality.

### Idling engines

2.8.5 Idling engine is a key concern especially outside sites with high numbers of vulnerable people such as schools and hospitals. The introduction of School Pedestrian Zones at a number of schools in the Borough has had beneficial impacts on air quality at these locations.

2.8.6 Croydon intends to continue to participate in the Pan-London Idling Engine project and submitted a joint bid alongside other London boroughs to the MAQF. The Borough's Air Quality Team will continue to deliver a programme of activities and events to raise awareness of air pollution from traffic sources.

2.8.7 Idling engines at taxi ranks, particularly the one at East Croydon station where there are high numbers of pedestrians is a concern. Croydon submitted a Mayor's Air Quality Fund (MAQF) bid to the GLA for a scheme to improve queuing and management of taxis at East Croydon station that will also incentivise the uptake of electric taxis.

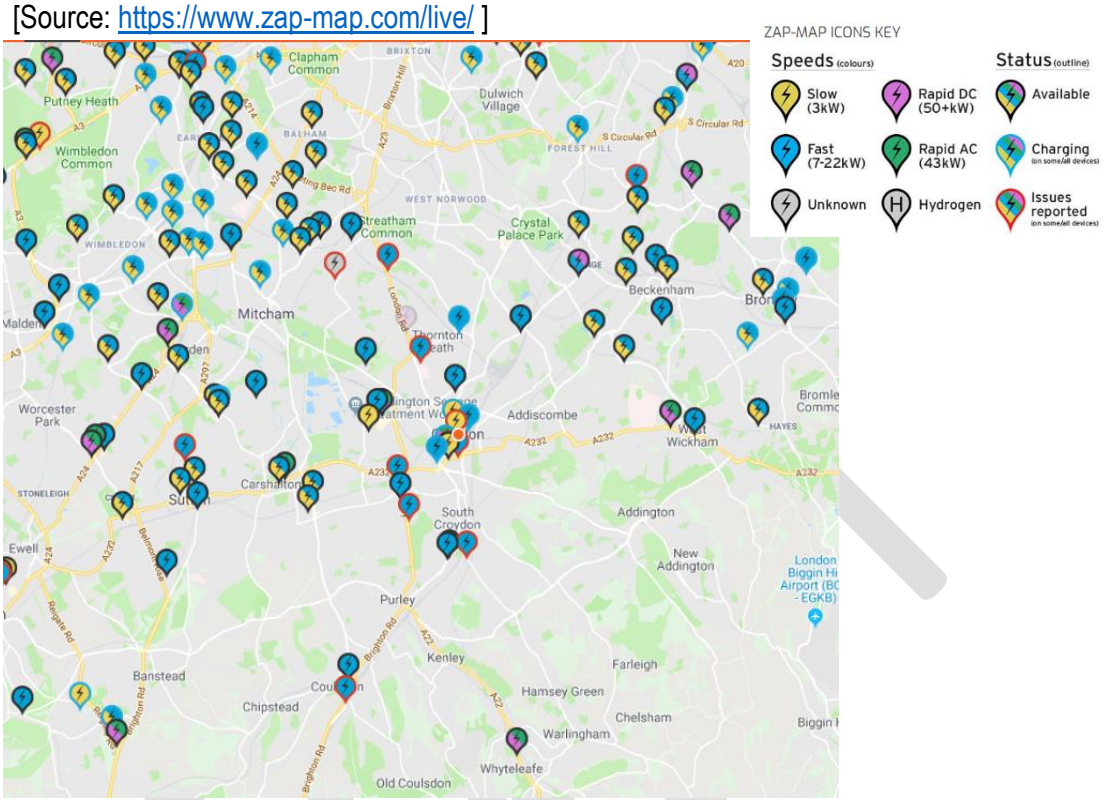
### Electric vehicle charging points

2.8.8 The Council has committed to invest in 400 electric vehicle charging points across the Borough by 2022 to enable residents, business and visitors to make the shift to zero tailpipe emission vehicles (if they have no alternative to driving) resulting in improved air quality for all. The current location of publicly accessible EV charging points in the Borough are shown in Figure 14.

2.8.9 The Council has robust policies in its recently adopted Local Plan to secure electric vehicle charging points for all new developments over and above what is required in the current London Plan.

**Figure 19 – Map showing location of public EV charging points in and around Croydon**

[Source: https://www.zap-map.com/live/ ]




**Mayor's Air Quality Fund (MAQF)**

2.8.10 Croydon submitted a bid to create a Low Emission Neighbourhood (LEN) along the London Road between West Croydon Station and Thornton Heath Pond. The intention is to transform the environment along this busy bus corridor and shopping street by introducing green infrastructure, reducing traffic volumes and introducing low emission vehicles.

2.8.11 We submitted a MAQF borough bid for East Croydon Station Taxi Rank to introduce a smart queuing and call up system. The bid will include the introduction of rapid EV charging points and priority access for ULEVs to incentivise the uptake of electric taxis.

2.8.12 In partnership with neighbouring South London boroughs we submitted a bid for the establishment of a Construction Consolidation Centre onthe A23 corridor. Part of the proposal will include the provision of electric lorries to undertake the last mile journey and build upon the previous Go Ultra Low Cities (Neighbourhoods of the Future) project undertaken with Sutton.

2.8.13 Croydon participated in the joint bid for a Pan London Idling Engine Campaign to change driver behaviour and remind them to switch of their engines and reduce air pollution.

2.8.14 Other innovative ideas to incentivise ULEVs we will consider during the lifetime of this LIP:

- Working with TfL to pilot a scheme to allowing ULEVs to use the Coulsdon Bypass bus lane (Coulsdon Bypass forms part of the TLRN); and
- Timed road closures & ULEV only access at peak hours in Growth Zone locations.

**Flood Risk – Mitigating climate change**

2.8.15 Croydon has a history of severe flooding. Most recently Purley and Kenley experienced significant flooding from the Caterham Bourne due to extremely high groundwater during January to March 2014, when an emergency situation was declared. Severe surface water flooding also occurred during July 2007 and brought Purley Town Centre to a standstill.

2.8.16 The Preliminary Flood Risk Assessment (PFRA) and Surface Water Management Plan (SWMP) identify the following parts of Croydon to be particularly susceptible to surface water flooding:

- Brighton Road through Purley up to Central Croydon
- The A22 Godstone Road through Kenley

2.8.17 The Adopted Local Plan ensures that all new developments in flood risk and sensitive drainage areas are required to incorporate sustainable urban drainage systems into their design.

2.8.18 Where practical Croydon also seeks to ensure all new public realm schemes developed by the Council incorporate SUDs and additional green infrastructure into their design.

2.8.19 The Council has made a commitment to plant 3,500 trees over the next 3 years to increase green infrastructure, provide additional shade and mitigate the impacts of wetter winters and hotter summers.

**Borough objectives:**

viii) Croydon will tackle road based air pollution by reducing traffic volumes, supporting the shift to zero emission vehicles and introducing new green infrastructure.

**Short to medium term delivery objectives and proposals:**

- Support the shift to electric and low emission vehicles by introducing over 400 electric vehicle charging points in the next 4 years.
- Facilitate the expansion of rapid electric vehicle charging hubs for particular use by taxis and freight vehicles.
- Submit a MAQF bid for East Croydon Station Taxi Rank – smart queuing/call up system & Rapid EV charging points and priority access for ULEVs.

- Investigate the establishment of a Construction Consolidation Centre and zero emission last mile delivery scheme near Purley Way.
- Introduce 3500 new street trees and new green infrastructure along our main roads with known air pollution issues.
- Investigate innovative ideas for incentivising uptake of ULEVs, such as allowing ULEVs into the bus lanes such as the one in Coulsdon Bypass.
- Bid to create a Low Emission Neighbourhood along the London Road between West Croydon and Thornton Heath Pond.
- Secure electric vehicle charging points for all new developments through the planning process.
- Secure and enforce Construction and Logistics Traffic Management Plans for all new developments in the Growth Zone to minimise impacts on air quality and the safety of pedestrians and cyclists.
- Continue the rollout of School Pedestrian Zones to tackle air pollution outside schools.
- Participate in pan London engine idling campaign to get drivers to turn off their engines.
- Support transition of the Council's fleet and the grey fleet to low emission vehicles.
- Work with the Air Quality Team to develop air quality information campaign to publicise alerts for high emission days and ways of reducing exposure.

**Long term goals**

- By 2041 we will have worked with neighbouring boroughs to have delivered innovative and efficient ways of managing freight and logistics that minimizes the number of vehicles on our roads with resulting air quality benefits.
- We will have adapted the public realm and transport systems to cope with the changes to our climate, and the integration of Sustainable Urban Drainage (SUDs) across the public realm has mitigated the impacts of surface water flooding.

## 2.9 The public transport network will meet the needs of a growing London

**Outcome 5**

**Key challenges**

- Brighton Mainline predicted to become one of the most congested mainlines into central London
- Overcrowding on the tram network
- Overcrowding at East Croydon Station
- Slower bus journeys due to road congestion
- Poor bus access and east–west connections in the south of the Borough
- Significant housing and population growth in areas with very poor public transport accessibility
- Poor train operator performance

**Key opportunities**

- Thameslink programme
- Brighton Mainline Upgrade
- Growth Zone funding for movement corridors, trams and bus priority and infrastructure
- New technologies and innovations, Mobility as a Service (MaaS)
- On Demand Public Transport services
- Connected and autonomous vehicles
- Developments in bus rapid transit
- Bus resources released from central London enabling improvements in public transport access in the outer suburbs

*Further background information and evidence on these challenges and opportunities can be found in* ***appendix A, section 8****.*

## Meeting the challenges and taking the opportunities

### Focusing growth at the best connected locations

2.9.1 By focussing new homes and jobs at the Growth Zone we are ensuring ready access by public transport for the growing numbers of workers and residents. The Growth Zone enjoys enviable public transport connectivity and accessibility, being a hub in South London's bus network, being the fulcrum of the Tramlink system and sitting on the Brighton Mainline.

2.9.2 However, we are fully conscious of the need for major investment in the Growth Zone's public transport services and infrastructure. Hence our major programme of Growth Zone financed investment including:

- Tram network capacity enhancements
- Bus priority, and bus standing
- West Croydon Station set out in the section of this LIP

2.9.3 Although some areas of the borough are well served by public transport there is little difference in the geographic area within Croydon covered by the higher PTAL rating (level 4 and above) in 2021 and 2031 compared to the 2015 base year. This would be a reflection of the limited extent of the committed public transport investment by TfL over the next 15 years or so.

### Thameslink and the Brighton Mainline

2.9.4 The completion of the Thameslink Upgrade has delivered more passenger capacity on the Borough's rail spine. However, the Brighton Mainline which carries the service, is predicted to shift from being one of Croydon's and the Growth Zone's strongest assets, to being a potential weakness. The Thameslink upgrade and wider GTR timetable change addressed recent passenger overcrowding. They helped accommodate the increase in passenger journeys seen between 2005 and 2017, numbers rising from 45 million to 75 million per annum. However, as numbers of residents and jobs continue to grow, so will passenger demand on the Brighton Mainline. Passenger journey numbers are predicted to rise to 90 million per annum in the early 2030s. South London is facing having the two most congested mainlines in the Capital. One is the South West Mainline, which Crossrail2 will alleviate. The other is the Brighton mainline. It is not possible to squeeze any more capacity out of the existing infrastructure. The major capacity constraints on the BML are in Croydon, namely East Croydon Station; the Selhurst Triangle Junction to the north (where tracks to London Bridge and Victoria cross each other and separate out) and the track between the two.

2.9.5 We are working with Network Rail to aid its development of designs to remove the capacity constraints and to prepare the Strategic Business Case for the Brighton Mainline Upgrade. The Upgrade is critical to achieving the MTS objective of a metro style suburban rail network and service in South London.

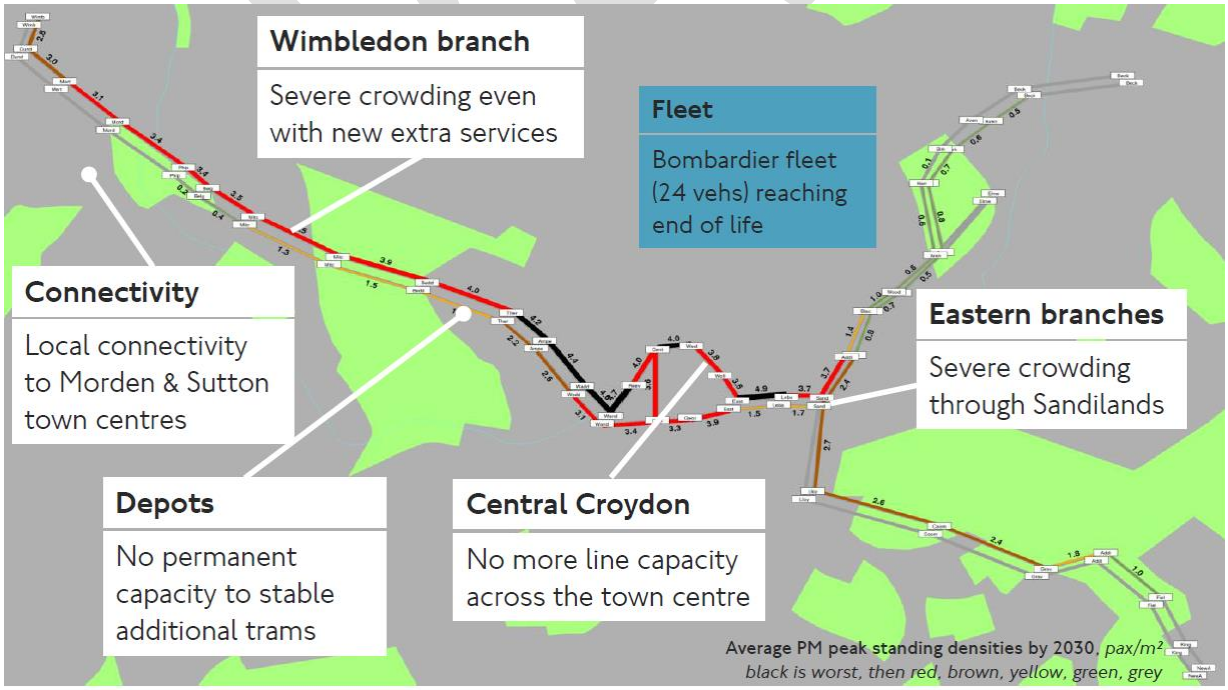
Without the Upgrade, the Mayor's Metroisation ambitions cannot be realised in South London. Delivery of the circa £2.5 billion upgrade needs to coincide with the planned 2022 signals renewal on the Mainline. We will be lobbying hard to ensure that the Upgrade is funded and look forward to support from TfL, the GLA and the Mayor of London in doing so.

2.9.6 As well as supporting the growth in new homes and jobs, rail infrastructure replacement (in particular the redevelopment of stations) offers the opportunity to directly deliver with new homes and jobs. We are encouraging Network Rail to maximise the potential of over-station development at East Croydon Station. Our masterplan for West Croydon includes the proposal for the development of a trackside residential tower at the Station which in turn will help fund development of new station infrastructure. The feasibility study for the development West Croydon Station and the associated new homes has been completed.

**The Growth Zone supporting additional capacity on the Tramlink network**

2.9.7 Passenger numbers on Tramlink have doubled since its opening in 2000. Passenger standing in the peak periods is commonplace particularly on the approaches to the town centre from the New Addington/Elmers End/Beckenham Junction branches, as shown below in Figure 20.

**Figure 20: Crowding on Tramlink [morning peak 2030] and key challenges without investment**
[Source: TfL South London Sub Regional Transport Plan, 2016]




2.9.8 TfL's 15-year plan, Trams for Growth, addresses the growing demand. A number of infrastructure solutions are identified and Croydon is contributing £27

million towards delivering the first phase of these network enhancements and feasibility studies for delivery of the proposals.

2.9.9 The full programme of Tramlink capacity enhancements is currently proposed to be supported / part funded by the Growth Zone financing mechanism, it is outlined within the longer term programme section of this LIP.

2.9.10 Trams for Growth (currently under review by TfL) aims to address current and future demand on the exiting Network and the potential for an extension to Sutton. Our ambitions are considerably higher. We see Tramlink as one of Croydon and South London's major assets that connects four Opportunity Areas and Metropolitan Town Centres, the benefits of which need to be spread more widely.

**Reviewing and enhancing the bus network to meet the needs of a growing Croydon.**

2.9.11 Broadly one third of Croydon's growth is planned to be focussed at the Growth Zone, a third is expected in the north of the Borough and a third in the south. Each area poses differing challenges to and opportunities for buses to support the needs of a growing Croydon. As a result we are working with TfL on a three pronged approach to the review and enhancement of bus services. Each approach is different in each of the three areas. The south area bus review has been initiated with TfL. The review is based on our projected housing growth figures for places within the southern suburbs. Based on these, passenger demand increase is being estimated and required bus supply increase on existing bus routes/corridors calculated. The review is also looking at what routes can potentially be extended, in what stages and what time period into areas of lower PTAL to support new housing. This is being done in an iterative manner with the refresh of the Croydon Local Plan. The Local Plan will look to direct new housing in low PTAL areas towards the proposed bus route extensions / new bus routes.

2.9.12 In the south of the Borough, there are areas with low public transport accessibility where densities are currently too low to support traditional high frequency bus services. To improve accessibility in these areas (to support suburban intensification areas) we will be using LIP funding to investigate new mobility as a service (MAAS) concepts such as demand responsive minibuses and connected and autonomous public transport vehicles (CAVs). We are currently working with TfL, Bromley and FiveAI to pilot CAVs as a passenger transport service

on routes between Croydon and Bromley. Findings from this pilot will inform the south area bus review and ongoing enhancement of public transport services in a growing Croydon.

**Figure 21 Streetwise Project FiveAI vehicles operating in Croydon** [Image: FiveAI]

### Taxis

2.9.13 Taxi 'over ranking' at East Croydon Station is significant, resulting in congestion and associated pollution. Planned development adjacent to the Station requires ranking arrangements to be significantly altered during that construction period. This challenge also provides the opportunity to trial new and alternative means of managing the ranking. Lessons from this 'trial' will be applied in the redesign of East Croydon Station and the associated interchange arrangements clustered aroundit.

**Borough objectives:**

ix) Work with the Mayor, TfL, Network Rail, bus operators and TOCs to improve public transport links, reduce overcrowding on the public transport network and ensure Croydon is the best connected Metropolitan Town Centre in Outer London.

**Short to medium term delivery objectives and proposals:**

- Partner with Transport for London and Network Rail to improve public transport links to our local high streets, including introducing new bus routes to better connect Croydon's places.
- Work with the Mayor, TfL, Network Rail, bus operators and TOCs to improve public transport links and reduce overcrowding on the public transport network.
- Work with TfL and the Mayor to increase capacity and reduce overcrowding on the tram network.
- Continue to work with partners in the Coast2Capital LEP including Gatwick Airport to enhance our national and international links making Croydon one of the best connected and best places to do business in London and the South East.
- Design and deliver 3 'Movement Corridors' serving the Growth Zone; Brighton Road, Mitcham Road and London Road, that consider holistic improvements for buses, cycling and walking.
- Work with TfL and the Mayor to ensure Overground Rail Metroisation meets needs of Croydon's residents and boosts the local economy.
- Taxis – East Croydon station – resolve the over ranking problems.
- Pilot demand responsive transport and a bus accessibility project in southern suburbs of Croydon.

- Pilot the Streetwise Connected and Autonomous Vehicles (CAVs) project in partnership with Bromley, TfL and FiveAI.
- Work with TfL to undertake bus service reviews in the south and the north of the Borough.

**Long term goals**

- By 2041 Croydon's economy is thriving and businesses flock to the Town Centre because it is the best connected in South London.

## 2.10 Public transport will be safe, affordable and accessible to all

**Outcome 6**

**Key challenges**

- Affordability of public transport
- Lack of step free access at rail stations in the borough particularly West Croydon
- Accessibility between different modes at interchange hubs
- General accessibility of the wider public transport network lacking
- Recommendations from the tram incident
- Bus casualties in town centre area
- Anti-social behaviour on buses at school exit times
- Some areas lacking direct bus services to key destinations such as the University Hospital
- Limited space and opportunities for cycle parking provision at rail stations and public transport interchanges

**Key opportunities**

- Growth Zone funding and development opportunities
- West Croydon redevelopment proposals
- Brighton Mainline and East Croydon station redevelopment
- Access for All station funding
- Bus service reviews
- Suburban intensification
- New demand responsive mobility services

*Further background information and evidence on these challenges and opportunities can be found in* ***appendix A, section 9****.*

### Meeting the Challenges and Taking the Opportunities

2.10.1 Almost all of the Borough's bus stops are now considered accessible (99%) which complements the fully accessible London bus network. All tram stops in the borough are step free. However, it is a different picture for rail stations. Of the borough's 17 rail stations, currently only East Croydon, Thornton Heath, Coulsdon Town and Purley have adequate step free access. Network Rail has proposals to make Selhurst and Coulsdon South stations step free by 2019. With an ageing population who will have greater mobility problems, a fully

accessible public transport network will become increasingly important especially in the south of the Borough with its older demographic.

**Improving access around rail stations and interchanges**

2.10.2 Even if the stations are fully step free themselves there is a need to ensure that the public realm to and from the station and between interchanges is accessible. We have retained an ongoing Public Realm Accessibility programme in the LIP3 to improve accessibility across the Borough but particularly around rail stations and at public transport interchanges.

**Norwood Junction Station**

2.10.3 Improvements to the public realm around Norwood Junction Station, including widening of footpaths and removal of street furniture clutter, have so far been incorporated in the Streets Improvement Scheme for South Norwood. £1.65 million has been made available, with the focus being on improvements to Station Road, Market Parade on Portland Road and the junction of the High Street and Portland Road.

2.10.4 Improvements to the station itself, are being sought by Croydon Council, including accessibility for all users (step free access) as part of the Brighton Mainline Upgrade, if not before.

**West Croydon Station**

2.10.5 West Croydon is the point of arrival and departure for Overground rail line through East London to Highbury and Islington and Southern Services into London Victoria and London Bridge.

2.10.6 Croydon is currently working in partnership with TfL and Network Rail to deliver a first phase of improvements to the Station funded through the Growth Zone Framework. As a minimum, the scheme will address some of the fundamental issues with the existing station to improve the ticket hall capacity and achieve step free access. This first phase will be intended to provide some of the enabling works prior to the comprehensive redevelopment of the station that may take longer to realise given the complexities associated with major station projects.

**New demand responsive bus and mobility services**

2.10.7 These services have the potential to be more accommodating and flexible for users than traditional bus services and existing door to door transport services such as Dial-a-Ride.

### Bus and tram safety

2.10.8 Croydon will continue to lobby TfL to adopt the safety recommendations of the tram derailment investigation and reduce the number of collisions between vulnerable road users and buses in the Town Centre area.

**Borough objectives:**

x) Work with the Mayor, TfL, Network Rail, bus operators and TOCs to ensure the entire public transport network is accessible, safe and step free.

**Short to medium term delivery objectives and proposals:**

- Work with TfL and technology partners to pilot autonomous and demand responsive vehicles to improve public transport accessibility in harder to reach areas of the borough.
- Lobby TfL to ensure the adoption of safety recommendations from the tram derailment investigation.
- Work towards ensuring all rail stations in Croydon are fully accessible and step free.
- Work with Network Rail and TfL to ensure the successful redevelopment of West Croydon station to increase capacity, reduce overcrowding and provide adequate step-free access and interchange.
- Ensure the bus network is accessible in Croydon by tackling the few remaining bus stops that are not accessible.
- Work with TfL, the Metropolitan Police and secondary schools to reduce anti-social behaviour and crowding on buses at school closing times.
- Improve connections between modes at public transport interchange hubs, ensuring it is easy and safe to walk and cycle to and from them.
- Continue to install cycle parking at stations and interchanges to accommodate demand.

**Long term goals**

- By 2041 every station and stop will be step free and fully accessible.

## 2.12 Journeys by public transport will be pleasant, fast and reliable

**Outcome 7**

**Key challenges**

- Bus congestion in Growth Zone and on approaches to it
- Level of construction and redevelopment taking place in Growth Zone with resulting disruption to bus routes and stops
- Increasing bus wait times due to increasing traffic congestion
- Poor performance of train operating companies (TOCs)
- Frequency of stopping rail services at certain times of day and week

**Key opportunities**

- Growth Zone funding for bus priority and routes within town centre
- Growth Zone funding for 3 Movement Corridors on Brighton Road, London Road and Mitcham Road
- TfL Bus Priority Delivery programme
- Traffic reduction strategies

*Further background information and evidence on these challenges and opportunities can be found in* ***appendix A, section 10****.*

### Meeting the Challenges and Taking the Opportunities

#### Shaping and growing the bus network

2.12.1 The average bus journey speed in Croydon is 10.7mph. Bus speeds are amongst their lowest on the busiest bus corridors approaching the Growth Zone. However, bus use remains strong in Croydon. Whilst other parts of London have seen declining or stagnating bus passenger numbers, Croydon is bucking the trend with a significant increase in passenger numbers compared to most other boroughs that have seen a decrease in bus patronage. In fact Croydon had by far the largest increase in bus capacity utilisation between 2014/15 and 2016/17 at 8% (the next highest borough was Richmond with 1% and all other London boroughs saw stagnation or a decrease).[36]

[36] https://consultations.tfl.gov.uk/buses/central-london/ Map 3

**Figure 22 – Change in bus capacity utilisation by borough 2014/15-2017/18**
[Image: TfL Central London Bus Consultation][37]

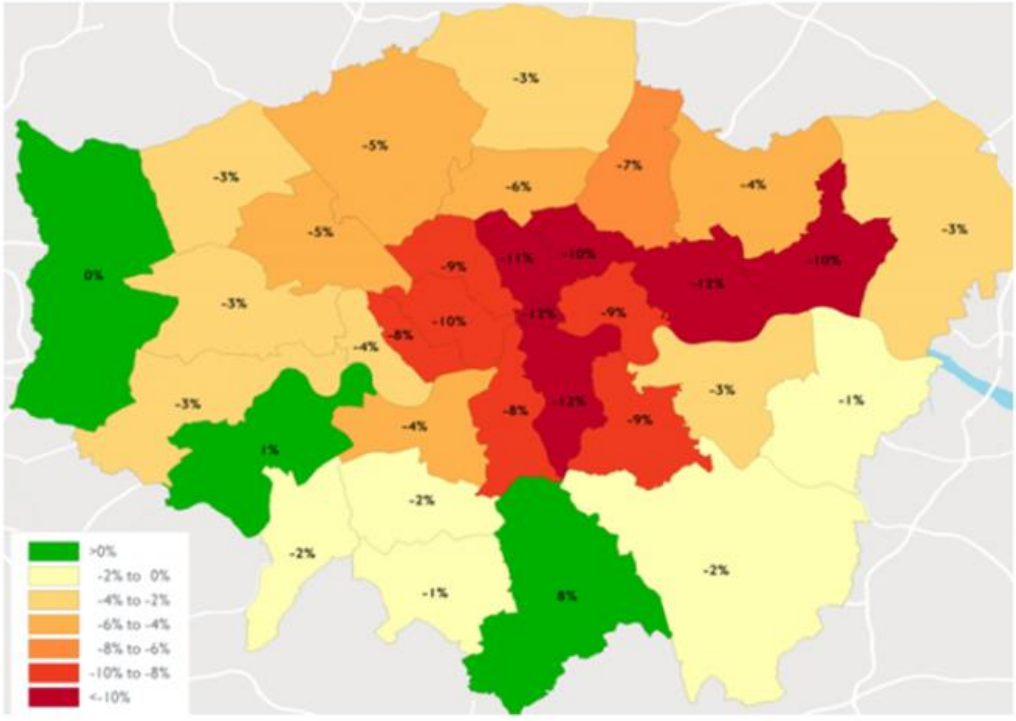
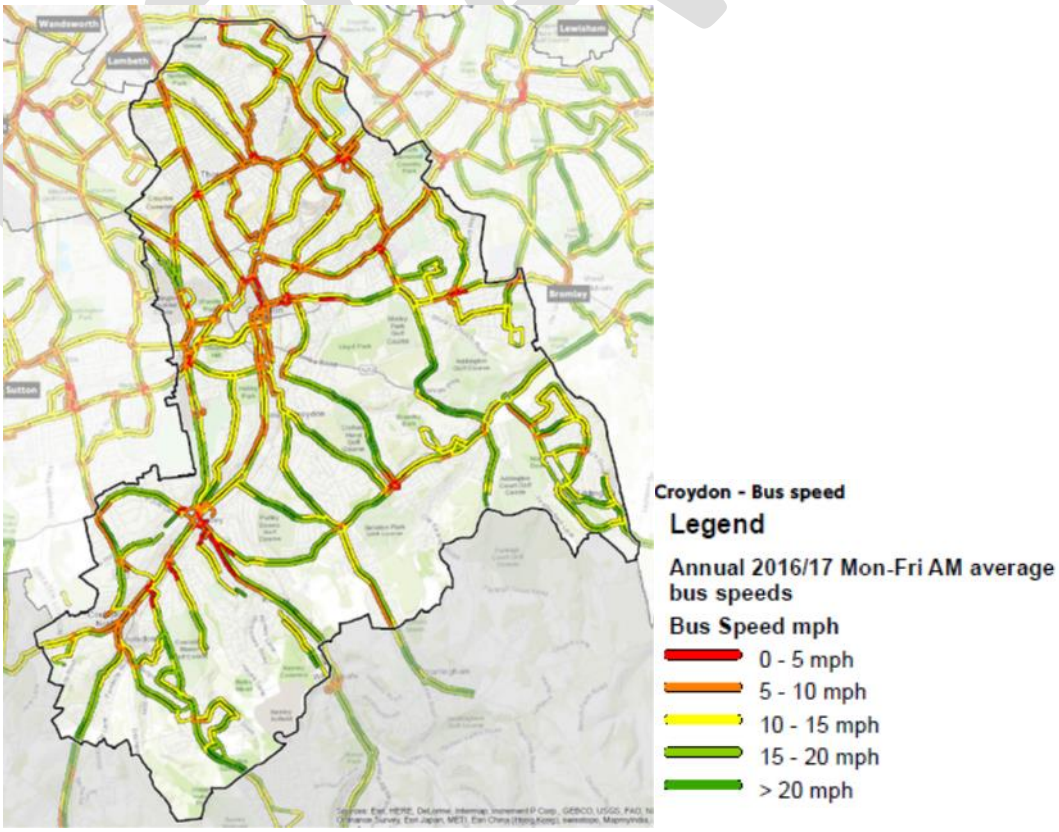



**Figure 23 – Average Bus Speeds 2016/17 AM** [Image: TfL]




[37] https://consultations.tfl.gov.uk/buses/central-london/?cid=central-london-bus-consultation

2.12.2 Across the south London sub-region bus wait times have increased by 9% between 2013 and 2015.[38]

2.12.3 With the growth in jobs and population particularly in the Growth Zone the challenge is to support this growth in a sustainable way such as by encouraging people to use buses.

2.12.4 Through the Growth Zone framework the following bus priority and Movement Corridor programmes are being funded:

| Growth Zone Project | Funding amount £ |
|---|---|
| Bus Priority programme | 4,900,000 |
| Bus Route Upgrades | 10,000,000 |
| A232 Chepstow Rd / Addiscombe Rd | 4,120,000 |
| Brighton Road Corridor | 4,900,000 |
| London Road Corridor | 8,280,000 |
| Mitcham Road Corridor | 6,503,000 |

**Bus priority and accessibility**

2.12.5 The TfL Bus Priority Portfolio Delivery programme in Croydon includes a suite of targeted interventions on the bus priority network that will result in significant improvements to public transport reliability and frequency within the Borough. This funding will be used to match fund the bus priority schemes being delivered through the Growth Zone framework.

2.12.6 TfL provides funding for bus improvements through the Strategic Bus Priority programme only applies to main bus corridors. The LIP Bus Accessibility funding will examine what can be done to improve bus services in the south of the borough, with specific focus upon improving accessibility to support the suburban intensification areas. As well as traditional bus services the work will consider new concepts such as on demand mini-buses and autonomous vehicles. TfL's funding is being more than matched by Growth Zone funding.

**Borough objectives:**

xi) Work with TfL to introduce additional bus priority measures on key road corridors to improve efficiency and reliability of bus services.

xii) Lobby the TOCs and the DfT to improve performance of train services and reduce gaps in service frequencies

[38] South London Sub-regional Transport Plan 2016 Update (TfL 2016)

**Short to medium term delivery objectives and proposals:**

- Work with TfL to review bus services operating in the Growth Zone to improve efficiency and reduce bus congestion.
- Work with TfL to introduce additional bus priority measures on key road corridors to improve efficiency and reliability of bus services to accommodate growth in the borough.
- Continue to effectively lobby Network Rail, DfT and the train operating companies (TOCs) to improve rail services.

**Long term goals**

- By 2041 Croydon will have by 2041, public transport will be the most convenient way of getting between Central Croydon, our local centres and locations further afield.

## 2.13 Active, efficient and sustainable travel will be the best option in new developments

**Outcome 8**

**Key challenges**

- 10 year net targets set in the Draft London Plan for 24,490 new homes between 2019 and 2029, significant proportion will be built in areas of low PTAL.
- Suburban densification and impacts on parking and transport network in lower PTAL areas
- 3,000 new car parking spaces as part of the redevelopment of the Whitgift Centre
- Construction impacts on our streets and transport network in the Growth Zone

**Key opportunities**

- The Growth Zone funding framework
- 1,000 car free homes to be delivered as part of the redevelopment of the Whitgift Centre
- A redeveloped Whitgift Centre providing new, high quality retail and leisure:
    - within walking distance of the growing residential population of the Growth Zone;
    - at a major hub on London's rail, tram and bus networks; and
    - at the centre of our Growth Zone funded cycling and walking route network.
- Much of future development will be car-free or car-lite

*Further background information and evidence on these challenges and opportunities can be found in **appendix A, section 11**.*

### Meeting the Challenges and Taking the Opportunities

2.13.1 The Council's recently adopted Local Plan includes policies to support sustainable development within Croydon Town Centre and local centres, which will become the focus for growth in jobs and housing through higher density developments. The Local Plan explains that all development has an impact on traffic movement in the Borough. In order to reduce the impact on traffic movement the Plan requires new development to promote measures to increase the use of public transport, cycling and walking. This includes ensuring

new development has good access to public transport and has good links to main pedestrian and cycle routes in the borough. The design of new developments should prioritise walking and cycling routes into and through developments over routes for cars. Designs should also prioritise access to public transport over accessibility to private motor cars.

2.13.2 The Plan states that:

- All major development proposals should demonstrate by means of a Transport Assessment; Travel Plan; Construction Logistics Plan; and Delivery & Servicing Plan, or equivalents, how they will promote measures to increase the use of public transport, cycling and walking and that they will not result in a severe impact on the local transport networks;

- The Council will actively manage the pattern of urban growth and the use of land to make the fullest use of public transport and co-locate facilities in order to reduce the need to travel;

- The Council will support improvement in the borough's Wi-Fi, fibre optic broadband and mobile broadband in order to reduce the need to travel, encourage higher levels of home working, and improve the economic competitiveness of Croydon Opportunity Area and the borough's District Centres to reduce the need to travel further afield for work or shopping; and

- The Council and its partners will seek to limit parking spaces in the borough and aim to reduce the overall amount of surplus car parking spaces in the Croydon Opportunity Area in accordance with the Croydon Opportunity Area Planning Framework parking strategy.

2.13.3 The new 10 year net targets set in the Draft London Plan for 24,490 new homes between 2019 and 2029, means an annualised average target of 2,949 per year. It is anticipated that up to 50% of these homes will be built in areas of PTAL 3 or lower. The challenge in these locations will be to offer attractive alternatives to the private car as public transport provision may be lacking.

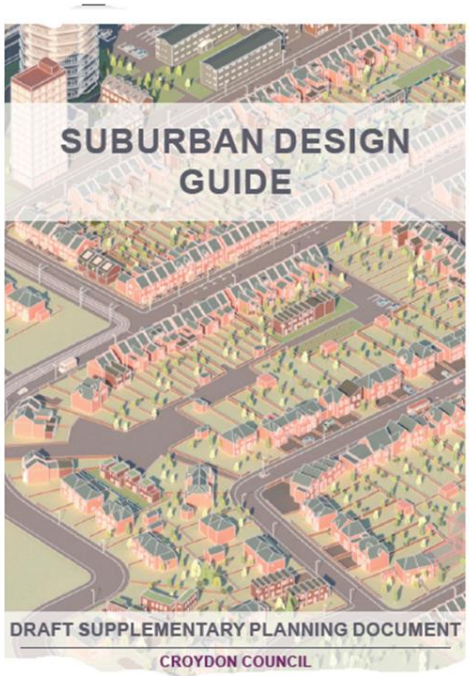
**Evolution of the Suburbs - Supplementary Planning Document (SPD)**

2.13.4 Croydon has developed a draft Supplementary Planning Document (consultation started October 2018) in recognition of the number of homes that will need to be built in the suburbs in order to meet our housing targets. The intention is that it will act as a holistic guide to deliver tangible public benefits to suburban communities.

2.13.5 The evolution of the suburbs to provide homes that will meet the needs of a growing population has the potential to add new vitality to the places of Croydon. More people living in a place provides a better prospect of improved public services, such as transport and health care. This is particularly important in the remotest of suburban locations which may have suffered from a lack of infrastructure to support the local community. The Council and partners are

planning for an increased population and how transport services can be delivered to support them. For example, through the LIP Bus Accessibility programme we are looking to develop services that will connect existing communities that are currently poorly served, benefiting existing as well as new residents. The SPD also notes the role that electric bikes and cycles can play in improving the accessibility and connectivity of these suburban areas to the public transport network.

**Figure 24: Croydon Suburban Design Guide, 2018**




2.13.6 The SPD encourages parking provision below the maximum car parking standards set in both the current and draft replacement London Plan in locations that meet the following criteria and on a case by case basis:

- The site is within a controlled parking zone (or where one is under development); and
- Is within an area of at least good connectivity to the wider public transport network and the Growth Zone by public transport, walking and cycling; or
- Is within an area that will be subject to future public transport or walking, cycling improvements as part of the Growth Zone delivery proposals or Mayor's Transport Strategy proposals that will result in it having moderate to good connectivity (PTAL 4 and above).

**Delivery and Servicing Management**

2.13.7 Through the Growth Zone £100,000 has been allocated to establish an area wide framework for managing deliveries and servicing being generated by both the existing land uses and the significant increase in both retail, commercial and residential development in an already congested town centre. LIP funding is

being used as match funding to develop the proposals and deliver the framework.

2.13.8 Robust Delivery and Servicing Plans are being secured for all new developments within the Growth Zone and we are looking to develop area-wide proposals such as timed restrictions and micro-consolidation and cargo bike delivery facilities.

**Securing funding for active travel**

2.13.9 We will seek to secure contributions and improvements to the public realm and cycling infrastructure in the immediate vicinity of all development sites through the planning agreements.

**Healthy Streets Assessment**

2.13.10 New development will be assessed against the 'Healthy Streets' indicators. Where a new development involves the creation of public realm or street layouts then a 'Healthy Streets' Scoring Exercise will be undertaken.

**Borough objectives:**

xiii) Croydon will ensure all new development incorporates the ten Healthy Streets principles into their design, and ensure they are integrated with the local walking and cycling networks as well as public transport.

**Short to medium term delivery objectives and proposals:**

- Deliver Ensure construction works and development related traffic does not impact on businesses operating in the town centre.
- Ensure all new development incorporates the ten Healthy Streets principles into their design, reduce the dominance of vehicles and connect to local walking and cycling networks as well as public transport.
- Use the planning system to direct higher density development to the most accessible places in the borough and secure funding to upgrade the public realm and transport infrastructure.

**Long term goals**

- By 2041, residents in new developments will be more active and walk and cycle more than the borough average.

## 2.14 Transport investment will unlock the delivery of new homes and jobs

**Outcome 9**

**Key challenges**

- New transport infrastructure to accommodate growth along main movement corridors in the Borough
- Scale of development occurring in the Growth Zone taking place over a relatively short period of time
- 10,500 new jobs in Growth Zone in the next decade
- 10 year net targets set in the Draft London Plan for 24,490 new homes between 2019 and 2029
- Mayor of London and TfL financial position
- Central Government funding bias for major transport projects outside of London

**Key opportunities**

- Extending the unique benefits of Tramlink
- Huge potential benefits and development opportunities resulting from increased capacity to the Brighton Mainline through resolving the 'Croydon bottleneck'
- Intensification opportunities from the Metroisation of suburban South London rail services

*Further background information and evidence on these challenges and opportunities can be found in* **appendix A, section 11***.*

### Meeting the Challenges and Taking the Opportunities

2.14.1 The Growth Zone includes significant investment in the local transport network to cater for the projected growth in residents and visitors. Through the assessment of future growth and travel patterns, a range of schemes have been developed which will ensure people can travel in, out and around Croydon safely and efficiently.

2.14.2 A number of the projects remain in the early stages of scheme development. Subsequently, much of the recent work has focused on the progression of concept / developed design options, with project delivery scheduled over the next 4 years. In addition, a key component of the current programme has focused on Croydon's project management input into schemes led by external partners such as the Brighton Main Line Upgrade Project (led by Network Rail)

and two TfL-led projects: Transforming Fiveways and Tram Capacity Improvements.

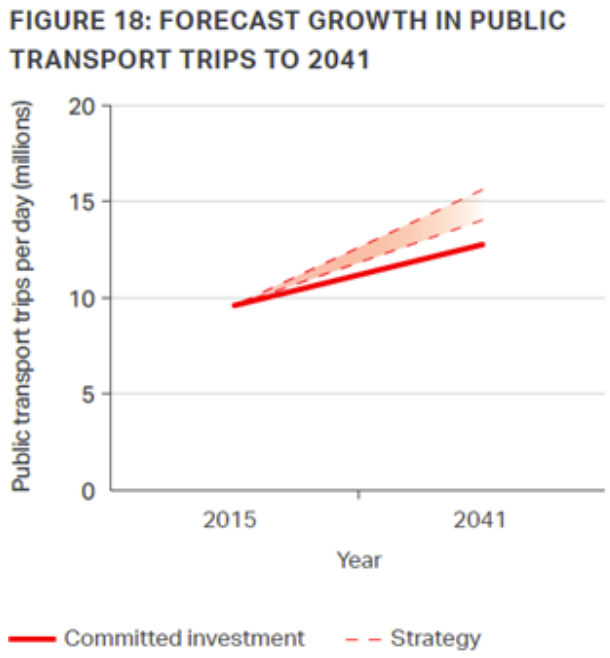
**Extending the Tramlink Network**

2.14.3 The MTS states:

'*As it grows, the city requires the public transport capacity to reduce crowding and support increasing numbers of people travelling more actively, efficiently and sustainably.*'

2.14.4 Whilst describing the needs of London as a whole, we could repeat the statement for Croydon and in particular the Growth Zone. The MTS also tells us that across the Capital public transport trips are expected to rise by around 50% by 2041. The trajectory TfL has plotted for Croydon (repeated in the Croydon targets set within this LIP) is at the very top of the public transport demand growth range in the MTS. Croydon's daily public transport trips need to rise from 205,000 per day in 2014/15-2016/17 to 321,000 by 2041.

**Figure 25: Public Transport Trips Trajectory**
(taken from the MTS)



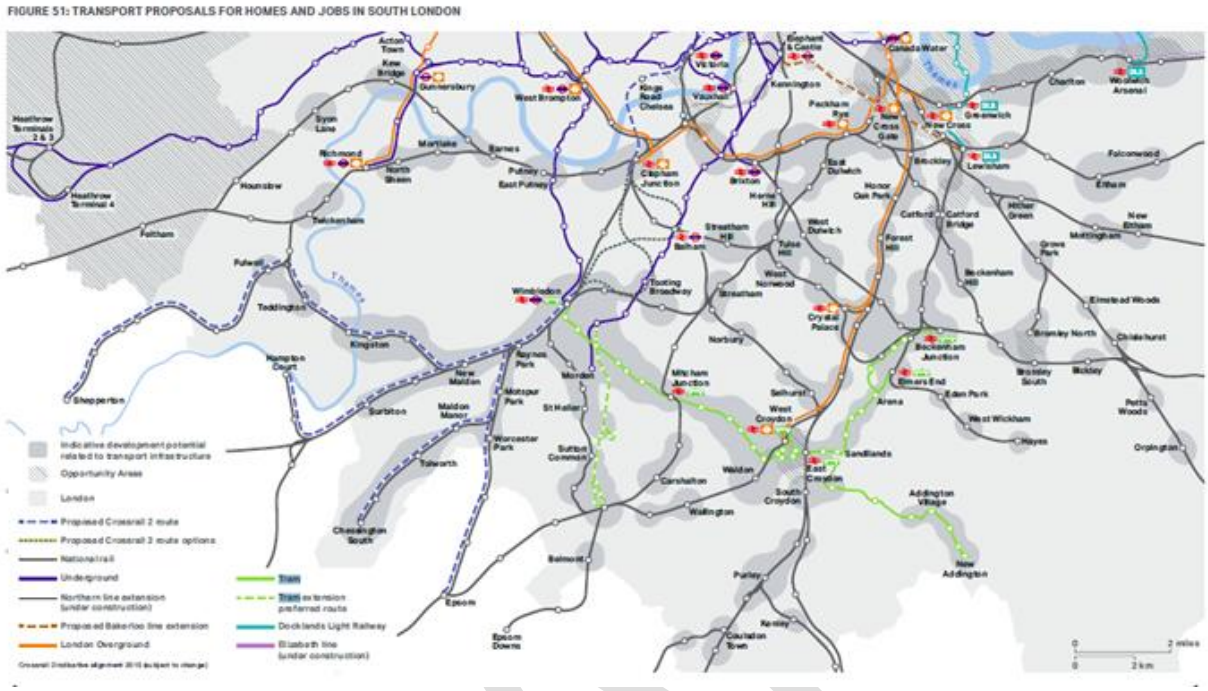

2.14.5 The MTS also tells us that:

*'A significant capacity increase is needed on the tram system serving Croydon and south London to address crowding and help accommodate the anticipated growth in homes and jobs in south London, without reliance on the car*.'

2.14.6 It goes on to highlight the unique and special nature of Tramlink. Whilst public transport across the Capital needs to increase by 50% by 2041, the MTS plans a much sharper increase in demand on Tramlink, planning to deliver an 85% increase in passenger capacity by 2030.

2.14.7 The MTS also highlights the potential for trams to support intensification and Good Growth. This is developed further within the draft London Plan as the 'Tram Triangle' concept.

**Figure 26: MTS Illustrating Trams and Heavy Rail Supporting New Homes and Jobs**




2.14.8 We are convinced of the unique benefits of the Tram. We see it as the tool for delivering the Healthy Streets Approach on some of our busiest corridors connecting into the Growth Zone. It is high capacity, high quality, and zero emission public transport that is a positive addition to Croydon's streetscape. As a result it is a powerful means of delivering a better not just bigger Croydon. We will work with the Mayor and TfL to deliver on MTS Proposals 89 a).

***Proposal 89***

*The Mayor, through TfL and the boroughs, will use the tram network to enable Good Growth by:*

*a) Considering opportunities to extend the network where they would enable the provision of new homes and jobs, are supported by Local Plans and can be funded primarily through locally derived sources'*

2.14.9 Much of the preparation has been done. Policies supporting extensions to the Tramlink network including to Crystal Palace sit within our recently adopted Local Plan. In the early part of this decade, we worked with TfL and our South London partners to progress the technical feasibility and business cases for a series of tram network extensions. The one with the strongest business case was the 'extension' from Wimbledon to Crystal Palace via Croydon Town Centre. Whilst described as an 'extension' the scheme was also a capacity enhancement mechanism for the existing network. In the west there was to be more dual tracking and a second platform at Wimbledon. These improvements

have now been delivered. In the east, additional trams from Crystal Palace would arrive on the network just before Arena, providing additional capacity to alleviate overcrowding on the busy Arena to East Croydon section of the network.

2.14.10 The stumbling block to delivery was not a technical one, it was a financial one. TfL's South London Transport Plan 2014 Update explained:

*'TfL is undertaking a feasibility study into the potential extension to Sutton to bring it up to the same level of project development as the Crystal Palace extension. This will enable the projects to be assessed on a comparable basis in future funding rounds.*

*For both the Crystal Palace and Sutton extensions, work is underway to assess need and development potential along the proposed routes. It is clear that in the current economic climate, any large transport infrastructure project must demonstrate a significant uplift in jobs, homes or other development to prove viable. This piece of work will determine the level of uplift possible along each of the proposed extensions, and examine ways of drawing on this development gain to contribute towards the cost of constructing the extensions.'*

2.14.11 The development related financing approach described above was based on the 'Nine Elms' model, namely a very large brownfield site needing public transport infrastructure to support major development which in turn was able to financially support delivery of that infrastructure. Whilst Croydon is accommodating some of the highest levels of growth in London and can clearly demonstrate a significant uplift in jobs and homes, it lacks major brownfield sites to support this model. Hence we are looking more imaginatively at financing mechanisms including working with the Mayor, TfL and our South London partners to press forward on MTS Proposal 23 to investigate 'appropriate' travel demand measures, part of that assessment of appropriateness being their ability to help fund the provision of high quality, high capacity alternatives to the car such as trams.

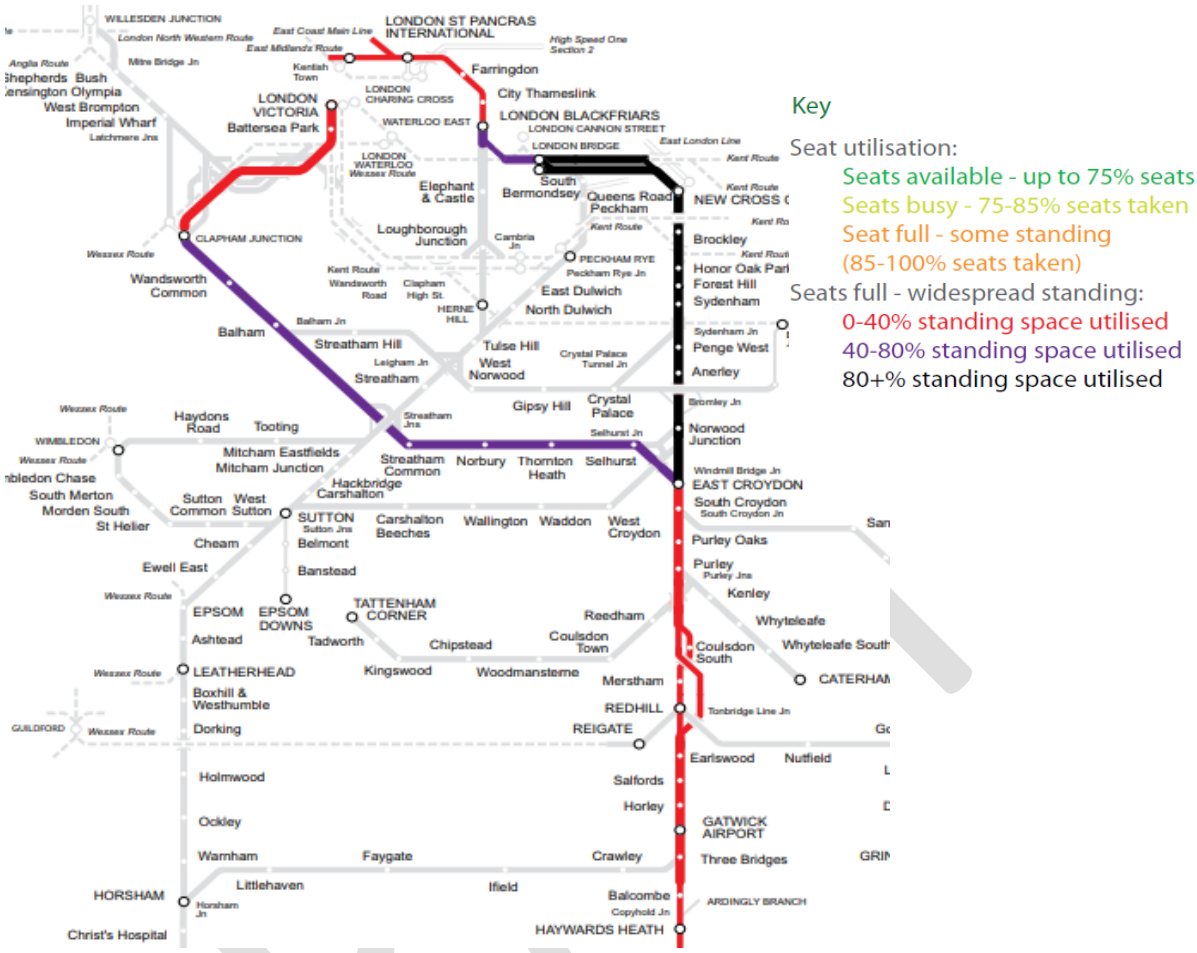
**Brighton Mainline Upgrade**

2.14.12 Figure 27 shows projected overcrowding on the Brighton Mainline in 2043 if there are no further interventions after those recently implemented. It is taken from the Network Rail Sussex Area Route Study 2015,[39]. A subsequent DfT commissioned study of the London to South Coast rail corridor suggests overcrowding will be worse than the Network Rail prediction in Figure 27. The DfT study estimated that demand on the Brighton Mainline corridor would double between 2015 and 2060.[40]

[39] https://www.networkrail.co.uk/wp-content/uploads/2016/11/South-East-Route-Sussex-Area-Route-Study-FINAL.pdf

[40] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/595947/london-south-coast-rail-corridor.pdf

**Figure 27: BML Overcrowding – Seat Utilisation in 2043 with no interventions after CP5**
(Source: Network Rail South East Route – Sussex Area Route Study 2015 – Figure 31, page 41)




2.14.13 Comparing the DfT load factor estimates with Network Rail's seat utilisation forecasts for 2023, there are a number of key differences. Network Rail expects seating availability between Brighton and Haywards Heath, and then between Gatwick Airport and East Croydon, with standing between Haywards Heath and Gatwick Airport, and then from East Croydon to London. The DfT's estimates are slightly less favourable, indicating in both scenarios seating availability only between Brighton and Haywards Heath. Standing from Haywards Heath to East Croydon and beyond exceeds the 20-minute standing threshold for passengers in excess of capacity (PIXC). Network Rail expects total capacity (seats plus standing) to be exceeded between East Croydon and London, whereas the DfT estimate indicates that this could occur as early as Purley Oaks or Merstham. In both cases, the need for passengers to stand from Preston Park or Hassocks onwards to London – a journey of up to one hour 15 minutes - would be classed as PIXC.

2.14.14 Overall, the DfT's 'do nothing' capacity assessment has shown that without further interventions and investment post-CP5, the BML will see unacceptable periods of standing as the norm and PIXC commonplace for much of the high peak hour, with total rolling stock capacity regularly exceeded in certain

locations by as soon as CP7 (2024- 2029). With the addition of rapid housing development and resulting rail demand growth, the DfT expects crowding to become an even more pressing issue than described in Network Rail's Sussex Route Study.

2.14.15 The DfT and Network Rail recognise that the two key issues which need to be addressed on the BML are the capacity at East Croydon Station and the constraints of the flat junctions immediately to the north of East Croydon. There is no possibility of running additional trains with the current track capacity.

**Metroisation**

2.14.16 The provision of transport infrastructure can support and encourage growth in jobs and homes in the most sustainable locations. Capacity enhancement on the heavy rail and tram networks serving Croydon places is needed if growth is not to be constrained. "Metroisation" of South London suburban rail services is needed to serve the increasing population. This will only be realised with the much needed investment in Brighton Main Line as discussed above.

**Figure 28: Mayor of London South London Metroisation Network**
(Source: Mayor's Transport Strategy)


**Borough objectives:**

xiv) Work with key partners to increase public transport capacity in the borough to support the creation of new homes and jobs planned over the

| |
|---|
| next two decades, including the extension of the tram to Crystal Palace and the upgrade of Brighton Mainline. |
| **Short to medium term delivery objectives and proposals:**<br>• Increase the public transport capacity in the borough to support the creation of new homes and jobs.<br>• Lobby TfL and the Mayor to develop proposals for tram extensions to Crystal Palace and Purley.<br>• Work with Network Rail to upgrade East Croydon station and create 2 additional platforms to reduce overcrowding and accommodate growth.<br>• Work with Network Rail to successfully deliver the Brighton Mainline Upgrade works in the borough.<br>• Metroisation – lobby TfL to recognise that Metroisation cannot be achieved the BML Upgrade |
| **Long term goals**<br>• By 2041, the Brighton Mainline Upgrade will have been successfully completed and there will be new tram and rapid bus connections linking our local centres with central Croydon. |

## 2.15 Other Mayoral Strategies

Draft London Plan 2018

2.15.1 The Draft London Plan (minor amendments 2018) sets out new housing and growth targets for Croydon and requires the Borough to deliver 14,500 new homes and 10,500 new jobs in the Growth Zone between 2019 and 2041.[41]

2.15.2 The 10 year net target set in the Draft London Plan for Housing Completions for Croydon between 2019 and 2029 is 29,490 with an annualised average target of 2,949 per year.

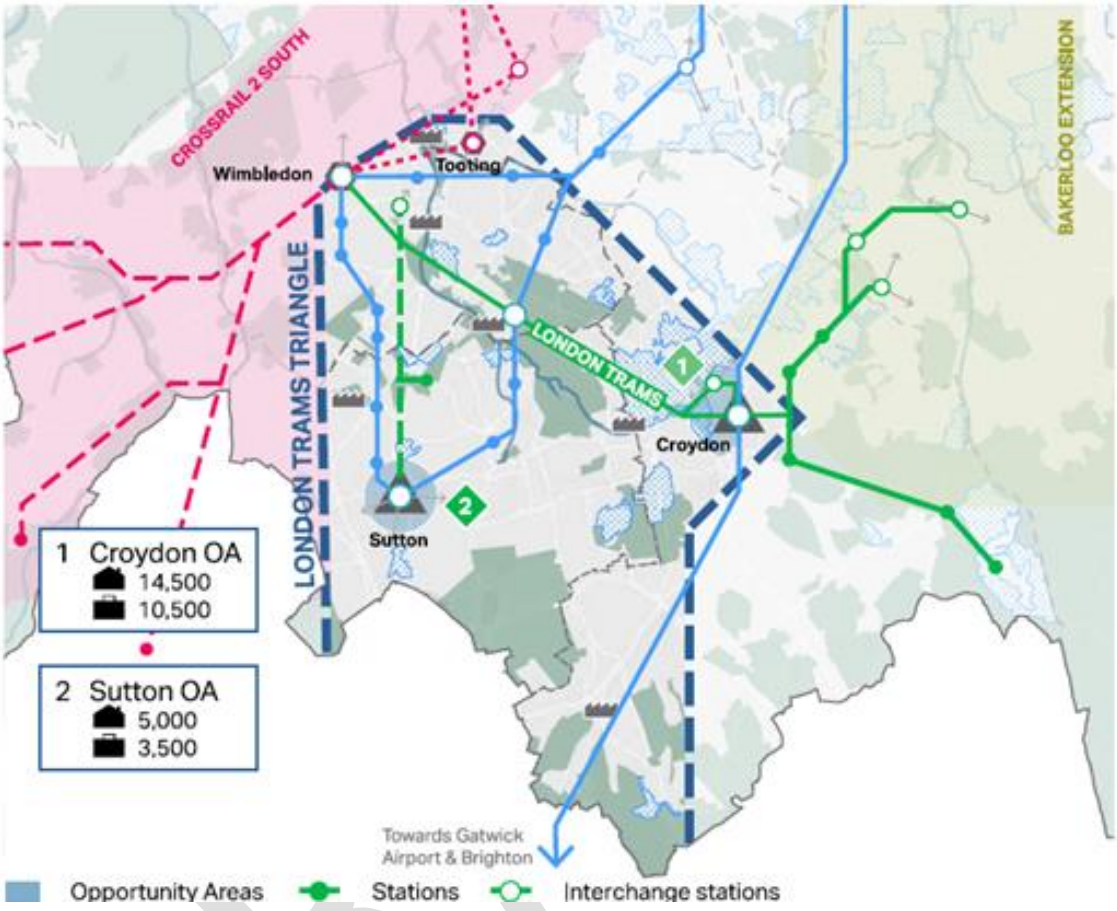
2.15.3 Croydon's LIP3 supports the aims, goals and transport projects outlined of the plan, specifically the 'Good Growth' vision and Croydon seeks to be London's Growth Borough. Most of the transport projects in the Draft London Plan however are not relevant to Croydon with the exception of the Metroisation proposals.

2.15.4 Croydon looks forward to finding out more and working with the Mayor and GLA on their Tram Triangle concept and is interested to know how the Bakerloo Line

[41] https://www.london.gov.uk/what-we-do/planning/london-plan/new-london-plan/download-draft-london-plan-0 Table2.1

Extension Zone of Influence fits with our tram extension aspirations in the east of the Borough.

**Figure 29: Tram Triangle** (Source: Draft London Plan 2018)




Mayor's Environment Strategy

2.15.5 The Mayor's Environment Strategy brings together an assortment of approaches and actions to tackle environmental issues affecting London in an integrated way; including air quality, green infrastructure, climate change, waste, the low carbon economy and noise.

2.15.6 Three key outcome themes for London are:

- Cleaner
- Greener
- Ready for the Future

2.15.7 The table below outlines how Croydon's LIP3 will support the Mayor's Environment Strategy.

**Table 2.15 – LIP3 proposals that support MES**

| Areas of influence | LIP3 proposals that support MES |
|---|---|

| | |
|---|---|
| Climate change and energy | • Freight reduction and management<br>• Construction Consolidation Centre<br>• Traffic reduction strategies<br>• Installation of 400 electric vehicle charging points including rapids for taxis and freight<br>• Mode shift from private cars to active modes |
| Green infrastructure | • Street tree planting programme<br>• Incorporating green infrastructure into all new public realm schemes<br>• Healthy Streets<br>• Liveable Neighbourhood proposals |
| Adapting to climate change | • Sustainable urban drainage schemes<br>• Tree planting programme |
| Air quality | • Construction Logistics and Traffic Management proposals<br>• Installation of 400 electric vehicle charging points including rapids for taxis and freight<br>• Construction Consolidation Centre<br>• Traffic reduction strategies<br>• Mode shift from private cars to active modes<br>• Healthy Schools Neighbourhoods schemes<br>• Liveable Neighbourhoods proposal |
| Noise | • Liveable Neighbourhoods proposal<br>• Tree planting programme<br>• Traffic reduction strategies<br>• Mode shift from private cars to active modes<br>• Freight reduction and management<br>• Construction Logistics and Traffic Management proposals |

Health Inequalities Strategy

2.15.8 The Mayor's Healthy Inequalities Strategy sets out an over-riding vision of "A healthier, fairer city, where nobody's health suffers because of who they are or where they live" It describes the main issues which lead to inequalities and proposes a set of aims for reducing them.

2.15.9 These are summarised under the broad headings of Healthy Children, Healthy Minds, Healthy Places, Healthy communities and Healthy habits. Many of the themes discussed share an overlap with MTS outcomes, specifically Healthy Streets and Healthy people. Additionally they support Croydon's own Health and Wellbeing Strategy 2018-2023.

Housing Strategy

2.15.10 The Mayor's London Housing Strategy sets out his vision for housing and his policies and proposals to make it happen. It also outlines his longer-term

ambitions for the future. This vision underpins the five priorities of the Mayor's London Housing Strategy:

• Building homes for Londoners;
• Delivering genuinely affordable homes;
• High quality homes and inclusive neighbourhoods;
• A fairer deal for private renters and leaseholders; and
• Tackling homelessness and helping rough sleepers.

2.15.11 The central aim is to build more homes for Londoners, particularly affordable homes.

Economic Development Strategy

2.15.12 In his Draft Economic Development strategy, the Mayor sets out his plans to grow London's economy, support businesses, boost innovation and create a city that works for all.

2.15.13 The draft strategy has three main goals:

- Opening up opportunities – everyone should be able to benefit from all our city offers
- Growth – ensuring our economy will continue to thrive and is open to business
- Innovation – to make London a world leader in technology and a hub of new ideas and creativity

Draft Culture Strategy

2.15.14 The Mayor has made culture and the creative industries one of his top priorities. The Draft Culture Strategy sets out his policies and commitments for culture and invites all Londoners to support him in the development and delivery of his ambitions for culture in the capital.

2.15.15 The Draft Culture Strategy recognises the central role culture plays in the capital's success – as well as its economic contribution, it drives tourism, improves the quality of our lives and our health and it brings us together. Culture and the creative industries contribute £47bn to London's economy every year and account for one in six jobs in the capital.

2.15.16 The policy has four themes:

- Love London - more people experiencing and creating culture on their doorstep
- Culture and Good Growth - supporting, saving and sustaining cultural places
- Creative Londoners - investing in a diverse creative workforce for the future
- World City - maintaining a global powerhouse in a post-Brexit world

2.15.17 Whilst Croydon was not successful in bidding to be a London Borough of Culture it was successful in securing funding to bid to become a Creative Enterprise Zone in the Croydon Town Centre area.

2.15.18 Separately through the Growth Zone framework the Borough has set aside £1.8 million in funding for cultural events and activities in the Town Centre over the next 5 years.

# 3 The Delivery Plan

## 3.1 Introduction

3.1.1 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

## 3.2 Linkages to the Mayor's Transport Strategy priorities

3.2.1 The Delivery Plan was developed to align Croydon 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.

3.2.2 All of our LIP projects and programmes were developed with the MTS outcomes in mind. We have cross-referenced and assessed the relevance of each project and programme against the each of MTS outcomes in Table ST01.

| TABLE ST01 - Linkages between LIP projects and programmes and the Mayor's Transport Strategy outcomes | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Project / Programme** | | **MTS mode share** | **MTS outcomes** | | | | | | | |
| | | Improving active, efficient and sustainable mode | No l:-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 |
| | **Construction & Freight Traffic Management** | | | | | | | | | |
| 1 | Construction Consolidation Centre Feasibility | ✓ | ✓ | ✓ | ✓ | ✓ | | | | ✓ |
| 2 | Freight Reduction Strategy | ✓ | ✓ | ✓ | ✓ | ✓ | | | | ✓ |
| 3 | Growth Zone Construction Traffic Management | ✓ | ✓ | ✓ | ✓ | ✓ | | | | ✓ |
| | **Borough Traffic Reduction Strategy** | | | | | | | | | |
| 4 | Parking Management Reviews | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ |
| 5 | District Centre Parking Demand Surveys | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ |
| 6 | Traffic Reduction Strategy Research | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ |
| | **Buses** | | | | | | | | | |
| 7 | Suburban Bus Accessibility Review | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Walking & Pedestrian Improvement Programme** | | | | | | | | | |
| 8 | Public Realm Accessibility Improvements | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ |
| 9 | Public Rights of Way Upgrade & Improvements | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |
| 10 | Accessibility in Parks & Green Spaces | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | ✓ |
| 11 | Pedestrian Priority Crossing Improvements | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ |
| | **Cycling Strategy Delivery Programme** | | | | | | | | | |
| 12 | Cycle hire scheme delivery | ✓ | ✓ | | ✓ | ✓ | | | | ✓ |
| 13 | Croydon Arena Cycle Hub | | ✓ | | ✓ | | | | | |
| 14 | Cycle Network Infrastructure Delivery | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ |
| | **Urban Mobility** | | | | | | | | | |
| 15 | Car Club development | ✓ | | | ✓ | ✓ | | | | ✓ |
| 16 | E-mobility - EVCP rollout | | | | | ✓ | | | | |
| | **Active Travel Behaviour Change** | | | | | | | | | |
| 17 | Cycle Training | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |
| 18 | Cycling for Health | | ✓ | | ✓ | ✓ | | | | |
| 19 | Healthy Workforce | | ✓ | | ✓ | ✓ | | | | |
| 20 | Promoting walking & cycling activities & events | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |
| | **Healthy Schools Neighbourhoods** | | | | | | | | | |
| 21 | Healthy Schools Neighbourhoods Coordination | ✓ | ✓ | ✓ | ✓ | ✓ | | | | ✓ |
| 22 | Broad Green neighbourhood | ✓ | ✓ | ✓ | ✓ | ✓ | | | | ✓ |
| 23 | Thornton Heath neighbourhood | ✓ | ✓ | ✓ | ✓ | ✓ | | | | ✓ |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **School Travel Planning** | | | | | | | | | |
| 24 | STP Monitoring & Implementation | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | |
| | **Vision Zero** | | | | | | | | | |
| 25 | Safer Streets – South Norwood | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | ✓ |
| 26 | Safer Streets – Thornton Heath | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | ✓ |
| 27 | Safer Streets – Upper Norwood | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | ✓ |
| 28 | Safer Streets – Responsive Local Safety Schemes | ✓ | ✓ | ✓ | ✓ | ✓ | | | | ✓ |
| 29 | Safer Speeds – Speed mgt & 20mph enforcement | ✓ | ✓ | ✓ | ✓ | ✓ | | | | ✓ |
| 30 | Safer Fleets – FORS registration | ✓ | ✓ | ✓ | ✓ | ✓ | | | | ✓ |
| 31 | Safer Behaviours – Safe Drive Stay Alive | | | ✓ | | | | | | |
| 32 | Safer Behaviours – Targeted Motorcycle Campaign & Work Related Road Risk Campaign | | | ✓ | | | | | | |
| 33 | Research & Evidence gathering | ✓ | ✓ | ✓ | ✓ | | | | | ✓ |

## 3.3 TfL Business Plan

3.3.1 In developing and preparing our programme of works (as outlined in the Delivery Plan), we have 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.

3.3.2 The only funded major projects identified in the Transport for London Business Plan for 2018/19 – 2022/23 is the Fiveways Junction Scheme and Blackhorse Lane bridge replacement. Other longer term major programmes which are likely to benefit Croydon residents and businesses if /when they are funded and delivered are indicated in Table 3.4 below:-

## 3.4 Major Funded Projects:

**Fiveways**

3.4.1 This is a scheme on the TfL road network at the junction of the A23 and A232 near Waddon Station. Following public consultation in summer 2017, Croydon Council endorsed the Fiveways scheme design in September 2018. Transport for London issued their Consultation Report in September 2018. A planning application for the scheme is anticipated in autumn 2019.

3.4.2 The Council has an existing commitment to contribute £20 million to the TfL led Fiveways project. Following recent design changes to better accommodate cyclists, TfL has requested an additional £5 million from the Council. The Council's total contribution to the Fiveways project is now requested to be £25 million made up of £5 million from the Council's capital programme and £20 million from the Growth Zone. The total cost of the project is approximately £85 million. The key project milestones include concept design completion by December 2019, detailed design completion by May 2021, with construction commencing June 2021 and completion by June 2023.

3.4.3 Overall the proposals aim to:

- Improve road safety
- Create better conditions for pedestrians and cyclists
- Support growth in Croydon and beyond
- Improve journey times
- Create new public spaces to develop Fiveways as a local centre for Waddon.

**Blackhorse Lane bridge replacement**

3.4.4 Blackhorse Lane road-bridge over the tram lines between Blackhorse Road tram stop and Addiscombe tram stop is being replaced by TfL in partnership with Croydon Council. The road has been closed since 2016 for safety reasons and the works to replace the bridge are not expected to be complete until late 2019 when it should open to single lane traffic before main construction work finishes in spring 2020. The closure continues to cause significant disruption to local businesses and residents and traffic delays and there is frustration that the project has taken as long as it has.

3.4.5 Croydon Council-owned Addiscombe Railway Park Bridge is being replaced at the same time in one joint project to save public money and time. That new bridge will be two metres wider to accommodate a cycle path, improving facilities for local cyclists.

**Longer term unfunded projects referred to in MTS Delivery Plan**

3.4.6 Other long term projects and programmes in the MTS business or delivery plan that will have implications for the Borough include:

**Table 3.4 – Long term unfunded MTS Delivery Plan projects**

| Project or Programme | Croydon implications and commentary |
|---|---|
| Deliver Tram Upgrades:<br>• 1st phase tram network enhancements<br>• Elmers End 2nd platform | Croydon is working with TfL and Bromley to support these proposals and is contributing towards delivery. |
| Sutton Tram Extension | Croydon have been in discussion with TfL regarding the project and the potential benefits to frequency and capacity on the Tramlink network |
| Bakerloo Line extension | Croydon are keen to work with TfL to understand the potential for linkages between the BLE and tram extensions |
| Brighton Mainline Upgrade | The Brighton Mainline Upgrade is a critical infrastructure project needed to free up additional capacity on the rail lines between London and the South Coast. Croydon is working with Network Rail |

| | |
|---|---|
| | and contributing towards the development of the scheme. Croydon believes that the importance of the BML upgrade works to the whole of London and Southern England has not been fully recognised in both the MTS and London Plan. |
| Deliver London Suburban Metro - Metroisation | Whilst Croydon supports the concept of the South London Suburban Metro (Metroisation), we recognise that it cannot happen until the BML upgrade is complete. |
| Pilot Bus Transit Networks in Opportunity Areas | Croydon are keen to work with TfL to further develop these concepts and understand a potential role for improving access on key Growth Zone corridors. |

## 3.5 Sources of funding

3.5.1 Table ST02 below identifies potential funding sources for implementation of our LIP3, including LIP funding allocation from TfL, contributions from our own funds, and funding from other sources.

3.5.2 TfL indicates that Croydon will receive approximately £2,362,000 LIP funding per annum for the next three years through core Corridor, Neighbourhoods and Supporting Measures formula funding.

3.5.3 In addition to the above, Croydon may potentially receive approximately £7,000,000 from TfL between 2019/20 and 2021/22 in response to the following discretionary bids (if successful) and strategic funding applications:

a. Liveable Neighbourhood Proposal (£9.6 million in total, £6.4m up to 21/22)
b. Strategic Funding – Bus Priority Delivery Portfolio & Quietways Cycling programme (£1 million)

3.5.4 Croydon Council 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.

3.5.5 The largest source of funding for transport improvements in the Borough over the next several years will be from the Croydon Growth Zone Framework. The Croydon Growth Zone is a Tax Incremental Financing (TIF) model which harnesses business rates uplift to enable borrowing to fund infrastructure. The Croydon Growth Zone programme consists of a range of transport, public realm

social infrastructure and technology projects. They are deemed essential to mitigate the impact and maximise the opportunities of the growth planned (as detailed in the Croydon Local Plan 2018, Croydon Opportunity Area Planning Framework 2013 and the London Plan) in Croydon for the benefit of existing and future residents, businesses and visitors. The total amount available between 2019 and 2023 for public realm and transport improvements is £160 million.

3.5.6 Developer contributions to Sustainable Transport made via section 106 agreements have been allocated to and spent on delivering infrastructure to facilitate sustainable travel and avoid or mitigate transport impacts. There is currently £1,350,000 predominately allocated to cycling infrastructure, both new route infrastructure but especially cycle parking to mitigate impact of the loss of the Borough Cycle Parking fund that used to be provided by TfL.

3.5.7 All parking revenue is used to fund parking operations and to support concessionary travel. As yet there is no CIL funding allocated for transport as it is allocated to other priority areas.

**TABLE ST02 - 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 | 2,362 | 2,362 | 2,362 | 7,086 |
| Discretionary funding - Liveable Neighbourhood Bid- *dependent upon the bid being successful* | 1,176 | 2,466 | 2,725 | 6,367 |
| Strategic funding | 529 | 600 | 800 | 1,929 |
| GLA funding | 0 | 0 | 0 | 0 |
| Sub-total | 4,067 | 5,428 | 5,887 | 15,382 |
| **Borough funding** | | | | |
| Capital funding – Highways & Transport | 9,566 | 16,214 | tbc | 25,780 |
| Capital Funding – structures & bridges | 1,818 | 5,944 | 3,073 | 10,835 |
| Revenue funding | 4,658 | Tbc | Tbc | 4,658 |
| Parking revenue | 0 | 0 | 0 | 0 |
| Growth Zone Funding 2019-2023 | 3,000 | 16,000 | 42,000 | 61,000 |
| Sub-total | 19,042 | 38,158 | 45,073 | 102,273 |
| **Other sources of funding** | | | | |

| | | | | |
|---|---|---|---|---|
| S106 | 1,350 | tbc | tbc | tbc |
| CIL | 0 | 0 | 0 | 0 |
| European funding | 0 | 0 | 0 | 0 |
| Sub-total | 1,350 | Tbc | Tbc | tbc |
| Total | 24,459 | 43,586 | 50,960 | 117,655 |

## 3.6 Long-Term interventions to 2041

3.6.1 In the medium to long-term a number of significant investments will be required to ensure the economic and social vitality of the Borough. Some of the interventions are currently funded, particularly through the Growth Zone framework. but many are unfunded. These are shown in table below with indicative funding and indicative but uncommitted timescales.

**TABLE ST03 - Long-term interventions up to 2041**

| Project | Approx. date | Indicative cost | Likely funding source | Comments |
|---|---|---|---|---|
| Fiveways junction | 2018-2023 | £85m | TfL, LBC Growth Funding & Capital Funding | Consultation complete, feasibility design complete Dec 2019, detailed design complete by May 2021, construction commence June 2021 and completion by June 2023.<br>MTS outcomes 1, 2, 3, 4, 8, 9 |
| Street tree planting | 2018-2023 | £0.9m | LBC Capital | 3,500 street trees to be planted by 2023<br>MTS outcomes 4, |
| Construction Consolidation Centre | 2019-2023 | £1-2m | GLA, LB Croydon Growth Zone, South London Partnership boroughs, MAQF | South and South West London is the only part of London that does not have readily available access to a CCC. The level of development occurring in the Borough over the next decade makes this project a priority.<br>MTS outcomes 2, 3, 4 |

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| Growth Zone Construction Mgt & Logistics | 2019-2023 | £1.7m | LBC Growth Zone | Various measures to manage construction logistics in the Town Centre during growth zone construction phase<br>MTS outcomes 2, 3, 4 |
| Cycling & Walking Network Improvements | 2019-2025 | £20m | Growth Zone, TfL Quietways, LIP, CIL, LBC | Croydon's Cycle Strategy was approved in early 2018. This programme will deliver the routes set out in the Strategy.<br>MTS outcomes 1, 2, 3 |
| Growth Zone Traffic Management Technology | 2019-2025 | £1m | LBC Growth Zone | Traffic Mat measures including variable messaging and app based tools to inform and manage traffic in town centre<br>MTS outcomes 3 |
| Growth Zone Parking Mgt Improvements | 2019-2025 | £1.2m | LBC Growth Zone | Review and expansion of CPZs<br>MTS outcomes 1, 2, 3, 4 |
| Old Town Public Realm Improvements | 2019-2023 | £5.7m | LBC Growth Zone | As per schemes identified in Old Town Masterplan<br>MTS outcomes 1, 2 |
| Mid Croydon Public Realm Improvement (incl. North End & Crown Hill) | 2019-2023 | £22.7m | LBC Growth Zone | As per schemes identified in Mid Croydon Masterplan<br>MTS outcomes 1, 2 |
| East Croydon Public Realm Improvement | 2019-2023 | £4.6m | LBC Growth Zone | As per schemes identified in East Croydon Masterplan<br>MTS outcomes 1, 2 |
| West Croydon Public Realm Improvement | 2019-2023 | £1.4m | LBC Growth Zone | As per schemes identified in the West Croydon Masterplan<br>MTS outcomes 1, 2 |
| Fairfield Gardens /Park Lane Public Realm Improvement | 2019-2023 | £10m | LBC Growth Zone | As per schemes identified in Fairfield Masterplan<br>MTS outcomes 1, 2 |
| A232 Chepstow Road / Addiscombe Rd | 2019-2025 | £4.1m | LBC Growth Zone | Critical junction, providing access to the Growth Zone from the east for walking, cycling, trams, buses |

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|---|---|---|---|---|
| | | | | whilst providing a strategic east-west traffic 'movement' function.<br>MTS outcomes 1, 2, 3, 5, 6, 8, 9 |
| Wellesley Rd ped /cycle crossing | 2019-2025 | £1.5m | LBC Growth Zone | The Wellesley Road surface level crossing, to link the redeveloped Whitgift Centre main entrance to Lansdowne Road will be delivered by 2023. Subways underneath Wellesley Road will be closed<br>MTS outcomes 1, 2 |
| Mitcham Road/Roman Way corridor | 2019-2025 | Tbc | Part funded - LBC Growth Zone £6.5m<br>Subject of the Liveable Neighbourhood bid | Key Growth Zone 'movement' corridors – scheme to consider walking, cycling, bus and local requirements<br>MTS outcomes 1, 2, 3, 4, 5, 8, 9 |
| London Road corridor | 2019-2025 | Tbc | LBC Growth Zone, MAQF LEN – Part funded - £8.2m | Key Growth Zone 'movement' corridors – scheme to consider walking, cycling, bus and local requirements<br>MTS outcomes 1, 2, 3, 4, 5, 8, 9 |
| Brighton Road corridor | 2019-2030 | Tbc | Partly funded - £4.9m Growth Zone | Key Growth Zone movement corridor – cycling, walking and public realm improvement plus potential for Bus Transit scheme or Tram extension<br>MTS outcomes 1, 2, 3, 4, 5, 8, 9 |
| Electric vehicle charging point programme | 2019-2023 | £1.0 m | GULCS, S106, CIL, LIP, LBC | 400 EVCPs<br>MTS outcomes 4 |
| Bus Priority Measures | 2019-2025 | £12.8m | Growth Zone, CIL, LIP, TfL | Multiple projects including corridor schemes<br>MTS outcomes 3, 5, 6, 7, 8 |
| Buses – Bus route upgrades | 2019-2023 | £10m | Growth Zone | Over the next 4 years a comprehensive programme of bus priority measures will be delivered to support access to and from Croydon Town Centre.<br>MTS outcomes 3, 5, 6, 7 |

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|---|---|---|---|---|
| Buses - Park Lane Gyratory Bus Layby | 2019-2023 | £5.6m | Growth Zone, S106, CIL | Gyratory redesigned to accommodate bus standing and The junction has an important relationship with the longer term bus network strategy for the town centre.<br>MTS outcomes 3, 5, 6, 7 |
| Trams - Elmers End Line Enhancements & 2nd platform | 2019-2022 | £9m | TfL | MTS outcomes 3, 5, 6, 7, 8, 9 |
| New Addington 12tph – additional tram cars | tbc | tbc | tbc | MTS outcomes 3, 5, 6, 7, 8, 9 |
| 1st phase Tram Network Enhancements | 2019-2023 | £26.8m | Growth Zone | Tram capacity enhancements, in response to expected growth are expected to be addressed by the 1st major phase of tram enhancement schemes.<br>MTS outcomes 3, 5, 6, 7, 8, 9 |
| George Street tram stop | 2019-2023 | £1m | Growth Zone | George Street Tram Stop is anticipated to be upgraded and improved prior to the opening of the redeveloped Whitgift Centre.<br>MTS outcomes 3, 5, 6, 7, 8, 9 |
| Croydon to Morden improvements:<br>Wandle Flyover double tracking<br>Phipps Bridge double tracking<br>Additional trams | tbc | | Part funded – feasibility Growth Zone | Scheme development is anticipated to commence on some of the longer term tram schemes, including the double tracking at Wandle flyover and further along the line to the west to help address capacity constraints.<br>MTS outcomes 3, 5, 6, 7, 8, 9 |
| Tram stabling & power upgrades – eastern satellite depot & Therapia Lane | tbc | tbc | Not currently funded | MTS outcomes 3, 5, 6, 7, 8, 9 |
| Trams Beckenham Branch capacity enhancement | Tbc | Tbc | Not currently funded | MTS outcomes 3, 5, 6, 7, 8, 9 |

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|---|---|---|---|---|
| Tram extension – Crystal Palace | 2020-2041 | £200m | Not currently funded | MTS outcomes 3, 5, 6, 7, 8, 9 |
| East Croydon Station Rebuild – additional platforms and and new concourse (part of the Brighton Mainline Upgrade (see below) | 2019 - 2032 | Tbc | Not currently funded | MTS outcomes 3, 5, 6, 7, 8, 9 |
| Brighton Mainline Upgrade | 2019 - 2032 | £2,000m | Not currently funded | MTS outcomes 3, 5, 6, 7, 8, 9 |
| West Croydon Station interchange – rebuilt station | 2019-2023 | £80m | Growth Zone £21.4m, Funding from associated housing development<br>Potential Access for All funding | Early stages of feasibility, intention to first phase of improvements by 2023.<br>MTS outcomes 3, 5, 6, 7, 8, 9 |
| South London Metroisation | 2022-2030 | tbc | Not currently funded | Requires Brighton Mainline Upgrade<br>MTS outcomes 3, 5, 6, 7, 8, 9 |
| Norwood Junction Station Accessibility Improvements | 2022-2027 | £25m | Not currently funded<br>Ideally delivered as part of the BML Upgrade<br>Access for All nomination made | Partners: Network Rail, TfL, TOCs<br>MTS outcomes 3, 5, 6, 7, 8, 9 |
| Purley Cross gyratory environment improvement | 2020-2030 | TBC | Not currently funded | Aspirations for changes to gyratory to make it less traffic dominated, & a more liveable town centre<br>MTS outcomes 1, 2, 3, 5, 6, 7, 8, 9 |
| Purley Way Public Realm & Access Improvements | 2020-2040 | TBC | Not currently funded | Leading on from Tram Triangle proposal in the Draft London Plan<br>MTS outcomes 1, 2, 3, 5, 6, 7, 8, 9 |

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|---|---|---|---|---|
| Tram Extensions | 2025-2035 | TBC | Not currently funded | Work with TfL to identify financing mechanism for tram network extensions (e.g. to Crystal Palace and Purley) and to deliver extensions<br>MTS outcomes 1, 2, 3, 5, 6, 7, 8, 9 |

## 3.7 Three-year indicative Programme of Investment

3.7.1 The Three Year indicative Programme of Investment has been completed in the table ST04 below.

**TABLE ST04 - 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 Croydon<br>TfL BOROUGH FUNDING 2019/20 TO 2021/22 | Programme budget | | |
|---|---|---|---|
| | Allocated 2019/20 | Indicative 2020/21 | Indicative 2021/22 |
| Local Transport Funding | 100,000 | 100,000 | 100,000 |
| CORRIDOR, NEIGHBOURHOODS & SUPPORTING MEASURES | £k | £k | £k |
| Construction & Freight Traffic Management | 75 | 0 | 0 |
| Borough Traffic Reduction Strategy | 150 | 75 | 75 |
| Bus Accessibility Reviews | 30 | 20 | 0 |
| Walking & Pedestrian Improvements | 390 | 320 | 320 |
| Cycling Strategy Delivery | 591 | 550 | 500 |
| Urban Mobility & EVs | 60 | 60 | 60 |

| | | | |
|---|---|---|---|
| Active Travel Behaviour Change | 215 | 215 | 205 |
| Healthy School Neighbourhoods | 135 | 310 | 337 |
| School Travel Planning | 150 | 130 | 130 |
| Vision Zero – Safer Streets | 250 | 372 | 425 |
| Vision Zero – Safer Speeds | 150 | 150 | 150 |
| Vision Zero – Safer Fleets | 6 | 0 | 0 |
| Vision Zero – Safer Behaviours | 160 | 160 | 160 |
| Sub-total | £2362k | £2362k | £2362k |
| DISCRETIONARY FUNDING | £k | £k | £k |
| Liveable Neighbourhoods | 1,176[(a)] | 2,466[(a)] | 2,725[(a)] |
| Principal road renewal | 0[(b)] | tbc[(b)] | Tbc[(b)] |
| Bridge strengthening | 0[(b)] | tbc[(b)] | tbc[(b)] |
| Traffic signal modernisation | Tbc | tbc | tbc |
| Sub-total | £1,176k | £2,466k | £2,725k |
| STRATEGIC FUNDING | £k | £k | £k |
| Bus Priority | 200[(c)] | 200[(c)] | 200[(c)] |
| Borough cycling programme | tbc[(d)] | tbc[(d)] | tbc[(d)] |
| Mayor's Air Quality Fund | Tbc[(e)] | tbc[(e)] | Tbc[(e)] |

| | | | |
|---|---|---|---|
| Low Emission Neighbourhoods | Tbc[f] | tbc[f] | Tbc[f] |
| Sub-total | £200k | £200k | £200k |
| All TfL borough funding | £3,838k | £5,128k | £5,387k |

3.7.2 Notes

- (a) These figures reflect the Liveable Neighbourhoods bid submitted, and these amounts are dependent upon the bid being successful.
- (b) TfL has frozen funding for Principal Road Maintenance & Bridge Strengthening until 2020/21 however it is unclear if funding will be reinstated.
- (c) Bus Priority Delivery funding – these figures are indicative based upon initial discussions with Bus Delivery Portfolio Team.
- (d) Borough Cycling programme – still to be confirmed.
- (e) Croydon's Air Quality & Transport Teams submitted two MAQF bids in January 2019 and will find out if successful in March 2019.
- (e) Croydon's Air Quality & Transport Teams submitted a LEN bid in January 2019 and will find out if they are successful in March 2019.

## 3.8 Supporting commentary for the three-year programme

3.8.1 The three year programme of investment was derived by assessing which existing initiatives and work streams have achieved their stated objectives and which have not, then cross referencing these stated goals against the current Mayor's priorities. If a current work area has been proven to be successful and meets the new MTS outcomes then we have retained it. In some cases we have adapted existing work areas to make them more aligned to the Mayor's priorities and we have also introduced new work programmes to reflect the new MTS outcomes and policy frameworks, specifically the Healthy Streets principles, Vision Zero ambition and a road traffic reduction strategy.

3.8.2 The Council will focus the limited resources that are provided through LIP funding on areas of the Borough that have been identified as having the greatest potential for meeting the MTS outcomes and targets. This will include factors such as; accident history, propensity to walk and cycle, propensity to shift from car use, higher levels of deprivation, poorer air quality and the number of schools and other sensitive sites such as hospitals.

3.8.3 Consultation and early engagement with key stakeholders identified that traffic dominance and the fear of road danger were key factors in why people in Croydon were not walking or cycling more often. Stakeholders highlighted particular concerns around speeding vehicles, dangerous driving and lack of priority for pedestrians or dedicated infrastructure for cyclists. Discussions with both internal and external stakeholders identified that the school run and associated vehicle trips were key causal factors for congestion and high car trips in the Borough, and should be an area of intervention that is prioritised.

3.8.4 Analysis of transport data including the census 2011, DVLA registrations and London Travel Demand Survey revealed that a large number of short journeys to work were being made by car and car ownership levels in the Borough have increased dramatically in the past five years. As such we have identified the need for expansion of car clubs in Croydon to offer practical alternatives to owning a car and also measures to manage parking demand and kerbside activity better.

**Continued work areas**

3.8.5 The following programme areas are being continued with some amendments as they have been deemed successful and will support the new MTS outcomes.

Cycling Strategy

3.8.6 The proposals and infrastructure schemes previously agreed through the Croydon Cycling Strategy will continue to be progressed and funded as part of the LIP3 alongside Growth Zone funding. This includes the Cycle Quietway route to Sutton, safe cycle routes in parks and residential areas, and the continued installation of secure cycle parking provision at all rail stations, district centres and residential areas. Proposed LIP expenditure on network routes and schemes is outlined below in Table 3.8. The schemes should be cross-referenced with the Cycle Strategy Network Route map in Appendix A, section 4.

**Table 3.8 – LIP funded Walking and Cycling Programme**

| WALKING AND CYCLING PROGRAMME COSTS | LIP 2019/20 £'K | LIP 2020/21 £'K | LIP 2021/22 £'K | Total LIP £'K | Other funding £'K |
|---|---|---|---|---|---|
| Total annual LIP funded budget | 531 | 500 | 500 | 1,531 | - |

| | | | | | |
|---|---|---|---|---|---|
| **C2 NCN 212 Access to Wandle Park**<br>The NCN212 (W) runs from Sutton / Merton into Croydon Town Centre | 6 | - | - | 6 | 34 |
| **C3 Quietway 5**<br>Q5 runs from Waterloo to the Borough boundary but with the potential to continue into Croydon Town Centre subject to achieving a suitable route | - | - | - | - | 412 |
| **C4 NCN 232 / NCN 212 Connect2**<br>NCN232 (W) and NCN 212 (W) run from Sutton / Merton into Croydon town centre | 20 | - | - | 20 | 558 |
| **C5 Phase 2 Route Improvements & signage**<br>Borough wide improvements to existing routes (including routes outside town centre which do not directly link into the town centre) | 55 | 50 | 47 | 152 | 54 |
| **C6 LCN 23 / LCN 75 Fairfield plus**<br>Town Centre Scheme. LCN75 (E) runs from Bromley into the town centre | 50 | - | - | - | 2,058 |
| **C7 LCN 73 Mitcham Road Corridor**<br>Corridor scheme. LCN 73 runs from Sutton / Merton into Croydon Town Centre | 50 | 20 | 5 | 75 | 6,600 |
| **C8 NCN 232 Northern and Southern Extensions**<br>NCN232 (W) runs from Sutton / Merton into Croydon Town Centre<br>NCN232 (E) runs from New | 50 | 20 | 20 | 90 | 2,932 |

| | | | | | |
|---|---|---|---|---|---|
| Addinton into Croydon Town Centre | | | | | |
| **C9 LCN 222 Lower Addiscombe Corridor** Corridor scheme. LCN222 runs from South Norwood into Croydon Town Centre | 20 | 50 | 50 | 120 | 1,259 |
| **C10 LCN 75 Old Town plus** Town Centre Scheme. LCN75 runs from Sutton into Croydon Town Centre | 30 | 30 | 33 | 93 | 858 |
| **C11 Phase 2 Junction Improvements** Schemes across the Borough, incliding town centre. Routes into town centre include LCN23, LCN77, LCN755, LCN29 | 100 | 20 | 10 | 130 | 1,454 |
| **C12 LCN 75 Shirley Addiscombe** Corridor scheme. LCN75 (E) runs from Bromley to Croydon Town Centre. | 50 | 30 | 10 | 90 | 2,160 |
| **C13 LCN 77 Waddon plus** LCN77 (W) runs from Sutton to Croydon Town Centre | - | - | - | - | 2,161 |
| **C14 LCN 23 Crystal Palace Norwood** LCN 23 (N) runs from Crystal Palace to Croydon Town Centre | 5 | 100 | 100 | 205 | 381 |
| **C15 LCN 755 Drummond Road** Town Centre Scheme. LCN755 (W) is local link from Roman Way to North End | 25 | 20 | - | 45 | 342 |
| **C16 LCN 23 Dingwall Loop plus** Town Centre Scheme. LCN23 | 5 | 10 | - | 15 | 985 |

| | | | | | |
|---|---|---|---|---|---|
| (N) runs from Crystal Palace to Croydon Town Centre. | | | | | |
| **C17 LCN 23 Brighton Road Corridor**<br>Corridor scheme. LCN23 (S) runs from Coulsdon into Croydon Town Centre | 25 | 10 | 15 | 50 | 5,370 |
| **C18 NCN 212 Bedford Park - Poplar Walk**<br>Town Centre Scheme. NCN212 (E) runs from South Norwood to Croydon Town Centre | - | - | - | - | 553 |
| **C19 LCN 23 Coulsdon and Purley**<br>LCN23 (S) runs from Coulsdon into croydon Town Centre | 5 | 100 | 100 | 205 | 945 |
| **C20 LCN 5 London Road Corridor**<br>Corridor Scheme. LCN5 runs from Norbury into Croydon Town Centre | 20 | 10 | 80 | 110 | 390 |
| **C21 NCN 212 Blackhorse Lane Bridge**<br>NCN212 (E) runs from South Norwood to Croydon Town Centre | 5 | 20 | 10 | 35 | 525 |
| **C22 LCN 75 Chepstow Rd - Addiscombe Rd Corridor**<br>Corridor scheme. LCN75 (E) runs from Bromley to Croydon Town Centre. | 5 | 5 | 10 | 20 | 480 |
| **C23 NCN 212 NCN 232 Wellesley - Park Lane**<br>Town Centre Scheme. NCN 232 and NCN212 run from Sutton / Merton to South Norwood / New Addington to Croydon Town Centre | 5 | 5 | 10 | 20 | 480 |

- Supports overarching mode share target and MTS outcomes 1, 2, 3

Pedestrian Improvements

3.8.7 This programme area will include continued provision of safe and secure pedestrians crossing facilities, with dedicated pedestrian phases and pedestrian countdown where appropriate. There will continue to be funding for accessibility improvements to the public realm to ensure residents with mobility issues are able to access local amenities and public transport. It also includes funding to improve and upgrade Public Rights of Way.

- Supports overarching mode share target and MTS outcomes 1, 2, 3

Active Travel Behaviour Change

3.8.8 This work stream includes a variety of activities such as cycle training, led rides, cycling events, promotional events, education and behaviour change projects to encourage more walking and cycling.

- Supports overarching mode share target and MTS outcomes 1, 2, 3, 4

School Travel Planning

3.8.9 This is a continuation of the school travel planning programme for schools that are outside of the Healthy Schools Neighbourhoods areas.

- Supports overarching mode share target and MTS outcomes 1, 2, 3, 4

Car Clubs

3.8.10 This programme area will continue the expansion of Car Clubs in the Borough including electric vehicle charging provision and the introduction of flexible Car Clubs in the north of the Borough. This will reduce the need for individual car ownership by increasing access to shared car club vehicles.

- Supports overarching mode share target and MTS outcomes 1, 3, 4

Electric Mobility

3.8.11 This will support the Council's ambition for 400 electric vehicle charging points across the Borough by 2022 and enable the shift to zero tailpipe emission vehicles resulting in improved air quality.

- Supports overarching mode share target and MTS outcomes 4

**New work areas**

3.8.12 The following new work areas have been developed in order to support the delivery of the new MTS outcomes:

Construction Logistics & Freight Management

3.8.13 This work will consider options for better managing construction traffic through the establishment of a Construction Consolidation Centre. It will also continue the work to monitor and enforce construction and logistics plans for development sites. A further piece of work will involve assessing the feasibility of micro-consolidation, micro-distribution centres and cargo bike delivery schemes in the Borough in order to reduce freight movements and deliveries.

- Supports overarching mode share target and MTS outcomes 1,2,3,4,8

Healthy Schools Neighbourhoods

3.8.14 This will be a holistic approach to tackling the school run and encouraging walking and cycling to and from school whilst also helping all in the neighbourhood make local journeys on foot and by bike. It will include a package of measures such as school pedestrian zones, bikeability training, school safety schemes, neighbourhood traffic reduction schemes and behaviour change measures, all focused upon a cluster of schools in the same neighbourhood at the same time.

3.8.15 Three areas that have been identified as having clusters of schools suitable for piloting the concept are Broad Green and Thornton Heath. These areas have been identified as suitable for piloting the concept because they are in well-defined neighbourhoods that have high levels of external through traffic but are bordered on all sides by main distributor roads. These areas have clusters of schools in close proximity to each other and the surrounding roads have a recent record of vulnerable road user casualties. These areas also have higher than Borough average levels of deprivation and childhood obesity and have been identified as having good propensity for mode shift from car trips to sustainable modes of travel.

3.8.16 The funding for each work area in this programme has been spread over three years for the Broad Green and Thornton Heath areas so that in the initial year engagement will take place to obtain buy-in and develop proposals that are supported by the schools and local community. Delivery of engineering and traffic management measures will commence in the second year of the programme and will continue into the third year.

3.8.17 The expected outcomes of the successful delivery of this programme area will include dramatically reduced vulnerable road user casualties, higher levels of walking and cycling, reduced traffic levels and external traffic volumes within the catchment areas, improved health and well-being of students, parents and local residents within the catchment area. All of which contribute to the Healthy Streets, Vision Zero and Traffic Reduction policies and outcomes of the new MTS.

- Supports overarching mode share target and MTS outcomes 1, 2, 3, 4

Dockless and electric bike share schemes

3.8.18 This will involve the successful introduction of a dockless and virtual hub based bike share scheme that will include electric bikes (e-bikes). The e-bikes in particular will help contribute to improving accessibility in areas to the south of the Borough that have hillier terrain and poorer public transport coverage. A dockless and e-bike hire scheme will be a key means for supporting the intensification areas identified in the Council's Suburban Design Guide Supplementary Planning Guide (SPD2).

- Supports overarching mode share target and MTS outcomes 1,3,4,8

Bus Accessibility Review

3.8.19 TfL provides funding for bus improvements through the Strategic Bus Priority programme however it only applies to main bus corridors. This programme will examine what can be done to improve bus services in the south of the Borough, with specific focus upon improving accessibility to support the suburban intensification areas. As well as traditional bus services the work will also consider new concepts such as on demand minibuses and autonomous vehicles. TfL's funding is being more than matched by Growth Zone funding for Bus Priority and Bus Standing.

- Supports overarching mode share target and MTS outcomes 1, 3, 5, 7

Vision Zero, Safer Streets

3.8.20 This will be an evidence led approach to road danger reduction and safer streets in accordance with the Vision Zero Action Plan. The Mayor's aim is for no one to be killed in or by a London bus by 2030, and for all deaths and serious injuries from road collisions to be eliminated from London's streets by 2041. Croydon's Vision Zero Safer Streets programme will focus upon improving safety in our district centres with the highest collision rates involving vulnerable road users starting with South Norwood, followed by Thornton Heath and then Upper Norwood/Crystal Palace. These locations are also areas with some of the highest levels of deprivation in the Borough as well as having the highest potential for increasing mode shift to active travel. It will involve aligning our road safety engineering schemes to match Vision Zero principles. It will include the introduction of 20mph limit on main roads in district centres and other locations with higher than average casualty incidences. It will consider how the design of the street contributes to road traffic collisions and where appropriate look at improvements such as junction realignment, gateway treatments and improve pedestrian crossing provision.

- Supports overarching mode share target and MTS outcomes 1, 2,

Traffic Reduction Strategies

3.8.21 This programme area will investigate and deliver new strategies for reducing traffic volumes and congestion in the Borough as required by the MTS. It will include reviews of parking management in the Borough to rollout further controlled parking areas and feasibility work on the potential of a Workplace Parking Levy. The work stream will also consider the demand management tools proposed in the MTS and understand whether they are appropriate mechanisms for both reducing traffic congestion and funding new transport infrastructure such as tram extensions.

- Supports overarching mode share target and MTS outcomes 1, 2, 3, 7

**Discretionary programme areas**

3.8.22 There are a number of other discretionary LIP programme areas where funding is provided on a needs or competitive bidding basis. The programmes include:

Principal Road Network Maintenance

3.8.23 This includes resurfacing and major maintenance works on the strategic road (A roads) network in the Borough. In recent years Croydon has received up to £1 million per annum from TfL for repairing our main roads. However the TfL has decided to freeze all Principal Road Network Maintenance funding (other than for 'emergencies') to borough councils until 2020/21. This is a result of the ending of revenue support to TfL from central government and London being unable to seek monies from the new National Roads Fund, which is funded by ring-fenced Vehicle Excise Duty (VED). With the TfL financial position having worsened due to the delays to the Crossrail programme it is in doubt whether the Principal Road Network Maintenance Funding will be reinstated in 2020/21.

Bridge Strengthening

3.8.24 Funding was allocated to borough councils based upon an assessment and prioritisation of critical road bridges and structures Londonwide. As with Principal Road Maintenance Funding, there is a short term funding freeze until 2020/21 but the likes of Black Horse Lane Bridge will be funded to completion. However the funding need / amount for the Bridge for 2019/20 has yet to be confirmed with TfL. With the TfL financial position having worsened due to the delays to the Crossrail programme, it is in doubt whether the Bridge Strengthening Funding will be reinstated in 2020.

Liveable Neighbourhoods

3.8.25 The objective of the programme is to deliver transformational changes to town centre areas and adjacent residential neighbourhoods through dramatically improved walking and cycling conditions, and reducing traffic dominance.

Croydon has submitted a bid of £9.65 million that will be focused on the Old Town and Roman Way corridor and extending into the neighbourhoods either side. Growth Zone Walking and Cycling Programme and Public Realm Programme funding would be match funding for the bid.

**Strategic Programme Areas**

3.8.26 The Strategic Funding Programmes are areas that the Mayor considers strategic priorities and require cross borough cooperation.

Borough Cycling Programme

3.8.27 Croydon is determined to increase the level of cycling in the Borough and recognises that in order to do so it must provide a safe and continuous cycle network. The Croydon Cycling Strategy (2018) sets out the cycling network to be delivered over the next ten years. The network includes dedicated cycle highways on three main roads leading into the Growth Zone and a comprehensive network of quieter routes on low traffic residential roads and neighbourhoods. Funding for delivery of the strategy and network of routes will come from LIP funding, Strategic Borough Cycling funding and principally from Growth Zone funding.

Mayor's Air Quality Fund

3.8.28 Croydon's Air Quality Team working in partnership with the Strategic Transport Team have submitted a number of bids to the Mayor's Air Quality Fund (MAQF). A bid for a Low Emission Neighbourhood (LEN) was submitted for London Road and the MAQF bids included the provision of electric vehicle charging infrastructure at East Croydon taxi rank and the development of a Construction Consolidation Centre on the A23 corridor. Bids were submitted in January 2019 and we will know if we have been successful in March 2019.

Bus Priority Programme

3.8.29 The Croydon bus priority programme is being developed using funding from the LIP Strategic Programme area alongside Growth Zone funding. The key corridors for bus priority measures in the Borough are those routes feeding into the Growth Zone including Brighton Road, Mitcham Road, London Road and Whitehorse Road.

## 3.9 Risks to the delivery of the three-year programme

3.9.1 Table ST05 below 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.

3.9.2 The risks associated with the LIP3 programme are from TfL reducing or withdrawing funding for future years resulting in the abandonment or curtailment of projects and corporate priority schemes. However this is mitigated by the fact that each year, the Council must submit a more detailed and revised programme to TfL to release the following year's LIP Funding allocation in the form of the Annual Spending Submission (ASS). If there is a reduction in funding then the Council will be informed several months before and necessary project adjustments can be made.

| TABLE ST05 - LIP Risk Assessment for three-year programme 2019/20-2021/22 | | | | | |
|---|---|---|---|---|---|
| **Risk** | **Likelihood** | | | **Potential mitigation measures** | **Impact if not mitigated** |
| | **H** | **M** | **L** | | |
| **Financial** | | | | | |
| TfL finances deteriorating resulting in withdrawal or dramatic reduction in LIP funding | | ✓ | | Anticipate and plan for delivery of schemes with different funding level scenarios.<br>Reprioritise and reduce delivery of schemes were necessary | The reduction in LIP funded schemes will mean it is much harder to meet the MTS objectives and outcomes and it is unlikely Croydon will meet the overarching mode share targets. |
| Growth Zone funding dramatically decreased | | | ✓ | Limited mitigation options due to nature and scale of Growth Zone funding mechanism.<br>Identify alternative sources of funding. | Cut entirely or scale back delivery of jointly funded schemes.<br>MTS outcomes unlikely to be met. |
| Liveable Neighbourhood bid fails to win support of TfL and the Mayor and is unsuccessful | ✓ | | | Understand why the proposal was not successful and refine bid for following year or decide to identify an alternative scheme. | Project outcomes will take longer to be met, if at all. |
| Increase in costs due to staffing resources or increased materials costs resulting from Brexit. | ✓ | | | Consider setting aside part of budget for contingency funding.<br>Identify additional sources of funding to cover shortfall. | Difficulties in delivering projects in entirety, potentially resulting in project being spread over multiple years or curtailed entirely. |

| | | | | | |
|---|---|---|---|---|---|
| | | | | Scale back extent of project. | |
| TfL funding for principal road network and bridges not reinstated | ✓ | | | Currently assumption that it may not be reinstated and politicians being warned about deterioration in road network quality particular surfaces and bridges. | Significant deterioration in road network quality – increased number of road and bridge closures and pothole damage claims. |
| **Statutory / Legal** | | | | | |
| Dockless cycle hire schemes – legislation related to enforcement and management of operators. Delays to introduction of a London wide bye-law | | ✓ | | Lobby TfL, Mayor, London Councils and Central Government to speed up action on this front.<br>Decide on alternative route for managing dockless bikes | Damaged reputation for cycling and bike hire industry, reoccurrence of mistakes made by dockless operators that have withdrawn after loss of bikes. |
| Judicial Review of any proposed parking or traffic management schemes. | | ✓ | | Ensure all schemes have a strong business case and evidence base and there is a fair and thorough consultation process. | Delay or postponement of schemes or programmes meaning MTS outcomes may not be met. |
| **Third Party** | | | | | |
| External partners such as Network Rail, TfL object to specific proposals or delay implementation of their element of the scheme | | | ✓ | Early engagement with them and lobby to ensure they are on track. Regular meetings and updates. | MTS outcomes and objectives will not be met. |
| Lack of cooperation from schools and other key stakeholders | | ✓ | | Early engagement, lobbying, increased resources to engage. | MTS outcomes and objectives will not be met. |

| | | | | | |
|---|---|---|---|---|---|
| **Public / Political** | | | | | |
| Change of political leadership or party | | | ✓ | Engage with new leadership team and members early on and brief them on proposals | Schemes in the Programme of Investment will have to be revised and potentially curtail and MTS objectives may not be met. |
| Projects and schemes fail to receive support at consultation stage. | | ✓ | | Initiate engagement and buy-in from the earliest stage and involve stakeholders in the design & development process | Projects may have to be revised and altered meaning the intended outcome may not be achieved. |
| Councillors or cabinet member do not approve individual schemes | | ✓ | | Early and detailed engagement with all relevant members. Ensure fair and comprehensive consultation has been undertaken. | Projects may have to be revised and altered meaning the intended outcome may not be achieved. |
| **Programme & Delivery** | | | | | |
| Lack of experienced staff and resources. | ✓ | | | Liaise with HR on resourcing and rely on additional agency or contract staff | Projects may have to be scaled back and the intended outcome may not be achieved. |
| Construction traffic associated with Growth Zone development hindering the delivery of traffic management and engineering schemes within the vicinity of the Growth Zone. | ✓ | | | Ensure there is a robust construction traffic management plan for the entire area and individual sites and monitored closely. | Projects may delayed and the intended outcome may take longer to achieve. |

## 3.10 Annual programme of schemes and initiatives

3.10.1 The annual programme of schemes has been completed and submitted to TfL via the Borough Portal. The programme of schemes will be updated annually.

3.10.2 In the 2019/20 annual programme we are proposing to deliver the following schemes and projects:

- Feasibility study for the development of a Construction Consolidation Centre near the Purley Way to match fund the work being delivered to minimise the impacts of construction on the town centre as part of the Growth Zone works.
- A study to assess the impact of online deliveries and freight traffic in the Growth Zone and how best to accommodate them with the large number of high density residential towers being built in the town centre.
- Funding for the continued rollout and development of controlled parking zones to better manage parking for environmental, congestion management and highway safety reasons.
- Study looking at potential traffic reduction measures and strategies that could be successfully implemented in the Borough.
- Selection of engineering schemes to improve pedestrian safety at junctions in the Borough.
- Development of a cycle hire scheme that will include electric bikes.
- Safer Streets schemes to implement 20 mph limits and safety improvements in South Norwood district centre.
- Continuation of the School Travel Plan programme.
- Enforcement and speed management programme for 20 mph and known sites with speeding problems.
- Healthy School Neighbourhoods scheme commencing in Broad Green area.
- Car clubs and electric vehicle charging point rollout.
- Continuation of the cycle training and active travel promotion programmes.

3.10.3 Refer to Proforma A for the full details of the annual programme of schemes and initiatives.

## 3.11 Supporting commentary for the annual programme

3.11.1 A detailed commentary on the three year programme of investment has been provided in the sections above. The schemes and initiatives in the annual programme are the same as those referred to in the three year programme.

3.11.2 Croydon is proposing to retain some of the previous LIP2 work areas that have proven successful in past years whilst also introducing new work programmes

that reflect the new MTS outcomes and policy frameworks, specifically the Healthy Streets principles, Vision Zero ambition and a road traffic reduction strategy.

3.11.3 The Council will focus the limited resources that are provided through LIP funding on areas of the Borough that have been identified as having the greatest potential for meeting the MTS outcomes and targets. This will include factors such as; accident history, propensity to walk and cycle, propensity to shift from car use, higher levels of deprivation, poorer air quality and the number of schools and other sensitive sites such as hospitals.

## 3.12 Risk assessment for the annual programme

3.12.1 Table ST06 below 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 ST06 - LIP Risk Assessment for annual programme 2019/20 | | | | | |
|---|---|---|---|---|---|
| **Risk** | **Likelihood** | | | **Potential mitigation measures** | **Impact if not mitigated** |
| | **H** | **M** | **L** | | |
| **Financial** | | | | | |
| TfL finances deteriorating resulting in withdrawal or dramatic reduction in LIP funding | | ✓ | | Anticipate and plan for delivery of schemes with different funding level scenarios.<br>Reprioritise and reduce delivery of schemes were necessary | The reduction in LIP funded schemes will mean it is much harder to meet the MTS objectives and outcomes and it is unlikely Croydon will meet the overarching mode share targets. |
| Growth Zone funding dramatically decreased | | | ✓ | Limited mitigation options due to nature and scale of Growth Zone funding mechanism.<br>Identify alternative sources of funding. | Cut entirely or scale back delivery of jointly funded schemes.<br>MTS outcomes unlikely to be met. |
| Liveable Neighbourhood bid fails to win support of TfL and the Mayor and is unsuccessful | ✓ | | | Understand why the proposal was not successful and refine bid for following year or decide to identify an alternative scheme. | Project outcomes will take longer to be met, if at all. |
| Increase in costs due to staffing resources or increased materials costs resulting from Brexit. | ✓ | | | Consider setting aside part of budget for contingency funding. | Difficulties in delivering projects in entirety, potentially resulting in project |

| | | | | | |
|---|---|---|---|---|---|
| | | | | Identify additional sources of funding to cover shortfall.<br>Scale back extent of project. | being spread over multiple years or curtailed entirely. |
| TfL funding for principal road network not reinstated | ✓ | | | Currently assumption that it may not be reinstated and politicians being warned about deterioration in road network quality particular surfaces and bridges. | Significant deterioration in road network quality – increased number of road and bridge closures and pothole damage claims. |
| **Statutory / Legal** | | | | | |
| Dockless cycle hire schemes – legislation related to enforcement and management of operators. Delays to introduction of a London wide bye-law | | ✓ | | Lobby TfL, Mayor, London Councils and Central Government to speed up action on this front.<br>Decide on alternative route for managing dockless bikes | Damaged reputation for cycling and bike hire industry, reoccurrence of mistakes made by dockless operators that have withdrawn after loss of bikes. |
| Judicial Review of any proposed parking or traffic management schemes. | | ✓ | | Ensure all schemes have a strong business case and evidence base and there is a fair and thorough consultation process. | Delay or postponement of schemes or programmes meaning MTS outcomes may not be met. |
| **Third Party** | | | | | |
| External partners such as Network Rail, TfL object to specific proposals or delay implementation of their element of the scheme | | | ✓ | Early engagement with them and lobby to ensure they are on track. Regular meetings and updates. | MTS outcomes and objectives will not be met. |

| | | | | | |
|---|---|---|---|---|---|
| Lack of cooperation from schools and other key stakeholders | | ✓ | | Early engagement, lobbying, increased resources to engage. | MTS outcomes and objectives will not be met. |
| **Public / Political** | | | | | |
| Change of political leadership or party | | | ✓ | Engage with new leadership team and members early on and brief them on proposals | Schemes in the Programme of Investment will have to be revised and potentially curtail and MTS objectives may not be met. |
| Projects and schemes fail to receive support at consultation stage. | | ✓ | | Initiate engagement and buy-in from the earliest stage and involve stakeholders in the design & development process | Projects may have to be revised and altered meaning the intended outcome may not be achieved. |
| Councillors or cabinet member do not approve individual schemes | | ✓ | | Early and detailed engagement with all relevant members. Ensure fair and comprehensive consultation has been undertaken. | Projects may have to be revised and altered meaning the intended outcome may not be achieved. |
| **Programme & Delivery** | | | | | |
| Lack of experienced staff and resources. | ✓ | | | Liaise with HR on resourcing and rely on additional agency or contract staff | Projects may have to be scaled back and the intended outcome may not be achieved. |
| Construction traffic associated with Growth Zone development hindering the delivery of traffic management and engineering schemes within the vicinity of the Growth Zone. | ✓ | | | Ensure there is a robust construction traffic management plan for the entire area and individual sites and monitored closely. | Projects may delayed and the intended outcome may take longer to achieve. |

## 3.13 Monitoring the delivery of the outcomes of the MTS

### Overarching mode-share aim and outcome Indicators

3.13.1 Table ST07 below sets out Croydon's nine outcome indicator targets as set by TfL.

### Delivery indicators

3.13.2 Croydon will monitor and record the delivery indicators and report to TfL once a year in June using Proforma C.

### Local targets

3.13.3 The local targets we have set ourselves align with the delivery indicators that we are required to report on annually through Proforma C.

| TABLE ST07 - 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.<br><br>Base period 2013/14 - 2015/16 for Croydon = 49% | 50%<br><br>63% | 2021<br><br>2041 | An increase of 1% sustainable mode share to 50% by 2021 is still very challenging as it is against a backdrop of falling mode share - in the 2012/13 to 2014/15 mode share was 52% |
| **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).<br><br>Croydon Baseline 2013/14-16/17= 26% | 35%<br><br>70% | 2021<br><br>2041 | The interim target of 35% by 2021 is an increase of 10% points from the baseline in only 3 years. This is a very challenging. The long term target of 70% by 2041 means an increase of 44% |

| 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. Croydon Baseline 2016 = 0% | 6%<br><br>51% | 2021<br><br>2041 | There are no strategic (Cycle Superhighway or Quietway) cycle routes in the Borough therefore 0% residents are within this distance of a strategic cycle route. With the level of Cycle Network funding being provided the Growth Zone & the LIP the interim figure will be achievable. However that will be determined by TfL categorising our routes as Strategic Cycle Routes. |
| **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) - Casualties Killed or Seriously Injured (KSIs) according to STATS19 data<br><br>Observed with back casting applied 2005-09 baseline = 252<br><br>Observed 2017 = 126 | 2022 | 88 | The target of 88 KSIs in 2022 represents a 65% reduction on the 2005-09 baseline of 252. |
| | Deaths and serious injuries (KSIs) from road collisions base year 2010-14 (for 2030 target). | 2030<br><br>2041 | 51<br><br>0 | The target of 51 KSIs in 2030 represents a 70% reduction in KSIs on the 2010-14 baseline. Whilst Croydon supports the |

| Objective | Metric | Borough target | Target year | Additional commentary |
|---|---|---|---|---|
| | Observed with back casting applied 2010-14 baseline = 170<br><br>*The Metropolitan Police Service (MPS) introduced a new collision reporting system in November 2016 - the Case Overview and Preparation Application (COPA). The City of London Police also moved to the Collision Reporting And SHaring (CRASH) system in October 2015. This has had a number of impacts on the data that is available to Transport for London (TfL), and the London Boroughs in the ACCSTATS database for collision investigation. Under the new systems officers use an 'injury-based assessment' in line with DfT STATS 20 guidance and online self reporting is available. Both of these changes are expected to provide a better assessment of injury occurrence and severity but have made data collected from November 2016 onwards difficult to compare with earlier data.* | | | Vision Zero principles the 2041 targets will be extremely challenging.<br><br>*TfL commissioned the Transport Research Laboratory (TRL) to undertake a back-casting exercise to enable pre November 2016 data to be compared with post November 2016 data. These initial back cast estimates include the number of people killed or seriously injured (KSI) for each borough between 2005 and 2017 and this data has been used to update borough targets to align with those contained in the Mayor's Transport Strategy, namely a 65 percent reduction in KSIs by 2022 against the 2005-09 baseline, a 70 percent reduction in KSIs by 2030 against the 2010-14 baseline and zero KSIs by 2041. The targets contained in this final version of our LIP have been set against Outcome 2 for Vision Zero to reflect the reporting changes. The level of ambition remains unchanged, despite these revised figures.'* |

| Objective | Metric | Borough target | Target year | Additional commentary |
|---|---|---|---|---|
| | | | | |
| **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%.<br><br>Observed annual vehicle kilometres (millions) in 2015 base year = 1,162 | **1,162**<br><br>**1,046** | 2021<br><br>2041 | The interim target trajectory of 1,162 represents a 0% change on the 2015 base year.<br><br>The 2041 target of 1,046 represents a 10% decrease on the 2015 base year. |
| Reduce the number of freight trips in the central London morning peak. | 10 % 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.<br><br>No. of cars owned (no. of vehicles registered to Croydon addresses) Baseline average 2013-2016 = 143,710<br><br>Latest year 2016 = 148,256 | 141,200<br><br>137,800 | 2021<br><br>2041 | Very challenging target in the context of growth of at least 36,000 new dwellings between now and 2031.<br><br>The 2021 interim trajectory represents a decrease of 2,510 vehicles from the 2013-2016 baseline.<br><br>The 2041 target of 137,800 vehicles represents a decrease of 5,910 vehicles from the 2013-2016 baseline. |

| Objective | Metric | Borough target | Target year | Additional commentary |
|---|---|---|---|---|
| | | | | |
| **Outcome 4: London's streets will be clean and green** | | | | |
| Reduced $CO_2$ emissions. | $CO_2$ emissions (in tonnes) from road transport within the borough.<br><br>Base year 2013 = 250,200 | 211,300<br><br>56,700 | 2021<br><br>2041 | The 2021 interim trajectory represents a decrease of 38,900 tonnes of CO2 from the 2013 base year.<br><br>The 2041 target represents a decrease of 193,500 tonnes of CO2 from the 2013 base year. |
| Reduced $NO_x$ emissions. | $NO_X$ emissions (in tonnes) from road transport within the borough.<br><br>Base year 2013 = 890 | 330<br><br>40 | 2021<br><br>2041 | Interim 2021 target of 330 is a decrease in 560 tonnes of $NO_X$ from 2013 base year.<br><br>2041 target of 40 is a decrease in 850 tonnes of $NO_X$ from 2013 base year. |
| Reduced particulate emissions. | $PM_{10}$ emissions (in tonnes) from road transport within borough.<br><br>Base year 2013 = 88 | 75<br><br>41 | 2021<br><br>2041 | Interim 2021 target of 75 is a decrease in 13 tonnes of $PM_{10}$ from 2013 base year.<br><br>2041 target of 41 is a decrease in 47 tonnes of $PM_{10}$ from 2013 base year. |

| Objective | Metric | Borough target | Target year | Additional commentary |
|---|---|---|---|---|
| Reduced particulate emissions. | $PM_{2.5}$ emissions (in tonnes) from road transport within borough.<br><br>Base year 2013 = 49 | 36<br><br>20 | 2021<br><br>2041 | Interim 2021 target of 36 is a decrease in 13 tonnes of $PM_{2.5}$ from 2013 base year.<br><br>2041 target of 20 is a decrease in 29 tonnes of $PM_{2.5}$ from 2013 base year. |
| **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 (000s) by borough of residence. Reported as 3yr moving average.<br><br>Base year 2013/14 - 2015/16 = 216. | 229<br><br>321 | 2021<br><br>2041 | The interim trajectory of 229000 trips per day in 2021 is an increase of 13000 trips from base year.<br><br>The 2041 target of 321000 trips per day is an increase of 105000 trips from the base year. |
| **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. | 2 mins | 2041 | By 2041 the average journey time difference between the full network and the step free network is 2 minutes. A |

| Objective | Metric | Borough target | Target year | Additional commentary |
|---|---|---|---|---|
| | Baseline – Time difference in 2015 = 5 minutes | | | reduction of 3 minutes from the 2015 base year. |
| **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 from ibus in mph.<br><br>Base year 2015 = 10.7 mph | 10.8<br><br>11.2 | 2021<br><br>2041 | The interim trajectory for 2021 of 10.8 mph is a 0.1 mph increase in bus speeds from 2015 base year.<br><br>The 2041 target of 11.2 mph is 0.5mph or 5% increase from the 2015 base year. |
| **New homes and jobs** | | | | |
| **Outcome 8: Active, efficient and sustainable travel will be the best options in new developments**<br><br>**Outcome 9: Transport investment will unlock the delivery of new homes and jobs** | | | | |
| NA | NA | NA | NA | NA |

## Borough Outcome Delivery Indicators & Local Targets

| Delivery output | Metric | Borough target | Target year | Additional commentary |
|---|---|---|---|---|
| **Healthy Streets and healthy people** | | | | |
| **Outcome 1: London's streets will be healthy and more Londoners will travel actively** | | | | |
| Increase in cycle parking facilities | • On-street spaces<br>• Off-street spaces | 100<br>150 | Per annum up to 2022 | Based upon available funding sources such as s106/LIP we believe this is a challenging but achievable figure. |
| Improved facilities for pedestrians and cyclists | Number of new or upgraded pedestrian & cycle crossing facilities delivered | 12 | Per annum up to 2022 | Again with the funding aside for pedestrian and cycling improvements in the LIP we believe this is a challenging but achievable figure. |
| **Outcome 2: London's streets will be safe and secure** | | | | |
| Safer speeds | % of borough road network with 20mph limit | 90% | By 2022 | Current coverage is 85%. |

| Delivery output | Metric | Borough target | Target year | Additional commentary |
|---|---|---|---|---|
| Safety schemes & monitoring | Number of completed infrastructure schemes and % entered into Traffic Accident Diary System (TADS) | 10<br><br>50% | Per annum up 2022 | Many infrastructure schemes will not be of significant scale to be beneficial for TADS |
| 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 | Bronze 45<br>Silver 15<br>Gold 25 | 2022 | Based upon previous years these figures are challenging but realistic |
| Deliver a programme of training and education to improve the safety of vulnerable road users – Motorcyclists | Number of people receiving 1:1 training skills such as BikeSafe London<br><br>Targeted campaign | 100 | 2022 | |
| Deliver a programme of training and education to improve the safety of vulnerable road users – adult cycle training | • Trained to Basic cycle skills<br>• Trained to Urban cycle skills<br>• Trained to Advanced cycle skills | 300<br>80<br>5 | Per annum | Based upon previous years these figures are challenging but realistic |
| Deliver a programme of training and education to improve the safety of vulnerable road users – children cycle training | • Trained to Bikeability level 1<br>• Trained to Bikeability level 2<br>• Trained to Bikeability level 3 | 400<br>270<br>80 | Per annum | Based upon previous years these figures are challenging but realistic |
| Deliver a programme of Education through publicity to improve the safety of **Older Road Users** | Borough Wide Campaign with extra targeted awareness raising through publicity | 1 | Per Annum | |

| | | | | |
|---|---|---|---|---|
| Deliver a programme of training and education to improve the safety of **Young Drivers** | Number of students attending SDSA educational programme | 1500 | | |
| Deliver a programme of training and education to improve the safety of vulnerable road users through **All Drivers** | Targeted campaign to All Drivers with focus on vulnerable road users | 1 | Per Annum | |
| Deliver a programme of training and education to improve the safety of **Child Pedestrians** | Number of children receiving educational input regarding pedestrian safety | 5000 | Per Annum | Based on previous years, this figure is halved, due to introduction of Vision Zero and will be reviewed annually |
| **Work Related Road Risk** | Initially – awareness raising campaign to Croydon Council staff | 1 | 2019 | To be reviewed |

| | | | | |
|---|---|---|---|---|
| **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 vehicles present in the Borough | 100 | 2021/22 | Currently 38 vehicles based in 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 | 15km | 2022/23 | With the level of funding Croydon is committing to cycling through the Growth Zone mechanism and LIP we believe this will be achievable |
| **Outcome 4: London's streets will be clean and green** | | | | |
| Increase number of publicly accessible electric vehicle charging points | Number of new EVCPs | 400 | 2021/22 | Set in the Corporate Plan |
| 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 | tbc | Per annum | Discussions ongoing as to who will monitor this outcome |
| **A good public transport experience** | | | | |
| **Outcome 5: The public transport network will meet the needs of a growing London** | | | | |
| NA | NA | NA | NA | |

| | | | | |
|---|---|---|---|---|
| **Outcome 6: Public transport will be safe, affordable and accessible to all** | | | | |
| Upgrade and maintain network of accessible bus stops | % of stops accessible in borough | 99% | 2022 | Current figure is about 98%. There are a small number of sites that will be impossible to make accessible because of location so we will never meet 100%. |
| **Outcome 7: Journeys by public transport will be pleasant, fast and reliable** | | | | |
| Improve bus journey time reliability with bus priority improvement projects | • Number of schemes delivered<br>• Additional km's of bus priority | 10<br>0.5 | 2021/22 | With the level of funding committed to buses through the Growth Zone we believe this will be achievable |
| **New homes and jobs** | | | | |
| **Outcome 8: Active, efficient and sustainable travel will be the best options in new developments**<br>**Outcome 9: Transport investment will unlock the delivery of new homes and jobs** | | | | |
| Number or proportion of housing units in areas within PTALs 3-6 or within 800 metres of a tube, rail station or town centre area | • No. of approved units<br>• No. of started on site units<br>• No. of completed units | Tbc | 2031 | This figure is to be updated based upon the new draft London Plan (amended 2018) figures |

| | | | | |
|---|---|---|---|---|
| Proportion of new A1, A2 and B1 within PTALs 3-6 or within 800 metres of a tube, rail station or town centre area | Gross floor area m2 - approved units<br>Gross floor area m2 - started on site units<br>Gross floor area m2 - completed units | Tbc | 2031 | This figure is to be updated based upon the new draft London Plan (amended 2018) figures |
| Proportion of referred applications | Above London Plan car parking standard<br>• At London Plan car parking standard<br>• Below London Plan car parking standard | Tbc - % of referred applications in each category (at Stage 2 or 3) | 2031 | |

| Table Header | Information Required |
|---|---|
| **Programme** | This refers to the programme which the scheme falls under. Programme options are either 'Corridors, Neighbourhoods and Supporting Measures' or 'Major Schemes / Liveable Neighbourhoods'. Please pick the appropriate programme type from the drop down menu. |
| **Scheme Title** | Enter the name of the scheme in this field. The name should be self explanatory, it should include site location (town centre or road name) and works type. For example, *Winston Road with Churchill Street junction improvement works.* |
| **Scheme Description** | Use this field to provide a very brief description of the scheme. Description should be simple and should contain project duration, funding sources if there is more than one funder, primary objective and high level scope of works. It should be no longer than 1,000 characters long. When using abbreviations please ensure to use widely known abbreviations. For example, *Junction improvement works at Winston Road / Churchill Street are scheduled to commence on 10/02/10 and finish on 03/05/2012. Works includes traffic signal removal, kerb realignment, informal crossings, provision of accessible bus stops and guardrail removal.* |
| **Funding Source (list multiple)** | The first cell is for LIPs funding (the blue cell). Use the other cells to identify complementary funding sources (e.g. Section 106 funding). If there are more than two funding sources, please insert additional rows after the LIPs funding row - this will preserve the total calculations. |
| **Portal ID of an on-going scheme** | This field should contain the existing Portal Scheme ID if the scheme is ongoing from the previous year. Leave blank if this is a new scheme. |
| **Scheme Location and Extent** | Please provide a coordinate and/or description of the location of schemes. Lines with multiple small interventions at dispersed locations should indicate as such and provide a description of distribution, ie "new wayfinding signage along A street and B street" or "provision of dropped kerbs at SRN junctions". |
| **Funding £000's** | Enter the forecast spend profile across the years. |
| **MTS Goals/Outcomes** | Identify which Mayoral outcomes the scheme will contribute towards. Indicate the appropriate outcomes using the drop down menu. The outcomes are described at the document head. |
| **Street Types** | Select the street type from the list below:<br>**M3/P1 (Core Road):** Reliable major routes for large volumes of traffic that mitigate the impact on adjacent communities.<br>**M3/P2** (**High Road):** Reliable major routes through London that provide vibrant, safe, secure and well-maintained urban environments and make shops and services easily accessible.<br>**M3/P3 (City Hub):** Vibrant focal points for business and culture. They reduce the impact of high traffic volumes while accommodating high pedestrian flows, bus access and essential traffic<br>**M2/P1 (Connector):** Reliable routes for medium distance and local road journeys, comfortable roads for cyclists and safe and secure routes for pedestrians.<br>**M2/P2 (High Street):** Provide access by all modes to shops and services, and ensure a high-quality public realm and strong focus for community life.<br>**M2/P3 (City Street):** Provide a world-class, pedestrian friendly environment while ensuring excellent connections with the wider transport network.<br>**M1/P1 (Local Street)**: Quiet, safe and desirable residential streets that foster community spirit and local pride.<br>**M1/P2 (Town Square):** A focus for community activity and services (retail, leisure, public, etc) with ease of pedestrian movement a priority.<br>**M1/P3 (City Place):** World-class, pedestrian friendly environments to support their role as places of major significance and encourage high levels of street activity and vibrancy.<br>**Not applicable:** This applies to entries which are campaigns, strategies and resources only. |
| **Does the scheme impact on the TLRN or other TfL infrastructure** | For schemes in the 2018/19 programme please provide details in scheme description if the scheme has an impact on the TLRN or other TfL infrastructure such as bus stops/stands/shelter. Options are 'No' 'TLRN' ' Infrastructure' or 'Both'. Please do not leave blank. |
| **Does the scheme involve bus route diversion either permanent or temporary** | For schemes in the 2018/19 programme, answer Perm or Temp if the scheme involves either a permanent or temporary change to bus routes. Temporary diversions are those that will last more than 2 weeks. Please do not leave blank. |
| **Is the scheme LCDS compliant** | For schemes in the 2018/19 programme that involve improvements for cyclists, please indicate 'Yes' or 'No' as appropriate if the scheme is compliant with London Cycle Design Standards. Please do not leave blank. |
| **Would you like the following to be carried out by TfL?** | See below. |
| **Casualty Data Monitoring** | The LIP funding guidance requires that at least three schemes are entered into TfL's Traffic Accident Diary System (TADS) database, to record the number and severity of collisions before and after the introduction of measures. A quarterly update will be sent to you showing the schemes' performance. If you would like any non-LIP funded schemes monitored, these can also be added to the TADs system. TfL will issue a TADS form at the end of the financial year for Boroughs to complete their schemes. Please enter 'Yes' or 'No' as appropriate. Please do not leave blank. |
| **Bus Journey Time monitioring** | For schemes in the 2018/19 programme, if you would like TfL to undertake monitoring for Bus Journey Time monitoring at intervals of 3, 6 and 12 months after completion of the scheme please answer 'Yes' or 'No' as appropriate. Please do not leave blank. |
| **Press Coverage** | For schemes in the 2018/19 programme, if you would like TfL to help maximise press coverage around any of your key projects being launched, completed or at key milestones please answer 'Yes' or 'No' as appropriate. Please do not leave blank. |

Transport for London

**London Borough of Croydon**

**Local Implementation Plan (LIP) 2019/20 Annual Spending Submission and Programme of Investment Form**

| Borough officer contact details | |
|---|---|
| **Name** | BEN KENNEDY |
| **Contact Number** | 7714994113 |
| **Email** | BEN.KENNEDY@CROYDON.GOV.UK |

**Financial Summary Information**

| Year | | Corridors Neighbourhoods and Supporting Measures | Major Schemes / Liveable Neighbourhoods | Total |
|---|---|---|---|---|
| 2019/20 | Confirmed Allocation £k | 0 | 0 | 0 |
| | Submission £k | 2,362 | 1,176 | 3,538 |
| 2020/21 | Indicative Allocation £k | 0 | 0 | 0 |
| | Submission £k | 2,362 | 2,466 | 4,828 |
| 2021/22 | Indicative Allocation £k | 0 | 0 | 0 |
| | Submission £k | 2,362 | 2,725 | 5,087 |

| | Programme | Scheme Title | Scheme Description | Funding Source (list multiple) | Portal ID of an on going scheme | Scheme Location and Extent. Coordinates and/or description | Funding £000's FY 19/20 | FY 20/21 | FY 21/22 | Sub-Total | Grand Total | Outcome Mapping - Please indicate which (inc. combinations) Healthy Streets Outcomes each scheme delivers: Active | Safe | Green | Efficient | Connected PT | Quality PT | Accessible PT | Unlocking | Good Growth | Street Type | Does the scheme impact on the TLRN or other TfL infrastructure | Does the scheme involve bus route diversions permanent or temporary? | Will the scheme be LCDS compliant | Would you like the following to be carried out by TfL? Casualty Data monitoring (TADS) | Bus Journey Times monitoring | Press coverage |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Example | Corridors Neighbourhoods and Supporting Measures | Winston Road with Churchill Street junction improvement works. | Junction improvement works at Winston Road / Churchill Street are scheduled to commence on 10/02/14 and finish on 03/05/2014. Works includes traffic signal removal, kerb realignment, informal crossings, provision of accessible bus stops and guardrail removal. | LIP Allocation<br>S106<br>Council Capital | | Easting<br>Northing<br>Winston Road with Churchill Street junction | 200<br>50<br>75 | 100<br>100<br>75 | | 300<br>150<br>150 | 600 | yes | yes | yes | yes | - | - | - | - | - | High Streets (M2/P2) | Infrastructure | Temporary | Yes | Yes | No | Yes |
| | Corridors Neighbourhoods and Supporting Measures | Construction Consolidation Centre (CCC) feasibility | Feasibility study into the development of a CCC along the A23 Purley Way corridor | LIP Allocation | na | TBC | 20 | | | 20<br>0<br>0 | 20 | yes | yes | yes | yes | - | - | - | - | yes | Not Applicable | No | No | N/A | No | No | Yes |
| | Corridors Neighbourhoods and Supporting Measures | Freight Reduction Strategy | Funding for study assess impact of online deliveries and freight on traffic in the borough & identify potential solutions such as micro-consolidation & cargo bike delivery schemes | LIP Allocation | na | TBC | 20 | | | 20<br>0<br>0 | 20 | yes | yes | yes | yes | - | - | - | - | - | Not Applicable | No | No | N/A | No | No | No |
| | Corridors Neighbourhoods and Supporting Measures | Growth Zone construction related traffic monitoring and enforcement | Funding for monitoring and enforcement of construction related traffic in the Growth Zone. | LIP Allocation | 23698 | Growth Zone | 35 | | | 35<br>0<br>0 | 35 | yes | - | yes | yes | - | - | - | - | yes | Not Applicable | No | No | N/A | No | No | No |
| | Corridors Neighbourhoods and Supporting Measures | Parking management reviews | Ongoing development & design of controlled parking zones (CPZs) | LIP Allocation | 29711 | Borough-wide | 75 | 75 | 75 | 225<br>0<br>0 | 225 | yes | yes | yes | yes | yes | yes | - | - | yes | Not Applicable | No | No | N/A | No | No | No |
| | Corridors Neighbourhoods and Supporting Measures | District Centre Parking Demand Surveys | Parking demand & stress surveys in district centres away from the Growth Zone in support of suburban intensification agenda (SPD2) | LIP Allocation | na | Boroughwide district centres | 50 | | | 50<br>0<br>0 | 50 | yes | yes | - | yes | - | yes | - | - | yes | Not Applicable | No | No | N/A | No | No | No |
| | Corridors Neighbourhoods and Supporting Measures | Traffic Reduction Strategy Research | Research and analysis to assess the suitability and potential for Croydon of possible traffic reduction measures indicated in the Transport Strategy . | LIP Allocation | na | Borough-wide | 25 | | | 25<br>0<br>0 | 25 | yes | yes | yes | yes | yes | yes | - | yes | yes | Not Applicable | No | No | N/A | No | No | No |
| | Corridors Neighbourhoods and Supporting Measures | Suburban Bus Accessibility Review | Matchfunding & staff time for pilot project with TfL looking at demand reponsive buses to improve bus accessibility in suburban areas to support intensification agenda. | LIP Allocation | na | South of the borough | 30 | 20 | | 50<br>0<br>0 | 50 | yes | - | yes | yes | yes | - | yes | yes | - | Not Applicable | No | No | N/A | No | No | Yes |
| | Corridors Neighbourhoods and Supporting Measures | Public realm accessibility programme | Ongoing physical accessibility improvements to the public realm. Tactile paving at crossings, provide access ramps, dropped kerbs | LIP Allocation | 29703 | Borough-wide | 50 | 50 | 50 | 150<br>0<br>0 | 150 | yes | yes | - | yes | - | - | - | - | - | Not Applicable | No | No | N/A | No | No | No |
| | Corridors Neighbourhoods and Supporting Measures | Public Rights of Way improvements | Ongoing upgrade & improvements of public rights of way in the borough | LIP Allocation | 29704 | Borough-wide | 40 | 40 | 40 | 120<br>0<br>0 | 120 | yes | yes | yes | yes | - | - | - | - | - | Not Applicable | No | No | N/A | No | No | No |
| | Corridors Neighbourhoods and Supporting Measures | Accessibility through green spaces and parks | Introduce access improvements and lighting to green spaces to provide 24 hour walking routes leading to rail stations & tram stops. | LIP Allocation | na | TBC | 50 | 30 | 30 | 110<br>0<br>0 | 110 | yes | yes | yes | yes | yes | - | yes | - | yes | Not Applicable | No | No | N/A | No | No | Yes |
| | Corridors Neighbourhoods and Supporting Measures | Pedestrian priority improvement schemes (including signal improvements) | Engineering schemes to improve pedestrian safety at junctions and links through provision of new crossing facilities and upgrade of existing signalised junctions to provide green ped phases and countdown where appropriate. | LIP Allocation | 29666 | Borough-wide | 250 | 200 | 200 | 650<br>0<br>0 | 650 | yes | yes | - | yes | - | - | - | - | - | Not Applicable | No | No | N/A | No | No | No |
| | Corridors Neighbourhoods and Supporting Measures | Cycle hire scheme development | Development of cycle hire scheme in Croydon which will include hybrid of dockless and hub based cycles including e-bikes and cargo bikes. | LIP Allocation | na | Borough-wide | 50 | 50 | 0 | 100<br>0<br>0 | 100 | yes | yes | yes | yes | - | - | - | yes | yes | Not Applicable | No | No | N/A | No | No | Yes |
| | Corridors Neighbourhoods and Supporting Measures | Croydon Arena Cycle Hub & Bike Loan | Funding provision to support the development of the arena as a hub for cycle training including improved cycle storage facilities and bike loan scheme | LIP Allocation | na | Croydon Arena | 10 | | | 10<br>0<br>0 | 10 | yes | - | - | - | - | - | - | - | - | Not Applicable | No | No | N/A | No | No | No |
| | Corridors Neighbourhoods and Supporting Measures | Cycle network infrastructure delivery programme | Funding for delivering the Cycle Network Strategy. | LIP Allocation | 29691 | Borough-wide | 531 | 500 | 500 | 1,531<br>0<br>0 | 1,531 | yes | yes | yes | yes | - | - | - | yes | yes | Not Applicable | No | No | Yes | Yes | Yes | Yes |
| | Corridors Neighbourhoods and Supporting Measures | Car Club development | Project mgt resources to oversee continued expansion of car clubs including the expansion of flexible/floating vehicles into the north of the borough. | LIP Allocation | na | Borough-wide | 10 | 10 | 10 | 30<br>0<br>0 | 30 | yes | - | yes | yes | - | - | - | - | yes | Not Applicable | No | No | N/A | No | No | Yes |
| | Corridors Neighbourhoods and Supporting Measures | E-mobility development and charging points rollout | Project management and development of electric vehicle charging points in the borough. Croydon has a target of 400 points by 2022. | LIP Allocation | na | Borough-wide | 50 | 50 | 50 | 150<br>0<br>0 | 150 | - | - | yes | - | - | - | - | - | - | Not Applicable | No | No | N/A | No | No | Yes |
| | Corridors Neighbourhoods and Supporting Measures | Cycle Training | Programme of cycle training for both children and adults. | LIP Allocation | 29710 | Borough-wide | 130 | 130 | 130 | 390<br>0<br>0 | 390 | yes | yes | - | yes | - | - | - | - | - | Not Applicable | No | No | N/A | No | No | No |
| | Corridors Neighbourhoods and Supporting Measures | Cycling for health | Project to promote cycling as part of the Exercise for Referral programme | LIP Allocation | 30059 | Borough-wide | 10 | 10 | 10 | 30<br>0<br>0 | 30 | yes | yes | - | - | - | - | - | - | - | Not Applicable | No | No | N/A | No | No | No |
| | Corridors Neighbourhoods and Supporting Measures | Healthy workforce | Work within the Council and with local employers to implement measures that support active travel to the workplace such as the "Well Workforce Group" and the Active Lifestyles group | LIP Allocation | 30052 | Borough-wide | 25 | 25 | 15 | 65<br>0<br>0 | 65 | yes | - | - | - | - | - | - | - | - | Not Applicable | No | No | N/A | No | No | No |
| | Corridors Neighbourhoods and Supporting Measures | Promoting walking & cycling, events & awareness | Organisation and promotion of events such as "Walk on Wednesdays", Bike Week and "Walk to school " week | LIP Allocation | 30053 | Borough-wide | 50 | 50 | 50 | 150<br>0<br>0 | 150 | yes | yes | - | yes | - | - | - | - | - | Not Applicable | No | No | N/A | No | No | No |
| | Corridors Neighbourhoods and Supporting Measures | Healthy School Neighbourhoods Coordination | Coordination and project management resources to establish and deliver the Healthy School Neighbourhoods programme. | LIP Allocation | na | Borough-wide | 50 | 50 | 50 | 150<br>0<br>0 | 150 | yes | yes | yes | yes | - | - | - | - | - | Not Applicable | No | No | N/A | No | No | No |
| | Corridors Neighbourhoods and Supporting Measures | Healthy School Neighbourhoods - Broad Green | Broad Green was chosen as there are several schools & childrens centres in a contained neighbourhood area adjacent to the hospital. The residential roads within this area are shown as having a high number of accidents for residential roads. This area has been identified by TfL as having high propensity to shift to walking/cycling. Higher than average levels of deprivation and poor health in this area. | LIP Allocation | na | Broad Green, Bensham Manor, West Thornton wards | 85 | 200 | 37 | 322<br>0<br>0 | 322 | yes | yes | yes | yes | - | - | - | - | - | Not Applicable | No | No | Yes | Yes | No | Yes |
| | Corridors Neighbourhoods and Supporting Measures | Healthy School Neighbourhoods - Thornton Heath | Thornton Heath was chosen because of the cluster of schools in the area many of whom are known to be actively engaged in sustainable travel process. This area has been identified by TfL as having high propensity to shift to walking/cycling. Higher than average levels of deprivation and poor health in this area. | LIP Allocation | na | Upper Norwood & Crystal ward | 0 | 60 | 250 | 310<br>0<br>0 | 310 | yes | yes | yes | yes | - | - | - | - | - | Not Applicable | No | No | Yes | Yes | No | Yes |
| | Corridors Neighbourhoods and Supporting Measures | School Travel Planning monitoring & implementation | Implementation of travel to schools measures arising from school travel plans including improvements to aid pedestrian and cycle access to schools | LIP Allocation | 29706 | Borough-wide | 150 | 130 | 130 | 410<br>0<br>0 | 410 | yes | yes | yes | yes | - | - | - | - | - | Not Applicable | No | No | N/A | No | No | No |
| | Corridors Neighbourhoods and Supporting Measures | Vision Zero Safer Streets - Thornton Heath District Centre 20mph zone and safety improvements | Aligned road safety engineering schemes to match Vision Zero principles - implementation of 20mph zone on the main roads in this district centre | LIP Allocation | na | TBC | 0 | 197 | 50 | 247<br>0<br>0 | 247 | yes | yes | - | yes | - | - | - | - | - | Not Applicable | No | No | Yes | Yes | No | Yes |
| | Corridors Neighbourhoods and Supporting Measures | Vision Zero Safer Streets - Upper Norwood / Crystal Palace 20mph zone and safety improvements | Aligned road safety engineering schemes to match Vision Zero principles - the implementation of 20mph zone on main roads in this district centre in addition to jucntion improvements, gateway treatments and improve pedestrian crossing provision. | LIP Allocation | na | TBC | 0 | 50 | 250 | 300<br>0<br>0 | 300 | yes | yes | - | yes | - | - | - | - | - | Not Applicable | No | No | Yes | Yes | No | No |
| | Corridors Neighbourhoods and Supporting Measures | Vision Zero Safer Streets - South Norwood 20mph zone | Aligned road safety engineering schemes to match Vision Zero principles - implementation of 20mph zone on main roads in this district centre | LIP Allocation | na | TBC | 100 | 0 | 0 | 100<br>0<br>0 | 100 | yes | yes | - | yes | - | - | - | - | - | Not Applicable | No | No | Yes | Yes | No | No |
| | Corridors Neighbourhoods and Supporting Measures | Vision Zero Safer Streets - Responsive local safety schemes | This work area is a combination of the previous local road safety schemes and reactive safety scheme work areas. The 20/21, 21/22 years show a reduction because as we take a more proactive and evidence based approach to tackling casualties on our roads it is expected that there will be less need for reactive interventions. | LIP Allocation | na | Borough-wide | 150 | 125 | 125 | 400<br>0<br>0 | 400 | yes | yes | - | yes | - | - | - | - | - | Not Applicable | No | No | Yes | No | No | No |
| | Corridors Neighbourhoods and Supporting Measures | Vision Zero Safer Speeds - Speed mgt & 20mph enforcement | This is a combination of the previous Speed Management & 20mph Zones work areas. It will look at introducing speed reduction measures such as traffic calming or camera based technology where there is a known speeding issue. | LIP Allocation | na | Borough-wide | 150 | 150 | 150 | 450<br>0<br>0 | 450 | yes | yes | - | yes | - | - | - | - | - | Not Applicable | No | No | N/A | No | No | No |
| | Corridors Neighbourhoods and Supporting Measures | Vision Zero Safer Fleets - FORS accreditation | Progression of FORS accreditation for council fleet vehicles | LIP Allocation | na | Borough-wide | 6 | 0 | 0 | 6<br>0<br>0 | 6 | yes | yes | - | yes | - | - | - | - | - | Not Applicable | No | No | N/A | No | No | No |
| | Corridors Neighbourhoods and Supporting Measures | Vision Zero - Safer Behaviours | Updated road safety education work area to reflect the new Vision Zero principles and to encourage safer behaviours with emphasis on drivers of vehicles. Driver education, training & publicity.Safe Drive Stay Alive. Targeted motorcycle campaign. Work related road risk campaign incl. Grey Fleet. | LIP Allocation | 29708 | Borough-wide | 150 | 150 | 150 | 450<br>0<br>0 | 450 | yes | yes | - | yes | - | - | - | - | - | Not Applicable | No | No | N/A | No | No | No |
| | Corridors Neighbourhoods and Supporting Measures | Vision Zero - Research & Evidence Gathering | Research and data analysis exercise to ensure Croydon's Vision Zero programme is evidence led. | LIP Allocation | na | Borough-wide | 10 | 10 | 10 | 30<br>0<br>0 | 30 | yes | yes | - | yes | - | - | - | - | - | Not Applicable | No | No | N/A | No | No | No |
| | Major Schemes / Liveable Neighbourhoods | Old Town & West Croydon Liveable Neighbourhood | Re-design of Roman Way to reduce severance; better pedestrian crossings, enhancements and new cycle routes; urban realm enhancements in Old Town area; behaviour change programme; | LIP Allocation | na | Waddon, Fairfield & Broad Green wards | 1,176 | 2,466 | 2,725 | 6,367<br>0<br>0 | 6,367 | yes | yes | yes | yes | yes | - | yes | yes | yes | Not Applicable | No | No | Yes | Yes | No | Yes |
| | | | | LIP Allocation | | | | | | 0<br>0<br>0 | 0 | - | - | - | - | - | - | - | - | Not Applicable | | | | | | |
| | | | | LIP Allocation | | | | | | 0<br>0<br>0 | 0 | - | - | - | - | - | - | - | - | Not Applicable | | | | | | |
| | | | | LIP Allocation | | | | | | 0<br>0<br>0 | 0 | - | - | - | - | - | - | - | - | | | | | | | |

INSERT NEW ROWS BEFORE LAST SCHEME TO KEEP FORMATTING

# Report

8th February 2019

TEMPLE
LEADERS IN ENVIRONMENT, PLANNING & SUSTAINABILITY.

In association with steer

**Report for** – London Borough of Croydon
Local Implementation Plan
Strategic Environmental Assessment – Environmental Report

Draft

## Document version control

| Version | Date | Author | Reviewed by | Reviewed and approved by |
|---|---|---|---|---|
| 0.1 | 31 January 2018 | Honor Puciato<br>Monica Laucas<br>Jenny Stafford | David Sutanto | Chris Ferrary |
| 0.2 | 8 February | Jenny Stafford | David Sutanto | Chris Ferrary |

**Report for:** **London Borough of Croydon**

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**Cover Picture credit:** Trams at East Croydon Station, 2016, Peter Trimming under Creative Commons Licence

# Contents

# 1.0 Non-Technical Summary

## 1.1 Introduction

This report sets out the outcomes of the Strategic Environmental Assessment (SEA) of the proposals in the London Borough of Croydon's third Local Implementation Plan (LIP). The LIP is a statutory document, prepared under Section 145 of the Greater London Authority Act 1999. The LIP guides transport priorities and projects and details a three-year programme of investment (2019/20 to 2021/22) to implement the Mayor of London's Transport Strategy (MTS).

To deliver the Mayor's vision – "*to create a future London that is not only home to more people but is a better place for all those people to live in"* - the overarching aim of the MTS is for 80% of all trips in London to be made on foot, by cycle or using public transport by 2041. The Mayor is seeking to achieve his vision by achieving the following three MTS outcomes:

- Healthy Streets and healthy people, including traffic reduction strategies:
- A good public transport experience: and
- New homes and jobs.

This LIP will replace the council's second LIP (2011). The third round of LIPs will become effective from April 2019.

## 1.2 Summary of the LIP

Croydon's LIP sets out the LB Croydon's proposals for implementing the Mayor's Transport Strategy including a timescale for implementing the proposals. It includes Croydon'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 LIP has 14 objectives set out below and the SEA focuses on assessing these and their associated measures.

1. Reduce reliance on the car for local in-borough car journeys by creating streets and a transport network that prioritises walking, cycling and public transport.
2. Reduce the number of local car trips and ensure that by 2021/22 at least 50% of all journeys made residents are by walking, cycling and public transport. By 2041, 63% of all journeys made by residents are by walking, cycling and public transport.
3. Create healthy streets and neighbourhoods that encourage walking and cycling, and where traffic volumes and speeds are low.
4. Improve accessibility for pedestrians and cyclists through increased priority at key junctions and reduced severance caused by major roads, railway lines and parks.
5. Implement and deliver the network of cycle routes outlined in the Croydon Cycle Strategy.
6. Support and deliver the principles of the Vision Zero Action Plan and work towards ensuring we have the safest roads in London with no killed or serious injuries on our roads by 2041.

7. Reduce the volume of traffic on our roads and associated congestion through better management of our roads and kerbside space, and by offering pleasant, practical and safe alternatives to private cars and vans.
8. Tackle road-based air pollution by reducing traffic volumes, supporting the shift to zero emission vehicles and introducing new green infrastructure.
9. Work with the Mayor, TfL, Network Rail, bus operators and TOCs to improve public transport links, reduce overcrowding on the public transport network and ensure Croydon is the best-connected Metropolitan Town Centre in Outer London.
10. Work with the Mayor, TfL, Network Rail, bus operators and TOCs to ensure the entire public transport network is accessible, safe and step free.
11. Work with TfL to introduce additional bus priority measures on key road corridors to improve efficiency and reliability of bus services.
12. Lobby the TOCs and the DfT to improve performance of train services and reduce gaps in service frequencies.
13. Ensure all new development incorporates the ten Healthy Streets principles into their design, and ensure they are integrated with the local walking and cycling networks as well as public transport.
14. Work with key partners to increase public transport capacity in the borough to support the creation of new homes and jobs planned over the next two decades, including the extension of the tram to Crystal Palace and Brighton Mainline Upgrade.

Each Local Overarching Objective is supported by a number of short to medium term delivery objectives & proposals (2019-2025) and additionally longer-term goals (Up to 2041).

## 1.3 Approach to the SEA

The SEA has been undertaken using the TfL/GLA framework that was developed to satisfy SEA requirements for plans and strategies produced by the Mayor of London as the basis for the current assessment, augmented by issues highlighted in the SEA Scoping Report and consulted on with the statutory environmental bodies. The assessment of effects has been based on the professional judgements of our SEA team, evidenced by information from the LIP3 MTS Outcomes Borough data pack that was provided to the London Boroughs by TfL.

The environmental baseline information collated for the SEA, together with the outcomes of the Integrated Impact Assessment undertaken for MTS3 and other information on the specific proposals likely to come forward through the LIP were used to identify the existing relevant sustainability issues.

To meet the requirements of the SEA Regulations, it has been assumed that the only real reasonable alternative to the LIP proposals is the “do-nothing” scenario.

There are three European designated sites and three Sites of Special Scientific Interest within 10km of Croydon which fall under the Habitat Regulations. This assessment has concluded that there would be no significant environmental effects arising from the implementation of the LIP on these designated areas that would affect the conservation objectives of those sites. On this basis no further assessment work has been undertaken.

## 1.4 Outcomes of the SEA

The SEA concludes that no significant adverse environmental effects will result from the implementation of the LIP in Croydon. As such, no specific recommendations for the mitigation of effects are required. All the effects identified are either considered to have no impact or will be positive. In some cases, the LIP may have positive or negative effects but the level of information available at a time of assessment does not allow a clear judgement to be made.

The main effects of the 14 objectives of the LIP (see **paragraph 1.2**), grouped under the 10 outcomes, are listed below.

**Overarching Borough objective and goals (Objectives 1 and 2)**

The objectives and associated measures will support emissions reduction and associated with this improvements in air quality. They will also support healthy streets and increases in active travel in the borough.

**Outcome 1: London's streets will be healthy and more Londoners will travel actively (Objectives 3-5)**

The objectives and associated measures will directly support an increase in active travel in the borough which will have multiple health and environmental benefits. They will support improvements and use of the public realm and green spaces creating healthier neighbourhoods and broadly support emissions reduction and associated air quality improvements.

**Outcome 2: London's streets will be safe and secure (Objective 6)**

The objectives and associated measures will directly support safer and more secure transport network and neighbourhoods supporting liveability and character of streetscapes and townscapes.

**Outcome 3: London's streets will be used more efficiently and have less traffic on them (Objective 7)**

The objectives and associated measures will directly support the liveability and character of streetscapes and townscapes and also broadly support emissions reduction and associated air quality improvements.

**Outcome 4: London's streets will be clean and green (Objective 8)**

The objectives and associated measures will directly support the liveability and character of streetscapes and townscapes and also broadly support emissions reduction and associated air quality improvements.

**Outcome 5: The public transport network will meet the needs of a growing London (Objective 9)**

The objectives and associated measures will support improvements to and better use of public transport, associated emissions reduction over private vehicle use and associated improvements in air quality.

**Outcome 6: Public transport will be safe, affordable and accessible to all (Objective 10)**

The objectives and associated measures will support improvements to and better use of public transport, ensuring this is safer and more secure.

**Outcome 7: Journeys by public transport will be pleasant, fast and reliable (Objectives 11 and 12)**

The objectives and associated measures will directly support improvements to and better use of public transport, associated emissions reduction over private vehicle use and associated improvements in air quality.

**Outcome 8: Active, efficient and sustainable travel will be the best option in new developments (Objective 13)**

The objectives and associated measures will directly support the appeal, attractiveness and use of new developments. They will also support active travel and associated improvements in air quality achieved by the reductions in emissions and help achieve health and wellbeing benefits.

**Outcome 9: Transport investment will unlock the delivery of new homes and jobs (Objective 14)**

The objectives and associated measures will directly support the provision of new homes and access to jobs in the borough. They will also support associated improvements in air quality achieved by the reductions in emissions.

The implementation of the short- term actions set out in the LIP would not have any significant environmental benefits, although this is typically because the three-year time horizon of the short-term programme does not provide enough time for significant effects to be delivered. However, the programme will help in terms of air quality, the attractiveness of neighbourhoods, inclusivity, mental and physical wellbeing, mobility and regeneration.

The longer-term actions set out in the LIP, if funded and delivered, would significantly improve the attractiveness of neighbourhoods and mobility. They will also help in terms of climate change mitigation, energy efficiency, inclusivity, mental and physical wellbeing and regeneration.

## 1.5 Monitoring

The draft Strategy and LIP do not currently include specific proposals for environmental monitoring. However, it is recommended that key indicators from the set compiled by the London Sustainable Development Commission (LSDC) on Quality of Life issues be used by Croydon Council to monitor the environmental effects of the final Strategy and LIP.

## 1.6 Next Steps

The LIP was submitted to Transport for London in autumn 2018 for comment. Croydon Council conducted a public consultation exercise on the LIP proposals until 20th January 2019. Taking account of the comments received from TfL and the outcomes of the consultation, together with the analysis presented in this Environmental Report, Croydon Council will make any revisions to the LIP that may be necessary, and a final version of the LIP will be approved in spring 2019.

Following this, Croydon Council will publish a Post-Adoption Statement to summarise the way that consultation has influenced the assessment process, demonstrating how feedback has been considered, identifying changes that have been made and the reasons for choosing the preferred policies and options.

In line with the requirements of the SEA Regulations, the Borough Council will monitor the effects of the LIP. This will feed into any future LIP progress reporting.

# 2.0 Introduction

## 2.1 About the Environmental Report

This report sets out the outcomes of the Strategic Environmental Assessment (SEA) of the proposals in the London Borough of Croydon's third Local Implementation Plan (LIP).

To meet the requirements of the Environmental Assessment of Plans and Programmes Regulations 2004, local authorities are required to carry out Strategic Environmental Assessment (SEA) for policies, plans and programmes across various areas, including transport[1]. Government guidance on transport plans stresses the importance of the SEA being an integral part of developing and delivering a transport strategy. The statutory environmental agencies (i.e. the Environment Agency, Natural England and Historic England) must be involved throughout the development and monitoring of a plan.

A Scoping Report for the SEA[2] was forwarded to the three statutory consultation bodies by the London Borough of Croydon at the end of 2018. This report takes account of the comments received from these bodies on the Scoping Report including the comments provided by Historic England on the baseline[3]. It updates and extends the baseline environmental information on which the SEA is based.

## 2.2 Overview of the Local Implementation Plan (LIP)

The LIP is a statutory document, prepared under Section 145 of the Greater London Authority Act 1999. This Act requires each of London's 33 local authorities to prepare a LIP containing proposals for the implementation of the Mayor's Transport Strategy[4] in their area.

The LIP guides transport priorities and projects and details a three-year programme of investment (2019/20 to 2021/22).

The central aim of the MTS – the Mayor's vision – is to create a future London that is not only home to more people, but is a better place for all those people to live in. The overarching aim of the Strategy is for 80% of all trips in London to be made on foot, by cycle or using public transport by 2041, compared to 63% today. The Mayor is seeking to achieve his vision by focusing the policies and proposals in his transport strategy on the achievement of the following three overarching MTS outcomes:

- **Healthy Streets and healthy people, including traffic reduction strategies:**
    - Active: London's streets will be healthy, and more Londoners will travel actively.
    - Safe: London's streets will be safe & secure.

1 The Environmental Assessment of Plans and Programmes Regulations 2004 (Statutory Instrument 2004/1633).

2 Temple and Steer (2108) - **Local Implementation Plan: Strategic Environmental Assessment Scoping Report** – London Borough of Croydon, November 2018.

3 Natural England's response indicated they had "no comments" to make on the Scoping Report whilst the Environment Agency's Local Transport Plan checklist for SEAs, provided by way of response to SEA Scoping consultations, was referred to in the preparation of this Environment Report.

4 Mayor of London (2018) – **Mayor's Transport Strategy** - Greater London Authority, March 2018

- Efficient: London's streets will be used more efficiently & have less traffic on them.
- Green: London's streets will be clean and green.

- **A good public transport experience:**
  - Connected: The public transport network will meet the needs of a growing London.
  - Accessible: Public transport will be safe, affordable and accessible to all.
  - Quality: Journeys by public transport will be pleasant, fast and reliable.

- **New homes and jobs:**
  - Good Growth: Active, efficient and sustainable travel will be the best option in new developments.
  - Unlocking: Transport investment will unlock the delivery of new homes and jobs.

The rationale and detail of each of these outcomes is set out in the third MTS. The LIP responds to the third MTS, the Sub Regional Transport Plan (south) and other relevant policies. This LIP will replace the council's second LIP (2011). The third round of LIPs will become effective from April 2019.

The LIP does not set out binding policies, rather it pulls together key objectives, policies, themes and priorities from other documents and looks at what can be achieved in the next five years given the availability of resources. It also acts as bridge between existing planning documents and any proposed changes to the Local Development Framework, which will set out strategic policies and priorities in relation to transport.

A summary of the key proposals of the LIP are provided in **Section 3.3**.

## 2.3 Compliance with the SEA Regulations

**Table 2.1** below sets out the requirements of the SEA Regulations and where this information can be found in this report.

**Table 2.1: SEA Requirements[5] and where covered in the Environmental Report**

| Requirement | Where found |
|---|---|
| Outline of the contents and main objectives of the plan or programme, and of its relationship with other relevant plans and programmes. | Sections 3.2 and 3.3 |
| The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme. | Section 4.0 |
| The environmental characteristics of areas likely to be significantly affected. | Section 4.0 |
| Any existing environmental problems which are relevant to the plan or programme including, in particular, those relating to any areas of a particular environmental importance, such as areas designated under Directive 79/409/EEC and the Habitats Directive. | Sections 4.0 and 5.3 |

[5] Based on SEA Regulations 2004 No. 1633, Schedule 2.

| Requirement | Where found |
|---|---|
| The environmental protection objectives, established at international, Community or Member State level, which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation. | Section 3.7 |
| The likely significant effects on the environment, including short, medium and long-term effects, permanent and temporary effects, positive and negative effects, and secondary, cumulative and synergistic effects, on issues such as biodiversity; population; human health; fauna; flora; soil; water; air; climatic factors; material assets; cultural heritage (including architectural and archaeological heritage); landscape; and the inter-relationship between these. | Section 5.4 |
| The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme. | Section 5.4 |
| An outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information. | Section 5.2 |
| A description of the measures envisaged concerning monitoring. | Section 5.5 |
| A non-technical summary | Section 1.0 |

## 2.4 Report Structure

Following this introductory section, the structure of this report is as follows:

- The context of the LIP and its likely scope, including identification of other policies, plans, programmes and sustainability objectives (**Section 3**);
- Baseline environmental conditions, and how these might change in the absence of the LIP; (**Section 4**);
- The SEA objectives and framework providing the assessment the environmental effects of the LIP and alternatives, together with an overview of the proposed approach to undertaking the assessment. This section also identifies any measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the LIP (**Section 5**); and
- The next steps in the SEA process (**Section 6**).

# 3.0 Context and Scope of the LIP

## 3.1 Introduction

In this section, the context and scope of the draft LIP for the London Borough of Croydon is described based on work completed by the Council to date. This sets out:

- The background policies that shape the proposals to be set out in the LIP, and other associated documents.
- The area to be covered by the LIP and therefore forming the assessment area for the SEA.
- The timescales of the LIP and the SEA.

## 3.2 Policy Context

### 3.2.1 The Mayor's Transport Strategy

The Mayor's Transport Strategy (MTS) is described in outline in **Section 2.2** above. As noted, the central aim of the MTS for London is not only to be home to more people, but better place for all Londoners. This requires 80% of all trips in London to be made on foot, by cycle or using public transport by 2041, compared with 63% today.

### 3.2.2 The Sub Regional Transport Plan (South)

This Plan[6] is part of an ongoing programme enabling Transport for London (TfL) to work closely with the London boroughs in south London to address strategic issues, progress medium-longer term priorities and respond to changing circumstances. The Plan translates the MTS goals, challenges and outcomes at a sub-regional level. While these needed to be considered across London, and addressed locally through LIPs, there are some matters which benefit from having a concerted effort at a sub-regional level. Challenges including improving air quality (to meet and exceed legal requirements), meet $CO_2$ emission targets and transform the role of cycling and walking are better dealt with at sub-regional level across London.

Sub-regional challenges specifically identified for the south sub-region in London were to:

- Reduce public transport crowding;
- Improve access to, from and within key places
- Improve connectivity (along identified corridors);
- Reduce highway congestion.

The following summarise the context for the adaptation and development of the transport network in south London:

- London's population will continue to grow, generating more demand for transport

[6] Mayor of London (2016) – **South London: Sub-regional Transport Plan** – 2016 update, Transport for London.

- Insufficient levels of housing are a risk to London's competitiveness. Transport is key to unlocking new homes
- Future employment growth in office-based sectors will increase demand for rail based modes
- The sub-region's population will continue to grow, along with its housing need
- There is potential to support higher levels of population growth than currently being planned for
- Some major growth locations will need better public transport connectivity to unlock development
- The proportion of older people will increase, generating more demand for an accessible transport network
- There is potential to support higher levels of employment growth at key transport nodes
- The number of vans on the highway network will continue to grow
- Public transport mode share will continue to increase, but only if capacity is increased to accommodate growth
- Highway congestion will get worse without many more people switching to alternative modes
- Increased levels of congestion will slow bus services, which are a vital element of the public transport network in the sub-region
- Without investment in the rail network, many lines will be at capacity, constraining growth
- With planned levels of investment in the rail network, there will be sufficient capacity to support growth to 2031
- But further investment on the rail network above that already committed will be required to support higher levels of growth
- The number of jobs accessible by public transport will increase, although congestion will reduce access to jobs by car in some areas
- Air quality is expected to improve with technology, but more will need to be done

## 3.3 Croydon Council's Corporate Plan, Local Plan and Transport Vision

Croydon Council's Corporate Plan sets out a vision to deliver outcomes including:

- Build on the 'Choose Your Future' campaign and, together, tackle the blight of knife crime;
- Be one of London's greenest boroughs;
- Work in partnership with the NHS to provide good quality health services for Croydon's population;
- Work towards providing homes affordable for all; and

- Abolish inequality in Croydon and work towards a place where all have an equal opportunity to prosper.

It also sets out relevant key themes and ambitions:

- Transport and environment
- Creating jobs and growing the economy
- A healthier Croydon

Growth:

- To enable more local people to access a wider range of jobs
- To create a place where people and businesses want to be

Independence:

- To help people from all communities live longer, healthier lives through positive lifestyle choices

Liveability:

- To build a place that is easy and safe for all to get to and move around in
- To improve wellbeing across all communities through sport and physical activity

Croydon's Local Plan 2018 has the following Policies relevant to the LIP:

- Strategic Objective 1 – establish Croydon as the premier business location in South London and the Gatwick Diamond;
- Strategic Objective 4 – reduce social, economic and environmental deprivation;
- Strategic Objective 8 – improve accessibility, connectivity, sustainability and ease of movement to, from and within the Borough.

In 2015 Croydon developed its Transport Vision 'A Transport Vision for Croydon - Moving Towards a More Liveable Place'. The Strategy aims to greatly improve how the transport system works in Croydon to support the Council's aspirations for new housing and jobs in the borough. It also aims to promote healthier forms of travel like walking and cycling, so reducing carbon emissions and improving air quality. It sees the shift to this more sustainable, accessible, active and health travel to be central to building a sustainable future for Croydon. The following policies have influenced the direction of the LIP:

- Increasingly connected - enhancing national and international links and ensuring Croydon is a place that is easy to get to and through
- Better places – turning challenges into opportunities such as switching the many short car trips to walking and cycling
- Safer and calmer – reducing road user casualties such as through training and education and 20mph speed limits

- Mixed Modality – achieving a walking and cycling environment with the aim for a more liveable city; reducing the need to own a car
- A Healthy City – ensuring clean air is enjoyed by all by widening travel choices and ensuring active travel is available to all

### 3.3.1 Community Strategy 2015-2021, Croydon's Corporate Plan 2015-2018 and Ambitions for Croydon Corporate Plan 2018-2022

Croydon's community strategy (2015-2021) sets out the following policies that are relevant to the LIP:

- Outcome 1 – a great place to learn, work and live
- Outcome 2 – a place of opportunity for everyone
- Outcome 3 – a place with a vibrant and connected community and volunteer sector
- Connected - a place that is well connected, easy to get to and around, and supported by an infrastructure that enables people to easily come together; with one of the best digital, communications and transport networks in the country
- Sustainable - a place that sets the pace amongst London boroughs on promoting environmental sustainability and where the natural environment forms the arteries and veins of the borough

## 3.4 Summary of the LIP

Croydon's transport objectives in the LIP are designed to help achieve the overarching mode share target for Croydon and for London, as well as delivering against the various mayoral outcomes identified in the MTS. The focus of the LIP is in accordance with the 14 objectives below. The two first objectives are overarching Borough objectives and goals, with the remaining objectives relate to nine Mayor's Transport Strategy outcomes.

**Changing the transport mix - Overarching Borough objectives and goals.**

1. Reduce reliance on the car for local in-borough car journeys by creating streets and a transport network that prioritises walking, cycling and public transport.
2. Reduce the number of local car trips and ensure that by 2021/22 at least 50% of all journeys made residents are by walking, cycling and public transport. By 2041, 63% of all journeys made by residents are by walking, cycling and public transport.

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

3. Create healthy streets and neighbourhoods that encourage walking and cycling, and where traffic volumes and speeds are low.
4. Improve accessibility for pedestrians and cyclists through increased priority at key junctions and reduced severance caused by major roads, railway lines and parks.
5. Implement and deliver the network of cycle routes outlined in the Croydon Cycle Strategy.

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

6. Support and deliver the principles of the Vision Zero Action Plan and work towards ensuring we have the safest roads in London with no killed or serious injuries on our roads by 2041.

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

7. Reduce the volume of traffic on our roads and associated congestion through better management of our roads and kerbside space, and by offering pleasant, practical and safe alternatives to private cars and vans.

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

8. Tackle road based air pollution by reducing traffic volumes, supporting the shift to zero emission vehicles and introducing new green infrastructure.

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

9. Work with the Mayor, TfL, Network Rail, bus operators and TOCs to improve public transport links, reduce overcrowding on the public transport network and ensure Croydon is the best connected Metropolitan Town Centre in Outer London.

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

10. Work with the Mayor, TfL, Network Rail, bus operators and TOCs to ensure the entire public transport network is accessible, safe and step free.

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

11. Work with TfL to introduce additional bus priority measures on key road corridors to improve efficiency and reliability of bus services.

12. Lobby the TOCs and the DfT to improve performance of train services and reduce gaps in service frequencies.

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

13. Ensure all new development incorporates the ten Healthy Streets principles into their design, and ensure they are integrated with the local walking and cycling networks as well as public transport.

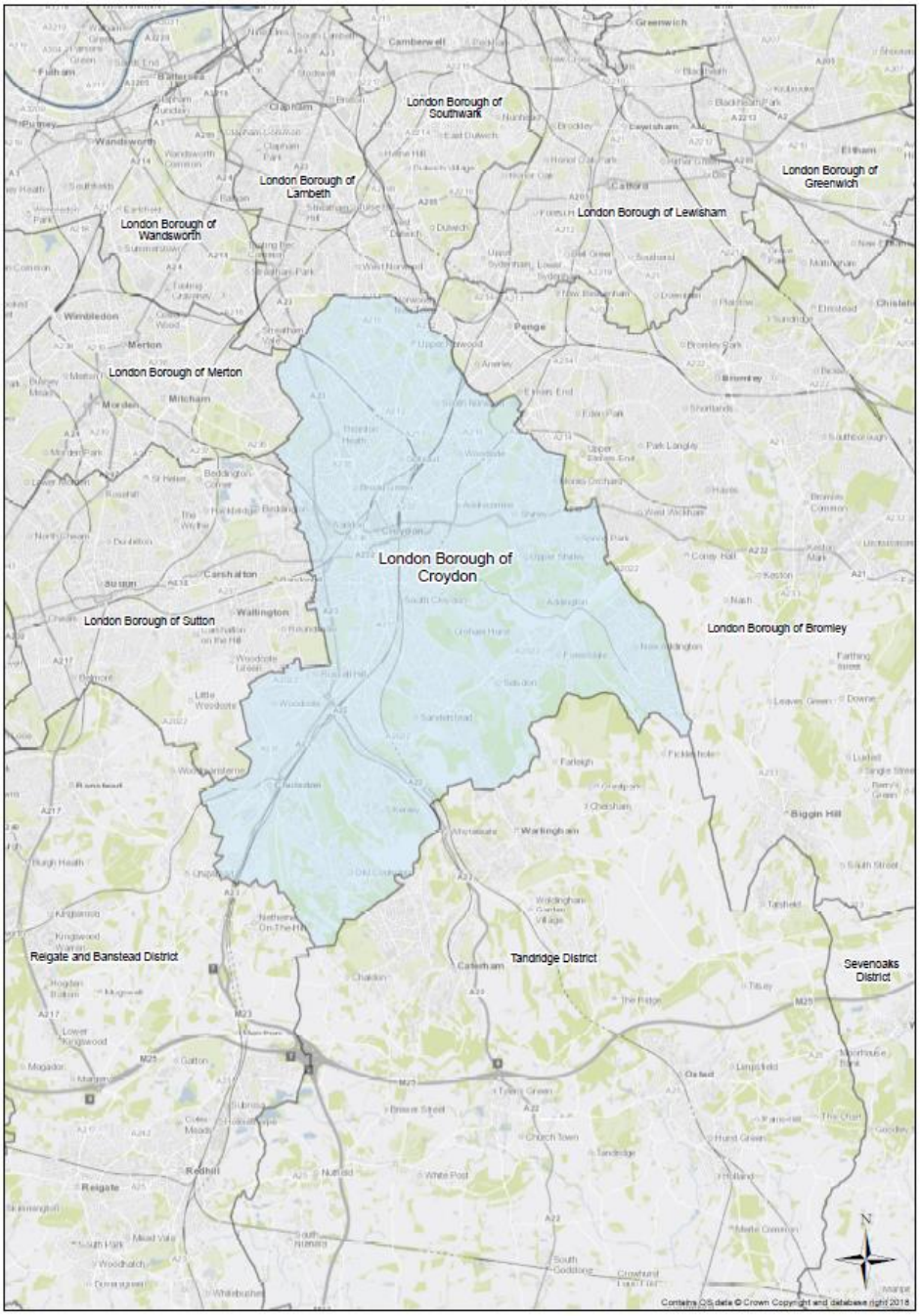
**Outcome 9: Transport investment will unlock the delivery of new homes and jobs'**

14. Work with key partners to increase public transport capacity in the borough to support the creation of new homes and jobs planned over the next two decades, including the extension of the tram to Crystal Palace and Brighton Mainline Upgrade.

## 3.5 Defining the assessment area

The spatial scope for the SEA is the London Borough of Croydon area. The SEA also takes account of potential impacts on adjoining boroughs and districts as appropriate. **Figure 3.1** below shows a map of the London Borough of Croydon area.

**Figure 3.1: London Borough of Croydon area and adjoining boroughs**



## 3.6 Timeframe for the Plan

The LIP includes policies and proposals that cover the period up to 2041. The LIP is expected to identify aspirational objectives and potential (more major) schemes to 2041 as well as shorter term objectives and a programme of investment for the first three years. This is therefore also the timeframe for the SEA.

## 3.7 Other Policies, Plans, Programmes and Sustainability Objectives

### 3.7.1 National and Regional Policies

The most relevant plans and programmes at a national and regional (i.e. London-wide) level used as the basis to inform the objectives included in the appraisal framework for the SEA (See **Section 5.0** ) are set out in **Table 2.1** below.

**Table 2.1: Relevant National and Regional Policies reflected in the SEA Objectives**

| Topic | Policy Document |
|---|---|
| All Topics | A Green Future: Our 25 Year Plan to Improve the Environment (2018) |
| | The London Plan: The Spatial Development Strategy for London (2016) |
| | The New London Plan: Draft for Public Consultation (2017) |
| | Mayor of London's Environment Strategy (2017) |
| | National Planning Policy Framework (2018) |
| Air Quality | Air Quality Standards Regulations 2010 |
| | Defra's Air Quality Plan (2016) |
| | Environment Act 1995 |
| | EU Ambient Air Quality Directive (2008/50/EC) |
| | The Greater London Authority Act 1999 |
| Climate Change Adaptation | Climate Change Risk Assessment (CCRA) |
| | EC White Paper: Adapting to Climate Change |
| | National Adaptation Programme (NAP) |
| | UK Low Carbon Transition Plan (2009) |
| Climate Change Mitigation | Climate Change Act 2008 |
| | Promotion of the Use of Energy from Renewable Sources Directive (2009/28/EC) |
| | United Nations Framework on Climate Change COP21 (2015) – Paris Agreement- |
| Fairness and inclusivity | Equality Act (2010) |
| Flood Risk | UK Water Strategy (2008) |
| Geology and Soils | England Soil Strategy, Safeguarding our Soils (2009) |
| | EU Environmental Liability Directive (99/31/EC) |
| Historic Environment | Ancient Monuments and Archaeological Areas Act 1979 |
| | Planning (Listed Buildings and Conservation Areas) Act 1990 |
| Materials and Waste | EU Waste Framework Directive (2008/98/EC) |
| | National Planning Policy for Waste (2014) |
| | Waste (England and Wales) (Amendment) Regulations 2014 |
| | Conservation of Habitats and Species Regulations 2010 |

| Topic | Policy Document |
|---|---|
| Natural Environment and Natural Capital | Council Directive on the Conservation of Natural Habitats of Wild Fauna and Flora 92/43/EEC |
| | Directive on the Conservation of Wild Birds 09/147/EC |
| | Natural Environment and Rural Communities Act 2006 |
| | The Natural Choice – securing the value of nature (2011) |
| | Wildlife and Countryside Act 1981 |
| Noise and Vibration | Environmental Noise (England) Regulations 2006 |
| | EU Noise Directive (2000/14/EC) |
| Water Resources and Quality | Final Water Resources Management Plan 14 (WRMP14), 2015-2040 (Thames Water, July 2014) and Annual review June 2016;<br>Affinity Water 2014 Water Resources Management Plan |
| | Thames River Basin District River Basin Management Plan (Environment Agency, December 2015 |

### 3.7.2 London Borough of Croydon Policies

The following policy documents published by the London Borough of Croydon have also been used to inform the SEA objectives:

- State of the Environment Report 2010: Croydon Strategic Partnership 2010
- Croydon Joint Strategic Needs Assessment (topic area papers 2009-2017)
- Croydon Local Plan 2018
- Croydon Local Plan Sustainability Appraisal and Health Impact Assessment 2018
- Croydon Infrastructure Delivery Plan 2017
- Croydon Local Plan: Technical paper – Transport and Communication 2017
- A Transport Vision for Croydon 2015
- Croydon's Cycling Strategy 2018-23
- Mayor of London, Sub-regional Transport Plan South
- Borough Character Appraisal, London Borough of Croydon 2015
- Air Quality Action Plan 2017-2022
- London Borough of Croydon, Local Flood Risk Management Strategy 2015-2020
- Croydon Community Strategy 2016-2021
- Croydon's Corporate Plan 2018-22
- Ambitious for Croydon – Corporate Plan 2018-2022
- Croydon Unitary Authority Health Profile 2017
- Croydon Observatory Website 2018

# 4.0 Baseline Environmental Conditions

## 4.1 Air Quality

Croydon is meeting the UK Air Quality Strategy (AQS) objectives on all measures apart from for nitrogen dioxide ($NO_2$). Away from busy roads, annual average levels of $NO_2$ are well below air quality objective levels but at roadside monitoring stations this objective is yet to be met. Although Croydon is meeting the current objectives for particulate matter ($PM_{10}$ and $PM_{2.5}$) because this pollutant is harmful to human health at any level, this is a pollutant of concern for the borough.

There are four continuous AQ monitoring stations in London Road, Norbury, Norbury Manor school, Norbury, Wellesley road / Park lane and at Fiveways junction, Purley Way[7]. Like many other London Boroughs Croydon has been declared an Air Quality Management Area (AQMA). This is for the levels of $NO_2$. There are five focus areas in the borough:

- Purley Way (south of Fiveways) – due to construction work onsite there is no data for 2011 (from 2012 the site has been renamed Croydon 7)
- Beulah Road, Thornton Heath
- Junction of George Street and Wellesley Road, central Croydon
- London Road, Norbury

The main sources of $NO_2$ are road traffic at 60%, commercial gas heating at 26% and non-road mobile machinery at 6.5%. The main sources of particulate matter are road transport at 55.8%, resuspension at 27.3% and non-road mobile machinery at 5.9%.

The TfL MTS3 LIP Outcomes Borough data pack indicates that in combination, changes in the vehicle fleet (e.g. more electric vehicles and the phasing out of diesel engines) and the policies of the MTS should result in significant reductions in air pollutant emissions from transport, as indicated in **Table 4.1** below.

**Table 4.1: Air pollutant emissions from road transport in Croydon (tonnes) by year**

| Pollutant | 2013 | 2021 | 2041 |
|---|---|---|---|
| Oxides of Nitrogen ($NO_x$) | 890 | 330 | 40 |
| Particulates ($PM_{10}$) | 88 | 75 | 41 |
| Particulates ($PM_{2.5}$) | 49 | 36 | 20 |

Although detailed modelling would be required to confirm this, it is likely that these reductions would allow the UK air quality objectives to be met across the borough. Also, without this modelling, it is not possible to disaggregate how much of these reductions are attributable to technological changes, and which due to MTS policies.

[7] London Borough of Croydon (2017) Air Quality Action Plan 2017-2022

## 4.2 Attractive neighbourhoods

Croydon Council has identified 16 distinct neighbourhoods[8] in the borough based on both physical characteristics and social identity. These are identified in **Figure 4.1**, and can be characterised as follows:

- **Addington:** the character is defined by extensive areas of Green Belt, historic Conservation Area (Addington Village). The 20th century housing estates in New Addington and Fieldway are predominantly made of Local Authority Built Housing with Public Realm and compact house on relatively small plots respectively. Predominantly, the smaller scale buildings are interlaced with Mid-rise blocks of flats and residential tower buildings in both estates. Additional character types include suburban shopping, institutions with associated grounds and industrial estates.

- **Addiscombe:** a suburban residential settlement, framed on the eastern side. The non-residential areas consist of shopping areas and industrial estates. The residential character consists of a varied yet balanced mix of terraced houses and cottages, midrise blocks of flats and compact houses on relatively small plots, detached houses on relatively large plots and local authority housing with public realm.

- **Broad Green & Selhurst:** a heavily urbanised area consisting of a variety of local character types. The south-western edge is dominated by large retail estates, business and leisure parks along Purley Way and the greenery of Archbishop Lanfranc's playing field and Croydon Cemetery. London Road is characterised by high density characterises the centre. The eastern edge is predominantly Industrial Estates of the Selhurst area, with smaller scale historical industrial estates interlaced within the urban fabric.

- **Coulsdon:** Green Belt surrounds this small suburban settlement. The district centre contains Urban Shopping Area, Retail Estates/Business/Leisure Parks and Industrial Estates. Predominantly, the residential characters are detached houses on relatively large plots.

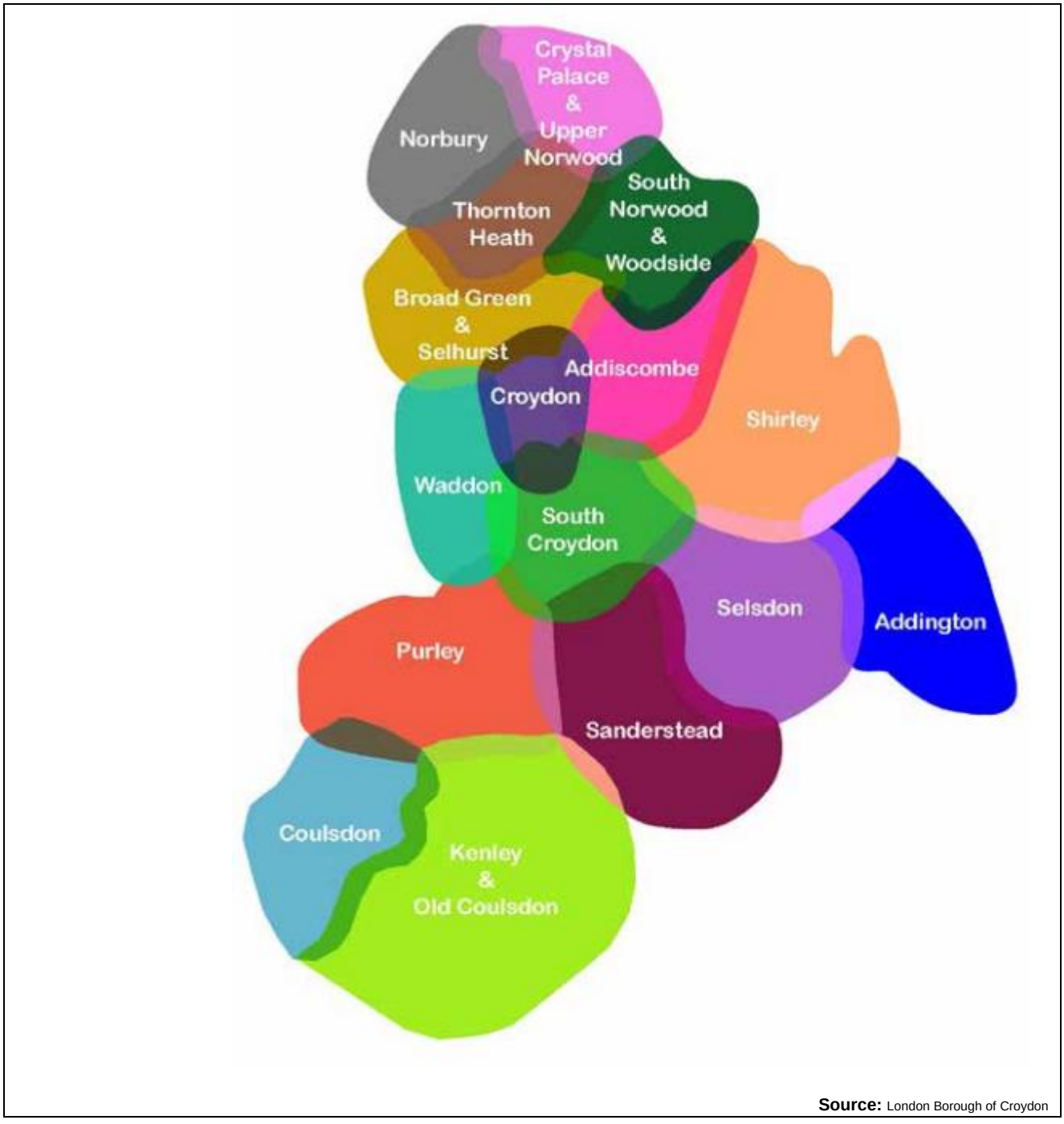
- **Croydon Opportunity Area:** Is a principle location for office, retail, cultural and hotels. The centre is dominated by the intersecting linear infrastructure, to the west and east are the Shopping Centres and Precincts, Tower Buildings and Large Buildings in an Urban Setting. To the south there are the Urban Shopping Character Areas. Residential areas are located around the edge with a mix of Large houses, relatively small plots, terraced houses and cottages and mixed flats.

- **Crystal Palace & Upper Norwood:** historic Victorian settlements, picturesquely located on green hills. Primarily a residential settlement, with Large houses on relatively small plots, planned estates of semi-detached houses, Mid-rise blocks of flats and compact houses on relatively small plots.

- **Kenley & Old Coulsdon:** Suburban area with green wooded hillsides and green open spaces. The area predominantly contains residential character types such as: detached houses on relatively large plots and planned estates of semi-detached houses.

[8] London Borough of Croydon (2015) – **Urban Character Study**

**Figure 4.1: Character Areas in London Borough of Croydon**




**Source:** London Borough of Croydon

- **Norbury:** A suburban town, organised along the dominant corridor of the London Road. The residential character is predominantly terraced houses and cottages, large houses on relatively small plots and local authority housing with public realm.
- **Purley:** a suburban market town with areas of urban shopping areas, industrial estates, retail estates/business/leisure park and higher density residential areas such as terraced houses and cottages, mixed type flats and compact houses and planned estates of semi-detached houses.

- **Sanderstead:** a suburban area located on a hilltop with residential areas surrounded by large scale green open spaces. In terms of residential character, the predominant type is detached housing on relatively large plots on the hillsides leading to the local centre, planned estates of semi-detached houses on the top of the Sanderstead Hill, and some local authority planned estates with public realm toward Hamsey Green.

- **Selsdon:** suburban residential area with a well-defined district centre, surrounded by large scale green open spaces. The residential character is planned estates of semi-detached houses, some local authority planned estates with public realm and mixed compact houses and flats on relatively large plots.

- **Shirley:** a suburban residential settlement surrounded by natural areas of Green Belt. Residential character consists of planned estates of semi-detached houses with garages and mixed type flats and compact houses set in large green spaces. In the south it is dominated by scattered houses on large plots surrounded by expansive areas of greenery.

- **South Croydon:** It has a fragmented character due to the A23 and railway infrastructure. There is Green Belt in the East, industrial estates along the railway infrastructure, the predominant residential character is terraced houses and cottages, mixed type of flats and compact houses to the west and north and detached houses on relatively large plots and large houses on relatively small plots with a number of listed buildings to the east.

- **South Norwood & Woodside:** a Victorian urban centre, designated as a Conservation Area. Predominantly a residential area with terraced houses and cottages, mixed type flats and compact houses compact houses, larger industrial estates and one retail estate/business/ leisure park at the eastern edge.

- **Thornton Heath:** a heavily built up historic settlement with the district centre located around the railway station and local centre at Thornton Heath Ponds. Terraced houses and cottages dominate the residential character, with Edwardian and Victorian parks interlaced within the urban fabric.

- **Waddon**: a fragmented character with retail estates/business/leisure parks and industrial estates, local authority housing with public realm.

## 4.3 Climate change mitigation and adaptation

In 2010, Croydon undertook a report in order to investigate the state of the environment[9]. This identified the carbon footprint of Croydon as 11.76 tonnes $CO_2$ per capita (2006). This is higher than the London average of 11.38 tonnes $CO_2$ per capita. Croydon has set a long term target for the borough of a 34% reduction in $CO_2$ emissions by 2025.

The TfL LIP3 MTS Borough data pack indicates that as a result of a combination of changes to the vehicle fleet and MTS policies, $CO_2$ emissions from road transport in Croydon will reduce from 250.2 kta in 2013 to 211.3 kta in 2021 and to 56.7 kta in 2041. However, detailed modelling would be required to determine what proportion of this reduction is due to technology and what to the MTS policies.

[9] Croydon Borough Council (2010) – The State of the Environment Report

## 4.4 Energy use and supply

In 2015 (the latest figures available), Government statistics[10] indicated 412,000 tonnes of oil equivalent (ktoe) energy was consumed in Croydon. This is below average for boroughs across inner London. Of this, gas consumption accounted for just over 51%, while 25% was electricity consumption and just over 22% was of petroleum products. 22% of energy consumed was by industry, and 54% was consumed in people's homes. 21% of energy used was for transport.

## 4.5 Fairness and inclusivity

Croydon is exceptionally diverse and fast-changing. The population was just under 385,000 when reported in 2017 (London Data Store). The population within London was projected to grow by 14.7% over the period from 2011-2021 from 8,172,665 to 9,370,820; locally, Croydon's population from 2011-2021 is expected to grow by 9.6% from around 363,400 to 398,200[11]. Croydon is ranked 12th out of the 33 boroughs in respect of ethnic diversity. Between 2001 and 2011 the 'white' population is the only classification to have reduced; a reduction of 31,750 residents. The population classified as 'mixed' has increased by 94.3% and the greatest increase is in residents classified as 'black', this BME group shows an increase of 29,300 residents over 10 years.

The breakdown of Croydon's population by ethnicity is indicated in **Table 4.2** below.

**Table 4.2: Ethnic makeup of London Borough of Croydon 2018**

| Ethnicity | Number | % |
|---|---|---|
| White - British | 158,875 | 40 |
| White - Irish | 8,913 | 2.2 |
| Other White | 72,247 | 18.2 |
| White and Black Caribbean | 3,533 | 0.9 |
| White and Black African | 3,875 | 1 |
| White and Asian | 7,129 | 1.8 |
| Other Mixed | 6,682 | 1.7 |
| Indian | 30,234 | 7.6 |
| Pakistani | 6,384 | 1.6 |
| Bangladeshi | 2,510 | 0.6 |
| Chinese | 10,522 | 2.7 |
| Other Asian | 30,451 | 7.7 |
| Black African | 23,227 | 5.8 |
| Black Caribbean | 4,937 | 1.2 |
| Other Black | 4,491 | 1.1 |
| Arab | 6,955 | 1.8 |
| Other ethnic groups | 16,084 | 4.1 |
| *Total* | *397,049* | *100* |

[10] Department for Business, Energy and Industrial Strategy (2017) - **Sub-national total final energy consumption in the United Kingdom (2005 - 2015)** – 28th September 2017.

[11] Croydon Borough Profile 2012

**Source**: London Datastore

Croydon became more deprived between 2004 and 2010 and all electoral wards became more deprived relative to England. The north of the borough is generally more deprived than the south, sharing more of the characteristics of inner London than the south of the borough. The proportion of children in poverty in Croydon is 27%. However, there is significant variation between wards, in Fieldway, nearly half of children aged under 16 live in poverty, whereas in certain wards in the south of the borough, 1 in 10 children or fewer live in poverty. Croydon is the 107th most deprived borough in England and the 19th most deprived in London.

In terms of changes in age profile from 2001-2011 the 0-4yr old population grew national, regionally and locally; Croydon had the largest increase with 0.9%. The 5-19yr old population reduced over the last ten years; England experienced the highest reduction. The 20-64 year old population has increased locally, regionally and nationally; London's proportion of 20-64 year olds has increased by more than 1% against Croydon and England. The over 65 year old population has reduced in Croydon and London, but grown nationally.

There are marginally more women and girls (51.4%) than men and boys (48.6%) living in the borough, but no significant differences from the proportions at London and national levels.

## 4.6 Flood risk

Croydon has undertaken a strategic flood risk assessment with the boroughs of Merton, Sutton and Wandsworth. 97.8% of London Borough of Croydon is defined as Flood Zone 1 Low Probability of flooding from rivers. Approximately 1.7% is defined as Flood Zone 2 Medium Probability, and then under 0.5% is Flood Zone 3a high probability and Flood Zone 3b Functional Floodplain.

Flood zones for planning purposes are defined by the Environment Agency, based on the likelihood of an area flooding. The three zones are:

- **Flood Zone 1** has less than 0.1% chance of flooding in any year (or 1:1000-year chance). There are very few restrictions on development these areas, exception where proposed development over 1ha in size, or is in a Critical Drainage Areas (i.e. deemed to be at high risk of flooding from rainfall).

- **Flood Zone 2** has between 0.1% – 1% chance of flooding from rivers in any year (between 1:1000 and 1:100 chance).

- **Flood zone 3** has 1% or greater probability of flooding from rivers.

The flood risk zones in the London Borough of Croydon are illustrated in **Figure 3.2** following, approximately 1.7% is defined as Flood Zone 2 Medium Probability, and then under 0.5% is Flood Zone 3a high probability and Flood Zone 3b Functional Floodplain. Flood Zone 3a is associated with River Wandle extending across the western part of Wandle Park. Flood Zone 2 associated with the River Wandle is found to the north and west across the A23 Purley Way and up the borough boundary. The section through Wandle Park is designated Flood Zone 3b Functional Floodplain. Norbury Brook has areas of Flood Zone 3b around Norbury Park. There is a small portion of the Chaffinch Brook which is Zone 2 and 3 associated with parkland areas in the north east of the borough. More information on water resources in the borough is provided in **Section 0** below.

**Figure 4.2: Flood Risk Areas in the London Borough of Croydon**


**Source:** The Environment Agency

**Surface flood risk**: Croydon is highly susceptible to surface water flooding and their have been two significant floods, one in 2007 and 2014. Intense periods of rainfall caused flash floods and the existing drainage system lacked the capacity to accommodate this in various locations across the borough. For example, Purley Town centre experienced some of the worst flooding with significant flooding to property and the transport network. Th Brighton Road through Purley and to Central Croydon and the A22 Godstone Road are areas that are particularly susceptible to flooding[12].

**Groundwater**: Groundwater flooding is reported in a number of areas in the borough and Council has 37 records, with some regular hotspots in the north of the Borough. The most widespread and high profile floods influenced by high groundwater have been associated with the Caterham Bourne in the south of the Borough, which caused significant disruption in the winter of 2000-2001 and more recently in early 2014, threatening significant numbers of homes, essential infrastructure and transport networks. The Susceptibility to Groundwater Flooding indicates that there is potential for groundwater flooding to occur at the surface along the route of the watercourses where the permeable river terrace deposits are present and are providing potential pathways for water during periods of elevated groundwater levels in the chalk aquifer

## 4.7 Geology and soils

The predominant area of the borough is un-surveyed soil, there are however, the surveyed parcels at the South of the Borough which include a variety of soil types and underlying geology, such as chalk, loam, sandstone, siltstone and clay. Natural England mapping shows that the majority of the

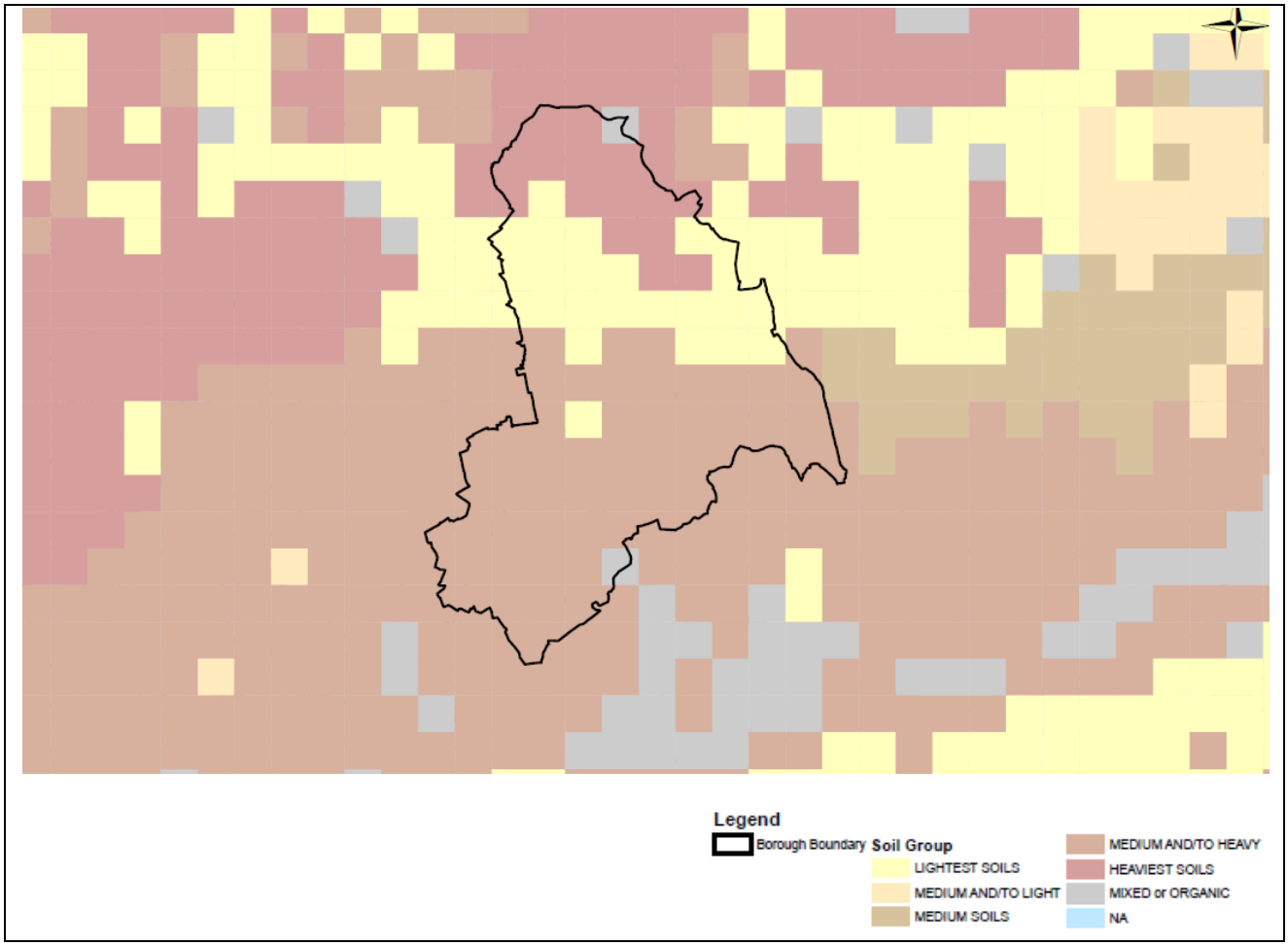
[12] London Borough of Croydon (2015) Strategic Flood Risk Assessment Report

Borough is very poor quality agricultural land which correlates to the urban nature of the land. There are pockets of moderate/good quality (grade 3) agricultural land in the southern wards[13].

Approximately 4% of the total Borough area is classed as previously developed land and available for development.

The geology and soils of the Borough are illustrated in **Figure 4.3** below.

**Figure 4.3: Geology and Soils in the London Borough of Croydon**




## 4.8 Historic Environment

The Borough historic assets include seven grade I listed buildings, 136 grade II listed buildings and seven Grade II*. The Core Strategy Sustainability Appraisal Scoping report listed the following seven scheduled ancient monuments within the Borough include:

- Elmers End Moated site, South Norwood;
- St John the Baptist's Church Gateway, Howley Road, Croydon;
- Croham Hurst Round Barrow;

[13]London Borough of Croydon (2008) Core Strategy Sustainability Appraisal Scoping Report

- Newe (or Wide) Ditch, Riddlesdown;
- Group of Seven World War II Fighter Pens at Former Airfield of RAF Kenley;
- Round Barrows and ancient settlement, Farthing Down, Coulsdon; and
- Surrey Iron Railway embankment.

There are 20 designated Conservations Areas and two registered Parks and Gardens (Addington Palace, Norwood Grove).

Croydon has 11 Listed Buildings, three Scheduled Monuments (including a group of four World War II fighter pens at the former airfield of RAF Kenley, a further group of seven World War II fighter pens at the former airfield of RAF Kenley and Surrey Iron Railway embankment, approximately 130m south west of Lion Green Road, Coulsdon) and one Conservation Area (South Norwood Conservation Area) on Historic England's Heritage at Risk Register.

The Old Town Masterplan was produced and adopted in 2014 with the aim to preserve and enhance the rich historic character of Croydon town centre, where the first settlements in Croydon were located in Saxon times. The area includes several important heritage assets, including Surrey Street Market, and three conservation areas lie within it (Central Croydon, Church Street, Croydon Minster).

Conservation Area Appraisals and Management Plans (CAAMPs) provide detailed information on the special character of conservation areas and provide guidance for development and maintenance of properties. The Borough is in the process of producing and updating its CAAMPs to improve the protection of all of Croydon's conservation areas. Since 2012, 15 CAAMPs have been adopted[14].

## 4.9 Materials and waste

Croydon's household waste in 2008 was less that the national average at 407 kilograms per annum of waste. At that stage 20.115 of all household waste was being recycled and composted. The percentage of household waste recycled had risen over the preceding 4 years, but it was still below the London average.

There are three reuse & recycling centres, which accept an increasing range of materials and items for reuse or recycling. These are Recycling Centre Factory Lane in West Croydon, Fischers Farm Waste and Recycling Centre in New Addington in the south east of the borough and Purley Oaks Recycling Centre in Purley. Croydon has 11 waste management facilities throughout the borough, including:

- Northwood Road;
- Thornton Road (2 sites);
- Stubbs Mead, Factory Lane;
- Conduit Lane;
- Selsdon (Employment Area);
- Purley Oaks (2 sites);

[14] A full list of the adopted CAAMPs is available at https://www.croydon.gov.uk/planningandregeneration/framework/conservation/conservation-areas/conservation-guidance

- Fishers Farm;
- Pear Tree Farm; and
- Marlpit Lane and Ulleswater Crescent.

## 4.10 Mental and physical wellbeing

Health and well-being in Croydon typically are similar to the London average. In 2014 the life expectancy for men in the borough was 80.3 (the same as the London average) and for women it was 83.6 (just under the London average of 84.2). Life expectancy rates in Croydon are increasing and are expected to improve further. Health inequalities are most evident in the more deprived areas in the east of the Borough where people tend to experience the poorest health. Mental illness, levels of physical activity and obesity a greater concern in more deprived parts of the borough. Men who live in the most deprived areas in the borough die on average 9.7 years younger than those in more affluent areas and for women the difference is 6.1 years. Also, health inequalities are more prevalent among groups with protected characteristics.

Child health is a significant issue across London and this is reflected by the fact that in Year 6 24.7% of children are classified as obese, which is worse than the average for England. Under 18 alcohol-specific hospital stays is better than the English average with 25 per 100,000 population. For adults the rate of alcohol-related harm hospital stays is 523 per 100,000 population which is better than the English average.

The effects of environmental issues on health are more concentrated in certain parts of the borough. For example, town centres and other areas with traffic congestion experience poorer air quality with consequent impacts for people vulnerable to respiratory and heart conditions. Health inequality across the Borough is clearly linked with socio-economic background, ethnicity and employment activity. The most 'healthy' wards are in the south of the borough.

## 4.11 Natural Capital and Natural Environment

There are three European Sites are within a 10 km radius of Croydon, all of which are Special Areas of Conservation (SAC):

- **Mole Gap to Reigate Escarpment:** Woodland, chalk grassland, chalk scrub and heathland form an interrelated mosaic at this site on the North Downs. The site has qualifying habitats such as semi-natural dry grasslands and scrubland facies and European dry heaths and qualifying species such as Bechstein's bat and Great crested newt.

- **Richmond Park:** One of the largest open spaces in Greater London and the largest of the Royal Parks. It qualifies as a SAC because of the presence of the stag beetle, the UK's largest terrestrial beetle.

- **Wimbledon Common:** one of the largest areas of uncultivated land in the conurbation of London and sits in the Thames Valley Natural Character Area. It also qualifies as an SAC due to presence of the stag beetle and for the qualifying habitats of European dry heath and Northern Atlantic wet heaths with Erica tetralix.

Due to the distance from Croydon and the nature of the species and habitats that these sites are protected for, the LIP is unlikely to have significant impacts on any of these sites.

There are three areas designated as Sites of Special Interest (SSSI), covering a combined area of 189 hectares:

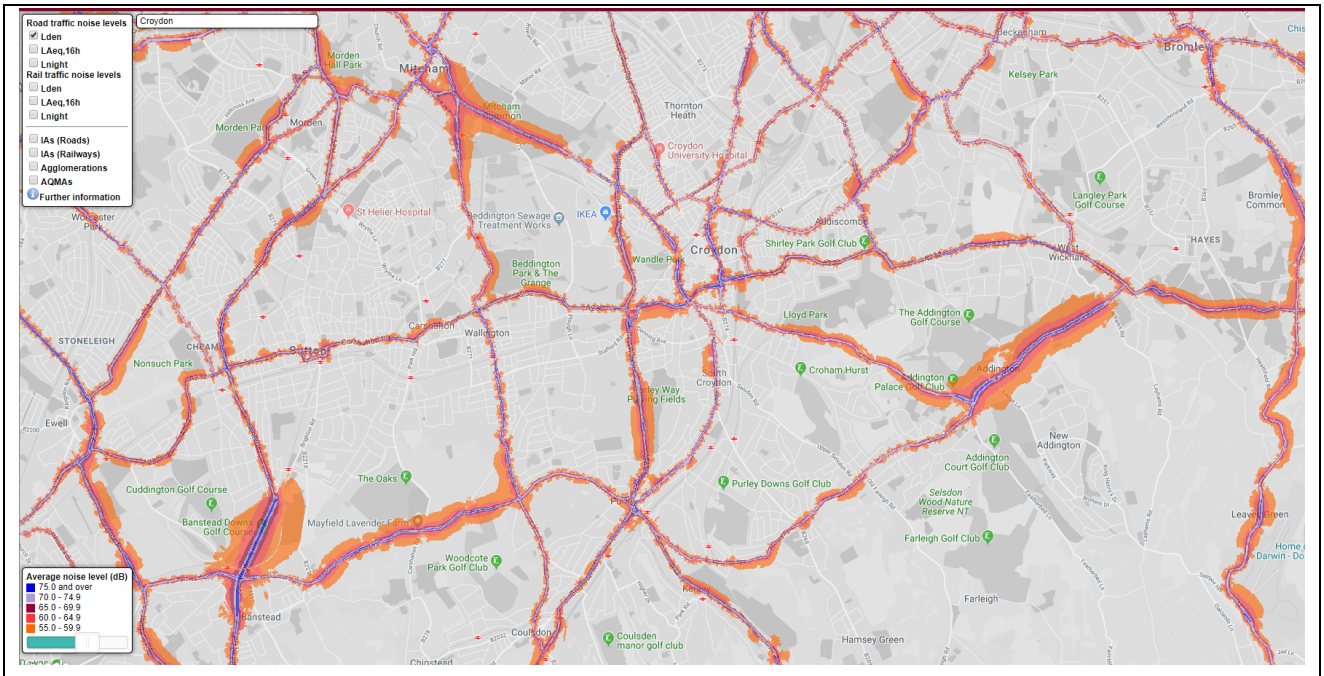
- **Croham Hurst SSSI**– area of ancient woodland with a range of stand types that reflect the variations in the underlying geology.
- **Riddlesdown SSSI** - largest single expanse of long-established calcareous scrub in Greater London and also valued for its herb-rich chalk grassland.
- **Farthing Downs and Happy Valley SSSI** – support the most extensive area of semi-natural downland habitats remaining in Greater London. The site is of particular interest for its species-rich chalk and neutral grasslands, and for an area of ancient woodland known as Devilsden Wood.

There are 81 sites of biodiversity importance in Croydon (non-statutory designations),and there are 330 green spaces and Croydon has six Local Nature Reserves (LNRs) – Bramley Bank, Foxley Wood, Hutchinson's Bank, South Norwood Country Park, Selsdon Wood and Streatham Common. The waterways also offer a valuable habitat, which it is recognised should be preserved and enhanced. The London Wildlife Trust has recorded 2303 sightings of species protected under the London Biodiversity Action Plan. There are 1709 tree preservation orders throughout the Borough.

## 4.12 Noise and vibration

Little information is available on noise and vibration generally across the Borough. **Figure 4.4**. below shows estimated levels of road traffic noise, which is the primary noise source in most parts of the Borough. This is based on the strategic noise mapping exercise undertaken by the Government in 2012, and shows results are shown for LAeq,16h, which is the annual average noise level (in dB) for the 16-hour period between 0700-2300

**Figure 4.4: LAeq 16-hour road traffic noise levels in London Borough of Croydon 2012**




**Source:** http://extrium.co.uk/noiseviewer.html

The actual level of noise may have increased due to increases in traffic since 2012, but this is unlikely to be to a significant extent. The pattern and distribution of noise levels is likely to be relatively unchanged over this time. From **Figure 4.4** it may be seen that the main areas affected by traffic noise in in Croydon unsurprisingly are along the main traffic routes through the Borough. In particular, A236 and the A23/Purley Way, the A212 and A232 particularly around central Croydon and A236 and A23/Purley Way in South Croydon areas all experience higher levels of traffic noise.

## 4.13 Safety and security

Crime has been steadily declining across Croydon over time, but some neighbourhoods and groups remain more likely to fall victim to crime than others. Croydon is the 125th most deprived local authority in England (out of 410). Areas of high multiple deprivation are primarily located in the north and south eastern wards. This is reflected in the crime and living environment deprivations statistics. Rates of crime in Croydon are slightly higher than those in London. Despite the total number of crime rates decreasing, areas of domestic crime, such as sexual offences and burglary, are increasing. The areas of highest crime are in Fieldway and New Addington which correlates with the indices of deprivation. The Local Area Agreement also aims to improve early interventions for Anti-Social Behaviour by 10%.

## 4.14 Water resources and quality

The principle watercourses in the borough are the tributaries to the River Wandle in the north, which are a mix of natural and canalised watercourses. The River Wandle has two sources at the springs at Carshalton (London Borough of Sutton) and Waddon, they rise at the boundary of the Chalk and overlying Clays and Gravels. There is also the South Norwood Lake which is man-made but a significant surface water feature. The Environment Agency (EA) reports that within the Borough, chemical quality of the Beddington Ditch, Beddington Arm and Carshalton Arm is ‘very good’. However, the biological quality is poor, most likely being due to the high nitrate content in the water. The EA report that these results have not shown significant changes over recent years. EA groundwater vulnerability maps show source protection zones protecting drinking water extraction sites in the south of the Borough. Land use activities within the source protection zones are closely monitored by the Environment Agency[15].

[15] London Borough of Croydon (2008) Sustainability Appraisal Scoping Report

# 5.0 SEA Objectives and Framework

## 5.1 Objectives

Temple and Steer have confirmed with Croydon Council that it is happy to use the TfL/GLA framework that was developed to satisfy SEA requirements for plans and strategies produced by the Mayor of London as the basis for the current assessment.

The SEA topics indicated as in scope in **Section** Error! Reference source not found. above and the objectives against which the proposals set out in the LIP will be evaluated are set out in **Table 5.1** below.

**Table 5.1: TfL/GLA environmental objectives for SEA**

| Environmental topic | Objective |
|---|---|
| Air Quality | To reduce emissions and concentrations of harmful atmospheric pollutants, particularly in areas of poorest air quality, and reduce exposure |
| Attractive neighbourhoods | To create attractive, mixed use neighbourhoods, ensuring new buildings and spaces are appropriately designed that promote and enhance existing sense of place and distinctiveness, reducing the need to travel by motorised transport. |
| Climate change adaptation | To ensure London adapts and becomes more resilient to the impacts of climate change and extreme weather events such as flood, drought and heat risks |
| Climate change mitigation | To help tackle climate change through reducing greenhouse gas emissions and moving towards a zero carbon London by 2050 |
| Energy use and supply | To manage and reduce demand for energy, achieve greater energy efficiency, utilise new and existing energy sources effectively, and ensure a resilient smart and affordable energy system |
| Fairness and inclusivity | To make London a fair and inclusive city where every person is able to participate, reducing inequality and disadvantage and addressing the diverse needs of the population; and |
| Historic Environment | To conserve and enhance the existing historic environment, including sites, features, landscapes and areas of historical, architectural, archaeological and cultural value in relation to their significance and their settings. |
| Mental and physical Wellbeing | To improve the mental and physical health and wellbeing of Londoners and to reduce health inequalities across the city and between communities. |
| Natural Capital and Natural Environment | To protect, connect and enhance London's natural capital (including important habitats, species and landscapes) and the |

| Environmental topic | Objective |
|---|---|
| | services and benefits it provides, delivering a net positive outcome for biodiversity |
| Noise and vibration | To minimise noise and vibration levels and disruption to people and communities across London and reduce inequalities in exposure |
| Safety and security | To contribute to safety and security and generate the perceptions of safety; |

We have reviewed the baseline information collated, together with the outcomes of the IIA undertaken for MTS3 and other information on the specific proposals likely to come forward through each LIP to identify the existing sustainability issues that are relevant.

## 5.2 Alternatives

To meet the requirements of the SEA Regulations, it is also necessary to identify reasonable alternatives to the proposals presented in the LIP, and meaningful comparisons made of the environmental implications of each. Experience tells us that, in the context of LIPs delivering the policies and proposals already identified in the MTS, it can be assumed that the only real reasonable alternative to the LIP proposals is the “do-nothing” scenario. On this basis, we do not propose to develop other alternatives simply for comparison in the SEA.

The proposals set out in the LIP have been identified through a structured appraisal and evaluation of candidate projects. Project ideas were generated through discussion with internal stakeholders, considering the council’s Borough Plan objectives and other related priorities. In parallel, the Council reviewed the transport evidence base identify key issues to be addressed and trends such as clusters of accidents or locations where high traffic speeds were consistently recorded. The public and key stakeholders were also consulted on these matters.

## 5.3 Habitats Regulations Assessment

As well as SEA, the LIP may also require a Habitats Regulations Assessment (HRA), as set out in the Conservation of Habitats and Species Regulations 2010 (as amended) if it is likely to have significant effects on European habitats or species.

Taking note of the reasons for designation of the sites described in **Section 4.11** above, the proximity of these areas in relation to the proposals set out in the LIP, and the characteristics of the proposals, it is concluded that no significant environmental effects on the protected areas that may affect their conservation objectives[16,17, 18] will be likely to arise from implementation of the LIP. On this basis, no further assessment has been undertaken.

[16] Natural England (2014) - **European Site Conservation Objectives for Mole Gap to Reigate Escarpment Special Area of Conservation** - Site Code: UK0012804.

[17] Natural England (2014) - **European Site Conservation Objectives for Richmond Park Special Area of Conservation** - Site Code: UK0030246.

[18] Natural England (2014) - **European Site Conservation Objectives for Wimbledon Common Special Area of Conservation** - Site Code: UK0030301.

## 5.4 SEA Framework Matrices

### 5.4.1 Approach

To evaluate the effects of the LIP, Temple and Steer have used the adapted GLA SEA framework matrix in this section. The 14 Borough Transport Objectives of the LIP are assessed in turn in the matrix tables in this section grouped according to the relevant Mayor's Transport Strategy outcomes they support. Table 5.2 provides a list of the matrices.

**Table 5.2 Summary of SEA Matrices and Croydon LIP objectives**

| SEA Matrix | Category<br>• LIP Objective |
|---|---|
| 1 | **Changing the transport mix - Overarching Borough objectives and goals**<br><br>1. Croydon will reduce reliance on the car for local in-borough car journeys by creating streets and a transport network that prioritises walking, cycling and public transport.<br><br>2. We will reduce the number of local car trips and to ensure that by 2021/22 at least 50% of all journeys made residents are by walking, cycling and public transport. By 2041, 63% of all journeys made by residents are by walking, cycling and public transport. |
| 2 | **Outcome 1: London's streets will be healthy and more Londoners will travel actively**<br><br>3. Croydon will create healthy streets and neighbourhoods that encourage walking and cycling, and where traffic volumes and speeds are low.<br><br>4. Croydon will improve accessibility for pedestrians and cyclists through increased priority at key junctions and reduce severance caused by major roads, railway lines and parks.<br><br>5. Croydon will implement and deliver the network of cycle routes and proposals outlined in the Croydon Cycle Strategy. |
| 3 | **Outcome 2: London's streets will be safe and secure**<br><br>6. Croydon will Croydon will support and deliver the principles of the Vision Zero Action Plan and work towards ensuring we have the safest roads in London with no killed or serious injuries on our roads by 2041 |
| 4 | **Outcome 3: London's streets will be used more efficiently and have less traffic on them**<br><br>7. Croydon will reduce the volume of traffic on our roads and associated congestion through better management of our roads and kerbside space, and by offering pleasant, practical and safe alternatives to private cars and van. |
| 5 | **Outcome 4: London's streets will be clean and green**<br><br>8. Croydon will tackle road based air pollution by reducing traffic volumes, supporting the shift to zero emission vehicles and introducing new green infrastructure |
| 6 | **Outcome 5: The public transport network will meet the needs of a growing London**<br><br>9. Work with the Mayor, TfL, Network Rail, bus operators and TOCs to improve public transport links, reduce overcrowding on the public transport network and ensure Croydon is the best connected Metropolitan Town Centre in Outer London. |

| | |
|---|---|
| 7 | **Outcome 6: Public transport will be safe, affordable and accessible to all**<br><br>10. Work with the Mayor, TfL, Network Rail, bus operators and TOCs to ensure the entire public transport network is accessible, safe and step free |
| 8 | **Outcome 7: Journeys by public transport will be pleasant, fast and reliable**<br><br>11. Work with TfL to introduce additional bus priority measures on key road corridors to improve efficiency and reliability of bus services.<br><br>12. Lobby the TOCs and the DfT to improve performance of train services and reduce gaps in service frequencies |
| 9 | **Outcome 8: Active, efficient and sustainable travel will be the best option in new developments**<br><br>13. Croydon will ensure all new development incorporates the ten Healthy Streets principles into their design, and ensure they are integrated with the local walking and cycling networks as well as public transport. |
| 10 | **Outcome 9: Transport investment will unlock the delivery of new homes and jobs'**<br>14 Work with key partners to increase public transport capacity in the borough to support the creation of new homes and jobs planned over the next two decades, including the extension of the tram to Crystal Palace and the upgrade of Brighton Mainline. |

The likely effects of implementing the LIP have been based on the professional judgements of our SEA team, evidenced by information from the LIP3 MTS Outcomes Borough data pack that was provided to the London Boroughs by TfL. This data pack was based on transport modelling that was completed by TfL to inform the third MTS. The results of this modelling are useful in informing the assessment, given that purpose of the LIP is to implement the MTS is a borough. It should be noted that the results of the modelling cannot be used directly, as it was only conducted at a strategic level, with the purpose of obtaining London-wide results. As such, borough-specific outputs are not available. Furthermore, this modelling takes into account the entire MTS, only some of which may be reflected in the LIP.

Notwithstanding the above, the results of the MTS modelling provide an indication of the likely direction and scale of change expected as a result of the MTS policies. As such, by considering what proportion of the scenario modelled for the MTS is directly related to LIP policies, we gain insights into their potential effects.

This is made easier as various packages were modelled for the MTS, as described in **Table 5.** below. Package A is the reference case, largely reflecting business as usual. Various packages were then modelled on top of this, with each subsequent package being cumulative (so for example, Package C includes the measures in Packages A and B plus some additional measures).

**Table 5.3: Description of packages modelled for the MTS**

| Package | Description |
|---|---|
| Package A: Core reference case | The core reference case includes funded public transport and highway schemes and likely changes in London's land use and economy. It assumes the latest available projections of population and employment from the GLA as well as Government assumptions on changes in the wider economy, and current funded schemes. A scheme list is provided in Appendix 1 and a summary of key schemes is provided below:<br>• Current view of funded National Rail2 schemes, HLOS programme, Thameslink programme, HS2, West Anglia and Great Western improvements.<br>• The opening of the Elizabeth Line in 2019, the Northern Line Extension and Tube upgrades to the Victoria, Jubilee, Northern and Sub Surface Lines.<br>• DLR, Trams, London Overground and bus service improvements.<br>• TfL's Road Modernisation Plan, cycling infrastructure schemes and the introduction by 2020 of the Central London Ultra Low Emission Zone (ULEZ).<br>Wider assumptions have been made about policies relating to aspects such as fares, fuel costs and car parking. |
| Package B: Optimising the network | One of the main challenges identified in the core reference case is continued traffic dominance with highway congestion affecting bus speeds. Package B aims to enhance the existing network through bus priority schemes the reallocation of road space in areas of high place value identified by the Street Types for London. It also includes frequency improvements to some rail services. A summary of key schemes is provided below:<br>• Bus priority schemes, enabling faster journey times in Central London; low emission bus zones; and high frequency links;<br>• 30 trains per hour on the Elizabeth Line;<br>• Some selected National Rail and London Overground improvements;<br>• Tram frequency uplifts; and<br>• 10 to 30 per cent reduction in highway capacity on the highway links with the highest value ('place') as identified in Street Types for London. |
| Package C: Incremental expansion | Crowding on the Tube, Elizabeth Line, DLR, London Overground, Trams and National Rail is a key challenge in the core reference case because funded improvements do not go beyond the mid-2020s and demand for travel will increase. Building upon the improvement schemes included in package B, package C aims to reduce crowding, encourage further mode shift from the car and increase public transport demand. London can also maximise the benefits of National Rail in south London by creating a London Suburban Metro. These schemes represent improvements that require line or track upgrades and new rolling stock but not new rail lines. A summary of key schemes is provided below:<br>• Deep Tube upgrade & World Class Capacity programmes including upgrades to the Bakerloo, Central, Waterloo & City, Piccadilly, Jubilee and Northern Lines;<br>• Creating a London Suburban Metro;<br>• Further National Rail investment including upgrades to West Anglia mainline, Brighton mainline, Chiltern Line and new stations;<br>• 30 trains per hour on the DLR;<br>• London Overground frequency increases; and<br>• Construction of the Silvertown Tunnel and associated bus improvements. |

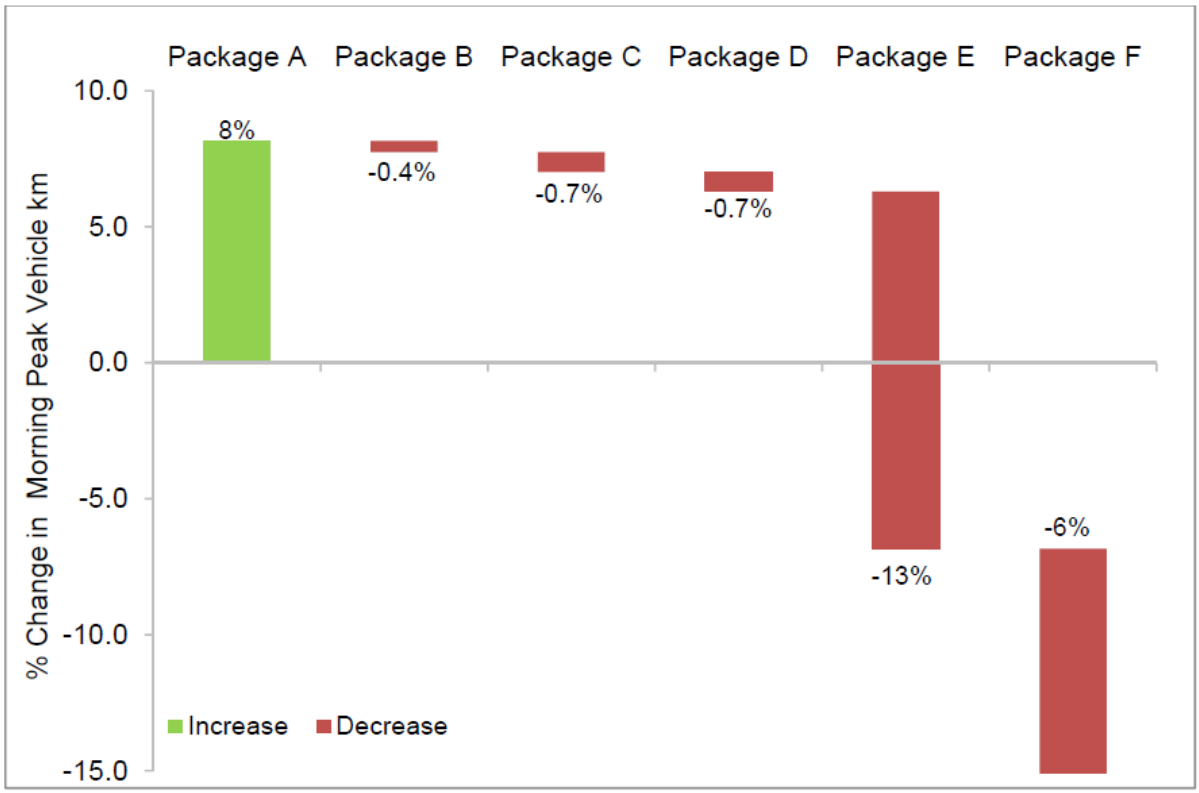
| Package | Description |
|---|---|
| Package D: New connections | New public transport connections are needed to unlock growth in jobs and homes, provide an improved public transport service and reduce crowding. These schemes also support further agglomeration benefits in London's economy. A summary of key schemes is provided below:<br>• Crossrail 2, linking Surrey and Hertfordshire with two new 37 kilometre tunnels from Wimbledon to Tottenham Hale and New Southgate;<br>• Bakerloo Line Extension to Lewisham and beyond;<br>• Elizabeth Line extension to Slade Green;<br>• DLR extensions from Gallions Reach;<br>• London Overground extensions and strategic interchange investment including to Barking Riverside and Abbey Wood, and to Hounslow;<br>• Tram extension from South Wimbledon to Sutton; and<br>• Further bus network development. |
| Package E: Traffic reduction | Package E contains a range of measures to reduce traffic and achieve Healthy Streets for London. A summary of key schemes is provided below:<br>• Further road space reallocation to walking, cycling and bus priority in order to reduce traffic dominance and deliver Healthy Streets for London.<br>• Further increases in parking charges, limits on free commuter parking or a work place parking levy;<br>• Measures to accelerate the rate of car ownership reduction resulting in a quarter of a million fewer cars owned in London; and<br>• Measures to limit the growth of freight traffic, so that HGV traffic does not rise, and van traffic grows only in line with population. |
| Package F: Longer term changes to the way road use is paid for | Changes to the way road use is paid for in the longer term could help achieve an 80 per cent mode share for walking, cycling and public transport. A summary of the illustrative measures included is provided below:<br>• An indicative distance-based charge. The inner London distance-based charge assessed was twice the outer London charge per kilometre; and<br>• Measures to encourage green technology uptake. |

**Source:** Transport for London, Mayor's Transport Strategy: Supporting Evidence Outcomes Summary Report, July 2017

The definitions of the packages are shown in the table below. It can be seen that there are elements in most of the packages that reflect what is contained in the LIP. However, it is Package E that is most closely related to what is proposed in the LIP. As such, whilst recognising that this is a simplistic approach, examining the marginal impact that Package E has provides a rough indication of the potential direction and magnitude of the impact of the LIP.

**Figure 5.1** shows that on a London-wide basis, Package E accounts for a large proportion of the overall reduction of vehicle-kilometres travelled in the morning peak hour. As such, it is likely that the policies in the Croydon LIP are likely to result in a significant decrease in vehicle-kilometres travelled.

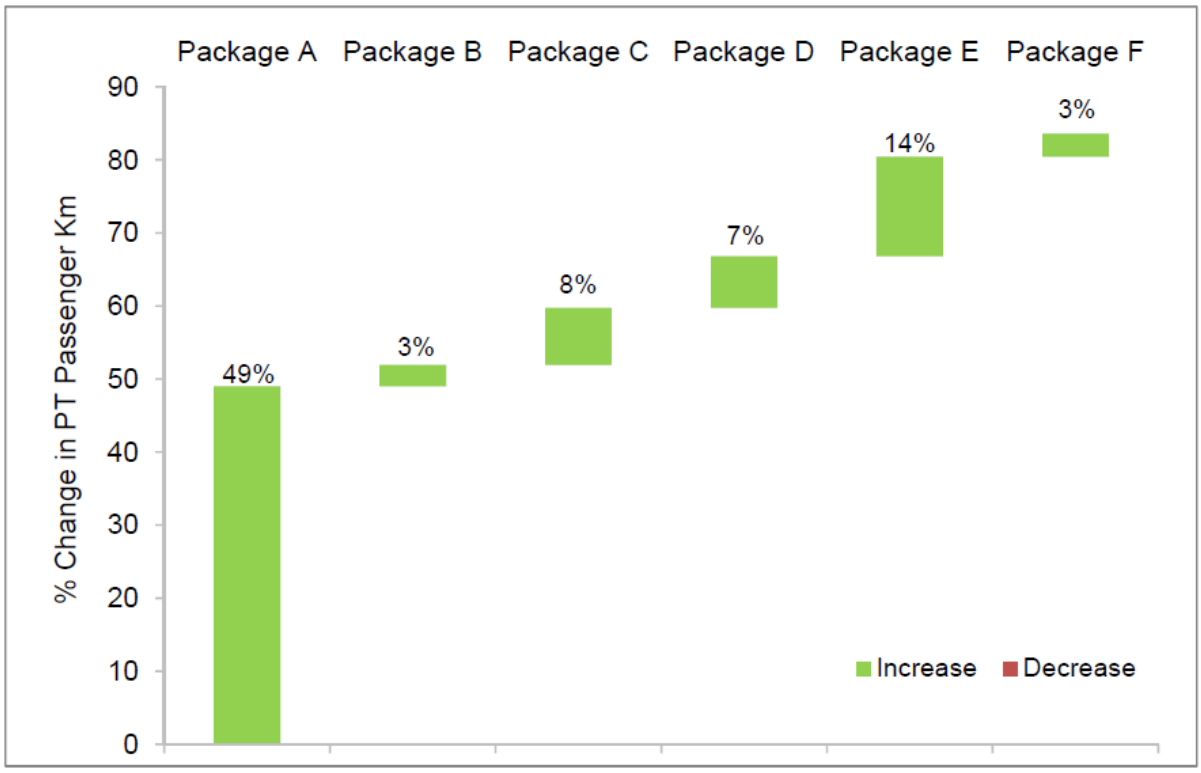
**Figure 5.1: Change in London morning peak hour vehicle kilometres, 2015 to 2041 for packages A to F**




**Source:** Transport for London (2017) -, Mayor's Transport Strategy: Supporting Evidence Outcomes Summary Report, July 2017

For public transport use, **Figure 5.2** below shows that the expected London-wide increase is primarily associated with Package A. However, Package E is expected to further increase public transport use, albeit by a smaller amount. This indicates that the policies in the Croydon LIP are likely to result in an increase in public transport usage.

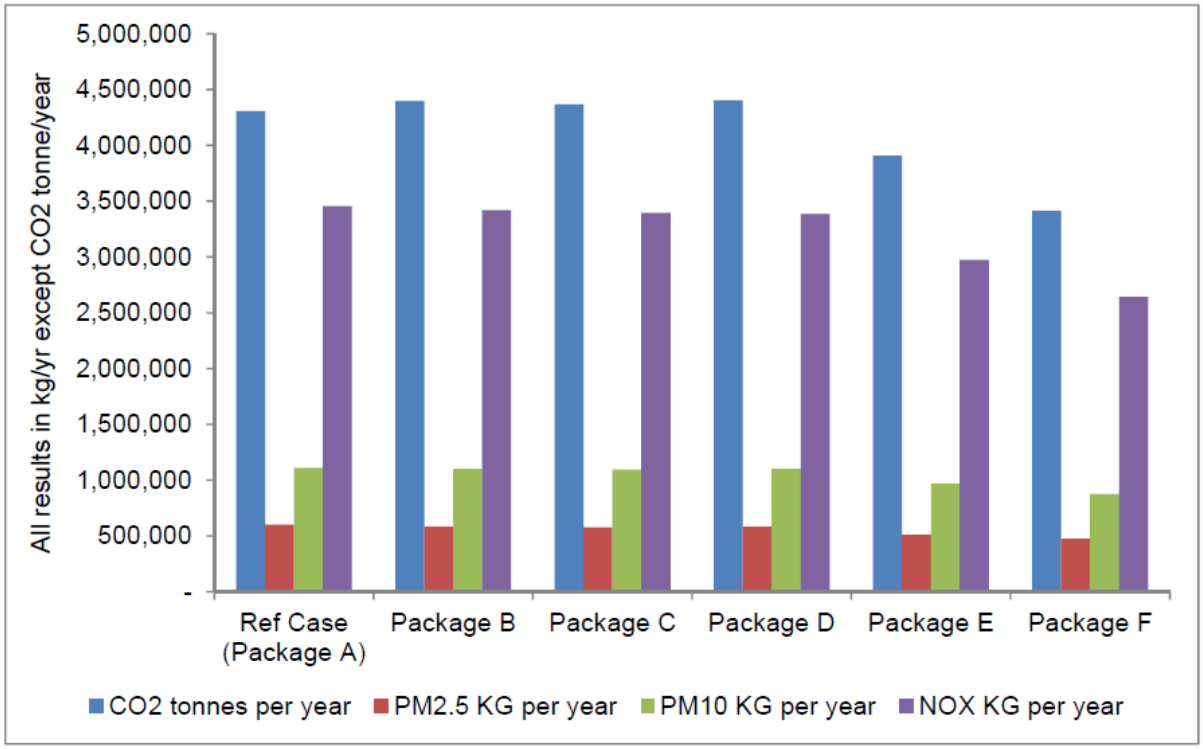
**Figure 5.2: Change in 12-hour public transport passenger kilometres, 2015 to 2041 for packages A to F**




**Source:** Transport for London (2017) - Mayor's Transport Strategy: Supporting Evidence Outcomes Summary Report, July 2017

In terms of greenhouse gas and local air pollutant emissions from transport, **Figure 5.3** below shows that there is a noticeable decrease between Package D and Package E, which shows that the marginal impact of Package E is positive. However, this should be viewed in the context of a very large reduction between the existing situation and Package A, primarily due to factors such as technological changes. As such, relative to the existing situation, the marginal emission reductions due to Package E are very small. This means that the impacts of the policies in the Croydon. LIP are likely to the positive in this regard, however at a very small scale when compared to the existing situation.

**Figure 5.3: $CO_2$, $PM_{2.5}$, $PM_{10}$ and $NO_X$ emissions from road-based transport, 2041 for packages A to F**




**Source:** Transport for London (2017) - Mayor's Transport Strategy: Supporting Evidence Outcomes Summary Report, July 2017

In the SEA framework matrix, effects have been evaluated using the scale set out in **Table 5.4**.

**Table 5.4: Scale to be used for Evaluation of Environmental Effects in the SEA**

| Scale of effect | | Definition |
|---|---|---|
| + + | Major positive effect | Strategy/LIP contributes greatly towards achieving the SEA objective/Significant Effect |
| + | Minor positive effect | Strategy/LIP contributes to achieving the SEA objective |
| 0 | Neutral or no effect | Strategy/LIP does not impact upon the achievement of the SEA objective |
| - | Minor negative effect | Strategy/LIP conflicts with the SEA objective |
| - - | Major negative effect | Strategy/LIP greatly hinders or prevents the achievement of the SEA objective/Significant Effect |
| ? | Uncertain | Strategy/LIP can have positive or negative effects but the level of information available at a time of assessment does not allow a clear judgement to be made |

### 5.4.2 Matrix 1: LIP Objectives: Changing the transport mix - Overarching Borough objectives and goals

**Table 5.5: SEA Matrix 1: Changing the transport mix - Overarching Borough objectives and goals**

**LIP Objectives: 1. Croydon will reduce reliance on the car for local in-borough car journeys by creating streets and a transport network that prioritises walking, cycling and public transport. 2. We will reduce the number of local car trips and to ensure that by 2021/22 at least 50% of all journeys made residents are by walking, cycling and public transport. By 2041, 63% of all journeys made by residents are by walking, cycling and public transport.**

| **Topic** | **Objective** | **Assessment guide questions** | **LIP Objectives** Changing the transport mix - Overarching Borough objectives and goals | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| Air Quality | To reduce emissions and concentrations of harmful atmospheric pollutants, particularly in areas of poorest air quality, and reduce exposure | Will it help to reduce emissions of priority pollutants (e.g. $PM_{10}$, $NO_x$, $NO_2$)? | Implementation of measures aiming to reduce the volume of traffic, encourage healthier lifestyles and active travel will help to reduce growth in emissions. | + | None required |
| | | Will it help to achieve national and international standards for air quality? | Measures will contribute to the reduction of emission of priority pollutants. However, it is unlikely that the reduction will be significant at the national level in addition to effects of changes in vehicle technology and other MTS policies. | 0 | None required |
| | | Will it reduce the number of people exposed to poor air quality, particularly for vulnerable communities and 'at risk' groups? | Proposed measures to encorage mode shift and reduce reliance on cars are likely to improve air quality conditions and benefit vulnerable communities. | + | None required |

| **Topic** | **Objective** | **Assessment guide questions** | **LIP Objectives** Changing the transport mix - Overarching Borough objectives and goals | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it result in air quality changes which negatively impact the health of the public? | No negative effects from these measures. | 0 | None required |
| | | Will it reduce the number of premature deaths caused by poor air quality? | Although the objective will have positive impacts on air quality, it is difficult to draw direct conclusions relating to premature deaths. | 0 | None required |
| | | Will it improve air quality around areas which may have high concentrations of vulnerable people such as schools, outdoor play areas, care homes and hospitals? | Measures to encorage mode shift and reduce reliance on cars will contribute to a reduction of emission of priority pollutants and improvements on local air quality, including schools, outdoor play areas, care homes and hospitals. However it is unlikely that the reduction will be significant in addition to effects of changes in vehicle technology and other MTS policies. | + | None required |
| Attractive neighbourhoods | To create attractive, mixed use neighbourhoods, ensuring new buildings and spaces are appropriately designed that promote and enhance existing | Will it protect and enhance the character, integrity and liveability of key streetscapes and townscapes, including removing barriers to use? | Traffic reduction measures along with a greater emphasis on walking, cycling, public transport and urban realm will positively impact these factors. | + | None required |

| **Topic** | **Objective** | **Assessment guide questions** | **LIP Objectives** Changing the transport mix - Overarching Borough objectives and goals | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | sense of place and distinctiveness, reducing the need to travel by motorised transport. | Will it improve the use of the urban public realm by improving its attractiveness and access? | Traffic reduction measures along with a greater emphasis on walking, cycling, public transport and urban realm will positively impact these factors | + | None required |
| Climate change adaptation | To ensure London adapts and becomes more resilient to the impacts of climate change and extreme weather events such as flood, drought and heat risks | Will it protect London from climate change impacts? | Proposed measures will not lead to physical changes to protect London from climate change. | 0 | None required |
| | | Will it help London function during extreme weather events (e.g. heat, drought, flood) without impacts on human health and/or well-being? | Proposed measures will not lead to physical changes to protect London from climate change. | 0 | None required |
| | | Will it reduce health inequalities and impacts on vulnerable groups / communities and at-risk groups? | Proposed measures will not lead to physical changes to protect London from climate change. | 0 | None required |
| | | Will it improve access to services during severe weather events? | Proposed measures will not affect access to services during severe weather. | 0 | None required |
| | | Will it reduce exposure to heat during heatwaves? | Measures are unlikely to have any direct effect in this respect. | 0 | Not required |
| | | Will it enable those vulnerable during severe weather events to recover? | Not applicable | 0 | Not required |

| **Topic** | **Objective** | **Assessment guide questions** | **LIP Objectives** Changing the transport mix - Overarching Borough objectives and goals | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| Climate change mitigation | To help tackle climate change through reducing greenhouse gas emissions and moving towards a zero carbon London by 2050 | Will it help reduce emissions of greenhouse gases (including from transport), and help London meet its emission targets? | Measures will contribute to the reduction of GHG through mode shift, although not to a significant extent. | 0 | None required |
| | | Will it reduce health inequalities and impacts on more vulnerable communities and at-risk groups | Measures are unlikely to have any direct effect in this respect. | + | None required |
| Energy use and supply | To manage and reduce demand for energy, achieve greater energy efficiency, utilise new and existing energy sources effectively, and ensure a resilient smart and affordable energy system | Will it reduce the demand and need for energy, whilst not leading to overheating? | Not applicable | 0 | None required |
| | | Will it promote and improve energy efficiency in transport, homes, schools, hospitals and other public buildings? | Measures contribute to improvement in energy efficiency in transport but overall are unlikely to contribute to significant reductions in demand for energy. | + | None required |
| | | Will it increase the proportion of energy both purchased and generated from renewable and sustainable sources? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it encourage uptake of green/cleaner fuels and renewable energy provision across all transport providers and private cars? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |

| **Topic** | **Objective** | **Assessment guide questions** | **LIP Objectives** Changing the transport mix - Overarching Borough objectives and goals | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it provide infrastructure to make a better use of renewable energy sources? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it reduce health inequalities and impacts of fuel poverty on vulnerable communities and at-risk groups? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| Fairness and inclusivity | To make London a fair and inclusive city where every person is able to participate, reducing inequality and disadvantage and addressing the diverse needs of the population. | Will it enable deficiencies of access to facilities to be positively addressed? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| Historic Environment | To conserve and enhance the existing historic environment, including sites, features, landscapes and areas of historical, architectural, archaeological and cultural value in relation to their significance and their settings. | Will it protect and enhance sites, features and areas of historical, archaeological and cultural value/potential? | Traffic reduction measures along with a greater emphasis on walking, cycling, public transport and urban realm will positively impact these factors. | + | None required |
| | | Will it improve the wider historic environment and sense of place? | Traffic reduction measures along with a greater emphasis on walking, cycling, public transport and urban realm will positively impact these factors. | + | None required |

| **Topic** | **Objective** | **Assessment guide questions** | **LIP Objectives** Changing the transport mix - Overarching Borough objectives and goals | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it protect and enhance the historic environment, including removing barriers to use from vulnerable communities and at-risk groups? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it protect and enhance valued/important historic environment and streetscape settings through inclusive design and management? | Traffic reduction measures along with a greater emphasis on walking, cycling, public transport and urban realm will positively impact these factors | + | None required |
| Mental and physical Wellbeing | To improve the mental and physical health and wellbeing of Londoners and to reduce health inequalities across the city and between communities. | Will it improve connectivity to key services by promoting active modes of transport, thereby helping to reduce emissions from road transport | Measures will promote active travel and modal shift. | + | None required |
| | | Will it help to reduce health inequalities and their key contributory factors for all Londoners? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it reduce at risk and vulnerable groups' exposure to poor air quality? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it reduce flooding, heat and drought risk for at risk and vulnerable communities? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |

| **Topic** | **Objective** | **Assessment guide questions** | **LIP Objectives** Changing the transport mix - Overarching Borough objectives and goals | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it improve access to greenspaces for recreational and health benefits? | Measures will promote active travel and modal shift. | + | None required |
| | | Will it help to reduce the number of people dying prematurely from preventable causes such as extreme heat and poor air quality? | Traffic reduction measures along with a greater emphasis on walking, cycling, public transport and urban realm will positively impact these factors but not in a significant way | 0 | None required |
| Natural Capital and Natural Environment | To protect, connect and enhance London's natural capital (including important habitats, species and landscapes) and the services and benefits it provides, delivering a net positive outcome for biodiversity | Will it enhance the potential for the green space network to provide ecosystem services? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it protect and improve the quality and extent of sites of importance for nature conservation and help restore wildlife habitats? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it provide opportunities to enhance the natural environment or restore wildlife habitats? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it protect and enhance the biodiversity of the region's waterbodies to achieve a good ecological status? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |

| **Topic** | **Objective** | **Assessment guide questions** | **LIP Objectives** Changing the transport mix - Overarching Borough objectives and goals | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it increase the planting of green roofs, green walls and soft landscaping? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it create better access to green space to enhance mental and physical health benefits for all Londoners, particularly those with existing mental health conditions? | Traffic reduction measures along with a greater emphasis on walking, cycling, public transport and urban realm will positively impact these factors. | + | None required |
| | | Will it result in a greener public realm that can enhance mental health benefits? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| Noise and vibration | To minimise noise and vibration levels and disruption to people and communities across London and reduce inequalities in exposure | Will it improve access to quiet and tranquil places for all? | Traffic reduction measures along with a greater emphasis on walking, cycling, public transport and urban realm will positively impact these factors | + | None required |
| | | Will reduce levels of noise generated? | Traffic reduction measures along with a greater emphasis on walking, cycling will help reduce the generated level of noise. | + | None required |
| | | Will it reduce inequalities in exposure to ambient noise? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |

| Topic | Objective | Assessment guide questions | **LIP Objectives** Changing the transport mix - Overarching Borough objectives and goals | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it protect vulnerable groups at risk from impacts of noise pollution? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it reduce night time noise in residential areas? | Traffic reduction measures along with a greater emphasis on walking, cycling may help reduce night time noise, but not to a significant extent.. | + | None required |
| | | Will it reduce the number of people exposed to high levels of noise with the potential to cause annoyance, sleep disturbance or physiological effects? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| Safety and security | To contribute to safety and security and generate the perceptions of safety; | Will it promote the design and management of green spaces that helps to reduce crime and anti-social behaviour? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |

### 5.4.3 Matrix 2: LIP Objectives - Outcome 1: London's streets will be healthy and more Londoners will travel actively

**Table 5.6: SEA Matrix 2 LIP Objectives for Outcome 1: London's streets will be healthy and more Londoners will travel actively**

**LIP Objectives: 3. Croydon will create healthy streets and neighbourhoods that encourage walking and cycling, and where traffic volumes and speeds are low. 4. Croydon will improve accessibility for pedestrians and cyclists through increased priority at key junctions and reduce severance caused by major roads, railway lines and parks. 5. Croydon will implement and deliver the network of cycle routes and proposals outlined in the Croydon Cycle Strategy.**

| Topic | **Objective** | **Assessment guide questions** | **LIP Objectives** Outcome 1: London's streets will be healthy and more Londoners will travel actively | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| Air Quality | To reduce emissions and concentrations of harmful atmospheric pollutants, particularly in areas of poorest air quality, and reduce exposure | Will it help to reduce emissions of priority pollutants (e.g. $PM_{10}$, $NO_x$, $NO_2$)? | Implementation of measures aiming to improve accessiblity and encourage active travel will help reduce growth in emissions. | + | None required |
| | | Will it help to achieve national and international standards for air quality? | Measures will contribute to the reduction of emission of priority pollutants. However, it is unlikely that the reduction will be significant at the national level in addition to effects of changes in vehicle technology and other MTS policies. | 0 | None required |
| | | Will it reduce the number of people exposed to poor air quality, particularly for vulnerable communities and 'at risk' groups? | Encouraging active travel, along with the creation of healthy streets, is likely to improve local air quality conditions and benefit vulnerable communities. | + | The scheme design should consider exposure reduction measures |
| | | Will it result in air quality changes which negatively impact the health of the public? | No negative effects from these measures. | 0 | None required |
| | | Will it reduce the number of premature deaths caused by poor air quality? | Although the objective will have positive impacts on air quality, it is difficult to draw direct conclusions relating to premature deaths. | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objectives** Outcome 1: London's streets will be healthy and more Londoners will travel actively | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it improve air quality around areas which may have high concentrations of vulnerable people such as schools, outdoor play areas, care homes and hospitals? | Measures encouraging walking and cycling and the creation of healthy streets will contribute to a reduction of emission of priority pollutants and improvements on local air quality, including schools, outdoor play areas, care homes and hospitals. However it is unlikely that the reduction will be significant in addition to effects of changes in vehicle technology and other MTS policies. | + | None required |
| Attractive neighbourhoods | To create attractive, mixed use neighbourhoods, ensuring new buildings and spaces are appropriately designed that promote and enhance the existing sense of place and distinctiveness, reducing the need to travel by motorised transport. | Will it protect and enhance the character, integrity and liveability of key streetscapes and townscapes, including removing barriers to use? | Public realm improvements at key locations, creating new walking and cycling routes and improved accessibility for pedestrian and cyclists, along with the creation of healthy streets and neighbourhoods will positively impact key streetscapes and townscapes. | ++ | None required |
| | | Will it improve the use of the urban public realm by improving its attractiveness and access? | Public realm improvements at key locations, creating new walking and cycling routes and improved accessibility for pedestrian and cyclists, along with the creation of healthy streets and neighbourhoods will positively impact key streetscapes and townscapes. | ++ | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objectives** Outcome 1: London's streets will be healthy and more Londoners will travel actively | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| Climate change adaptation | To ensure London adapts and becomes more resilient to the impacts of climate change and extreme weather events such as flood, drought and heat risks | Will it protect London from climate change impacts? | Proposed measures will not lead to physical changes to protect London from climate change. | 0 | None required |
| | | Will it help London function during extreme weather events (e.g. heat, drought, flood) without impacts on human health and/or well-being? | Proposed measures will not lead to physical changes to protect London from climate change. | 0 | None required |
| | | Will it reduce health inequalities and impacts on vulnerable groups / communities and at-risk groups? | Proposed measures will not lead to physical changes to protect London from climate change. | 0 | None required |
| | | Will it improve access to services during severe weather events? | Proposed measures will not lead to physical changes to improve access to services during extreme weather events. | 0 | None required |
| | | Will it reduce exposure to heat during heatwaves? | Proposed measures will not lead to physical changes to improve access to services during heatwaves. | 0 | None required |
| | | Will it enable those vulnerable during severe weather events to recover? | Not applicable | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objectives** Outcome 1: London's streets will be healthy and more Londoners will travel actively | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| Climate change mitigation | To help tackle climate change through reducing greenhouse gas emissions and moving towards a zero carbon London by 2050 | Will it help reduce emissions of greenhouse gases (including from transport), and help London meet its emission targets? | Measures will contribute to the reduction of GHG through mode shift and active travel, although not to a significant extent. | 0 | None required |
| | | Will it reduce health inequalities and impacts on more vulnerable communities and at-risk groups | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| Energy use and supply | To manage and reduce demand for energy, achieve greater energy efficiency, utilise new and existing energy sources effectively, and ensure a resilient smart and affordable energy system | Will it reduce the demand and need for energy, whilst not leading to overheating? | Not applicable | 0 | None required |
| | | Will it promote and improve energy efficiency in transport, homes, schools, hospitals and other public buildings? | Measures contribute to improvement in energy efficiency in transport but overall are unlikely to contribute to significant reductions in demand for energy. | + | None required |
| | | Will it increase the proportion of energy both purchased and generated from renewable and sustainable sources? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it encourage uptake of green/cleaner fuels and renewable energy provision across all transport providers and private cars? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objectives** Outcome 1: London's streets will be healthy and more Londoners will travel actively | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it provide infrastructure to make a better use of renewable energy sources? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it reduce health inequalities and impacts of fuel poverty on vulnerable communities and at-risk groups? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| Fairness and inclusivity | To make London a fair and inclusive city where every person is able to participate, reducing inequality and disadvantage and addressing the diverse needs of the population. | Will it enable deficiencies of access to facilities to be positively addressed? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| Historic Environment | To conserve and enhance the existing historic environment, including sites, features, landscapes and areas of historical, architectural, archaeological and cultural value in relation to their significance and their settings. | Will it protect and enhance sites, features and areas of historical, archaeological and cultural value/potential? | Implementation of measures aiming to improve accessibility and encourage active travel will positively impact these factors | + | None required |
| | | Will it improve the wider historic environment and sense of place? | Implementation of measures aiming to improve accessibility and encourage active travel will positively impact these factors | + | None required |
| | | Will it protect and enhance the historic environment, including removing barriers to use from vulnerable communities and at-risk groups? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objectives** Outcome 1: London's streets will be healthy and more Londoners will travel actively | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it protect and enhance valued/important historic environment and streetscape settings through inclusive design and management? | Implementation of measures aiming to improve accessibility and encourage active travel will positively impact these factors | + | None required |
| Mental and physical Wellbeing | To improve the mental and physical health and wellbeing of Londoners and to reduce health inequalities across the city and between communities. | Will it improve connectivity to key services by promoting active modes of transport, thereby helping to reduce emissions from road transport | Public realm improvements at key locations, including improved accessibility for pedestrian and cyclists, along with the creation of healthy streets and neighbourhoods that encourage walking and cycling will improve connectivity to key services by promotive active modes of transport. | ++ | None required |
| | | Will it help to reduce health inequalities and their key contributory factors for all Londoners? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it reduce at risk and vulnerable groups' exposure to poor air quality? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it reduce flooding, heat and drought risk for at risk and vulnerable communities? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objectives** Outcome 1: London's streets will be healthy and more Londoners will travel actively | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it improve access to greenspaces for recreational and health benefits? | Public realm improvements at key locations, including improved accessibility for pedestrian and cyclists, along with the creation of healthy streets and neighbourhoods that encourage walking and cycling will improve access to greenspaces. | ++ | None required |
| | | Will it help to reduce the number of people dying prematurely from preventable causes such as extreme heat and poor air quality? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| Natural Capital and Natural Environment | To protect, connect and enhance London's natural capital (including important habitats, species and landscapes) and the services and benefits it provides, delivering a net positive outcome for biodiversity | Will it enhance the potential for the green space network to provide ecosystem services? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it protect and improve the quality and extent of sites of importance for nature conservation and help restore wildlife habitats? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it provide opportunities to enhance the natural environment or restore wildlife habitats? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objectives** Outcome 1: London's streets will be healthy and more Londoners will travel actively | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it protect and enhance the biodiversity of the region's waterbodies to achieve a good ecological status? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it increase the planting of green roofs, green walls and soft landscaping? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it create better access to green space to enhance mental and physical health benefits for all Londoners, particularly those with existing mental health conditions? | Improved access and reduction of the severance caused by major roads, railway lines will positively contribute | + | None required |
| | | Will it result in a greener public realm that can enhance mental health benefits? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| Noise and vibration | To minimise noise and vibration levels and disruption to people and communities across London and reduce inequalities in exposure | Will it improve access to quiet and tranquil places for all? | Implementation of measures aiming to improve accessibility and encourage active travel will help improve access to quiet and tranquil places for all. | + | None required |
| | | Will reduce levels of noise generated? | Implementation of measures aiming to improve accessibility and encourage active travel will help reduce the generated level of noise, although not to a significant extent. | + | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objectives** Outcome 1: London's streets will be healthy and more Londoners will travel actively | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it reduce inequalities in exposure to ambient noise? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it protect vulnerable groups at risk from impacts of noise pollution? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it reduce night time noise in residential areas? | Implementation of measures aiming to improve accessibility and encourage active travel will help reduce the night time noise, although not to a significant extent. | + | None required |
| | | Will it reduce the number of people exposed to high levels of noise with the potential to cause annoyance, sleep disturbance or physiological effects? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| Safety and security | To contribute to safety and security and generate the perceptions of safety; | Will it promote the design and management of green spaces that helps to reduce crime and anti-social behaviour? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |

### 5.4.4 Matrix 3: LIP Objectives - Outcome 2: London's streets will be safe and secure

**Table 5.7: SEA Matrix 3 LIP Objectives: Outcome 2: London's streets will be safe and secure**

**LIP Objective 6: Croydon will support and deliver the principles of the Vision Zero Action Plan and work towards ensuring we have the safest roads in London with no killed or serious injuries on our roads by 2041.**

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective** Outcome 2: London's streets will be safe and secure | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| Air Quality | To reduce emissions and concentrations of harmful atmospheric pollutants, particularly in areas of poorest air quality, and reduce exposure | Will it help to reduce emissions of priority pollutants (e.g. $PM_{10}$, $NO_x$, $NO_2$)? | The impact of the measures is likely to be neutral.significant | 0 | Implementation of the measures should consider local circumstances and employ relevant mitigation measures when required |
| | | Will it help to achieve national and international standards for air quality? | The measures will be implemented locally and unlikely will have a significant impact on this achievement of national or international air quality standards | 0 | None required |
| | | Will it reduce the number of people exposed to poor air quality, particularly for vulnerable communities and 'at risk' groups? | Not applicable. | - | Implementation of the measures should consider local circumstances and employ relevant mitigation measures when required |
| | | Will it result in air quality changes which negatively impact the health of the public? | It is unlikely the measures will have a significant negative impact on this. | 0 | None required |
| | | Will it reduce the number of premature deaths caused by poor air quality? | The impact of the proposed measures are unlikely contribute directly to this. | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective** Outcome 2: London's streets will be safe and secure | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it improve air quality around areas which may have high concentrations of vulnerable people such as schools, outdoor play areas, care homes and hospitals? | Depends on local circumstances, the measures might lead to increase in exposure to poor air quality | - | Implementation of the measures should consider local circumstances and employ relevant mitigation measures when required. |
| Attractive neighbourhoods | To create attractive, mixed use neighbourhoods, ensuring new buildings and spaces are appropriately designed that promote and enhance existing sense of place and distinctiveness, reducing the need to travel by motorised transport. | Will it protect and enhance the character, integrity and liveability of key streetscapes and townscapes, including removing barriers to use? | The delivery of Vision Zero Action Plan and measures to improve road safety will have a positive impact on removing barrier to use of keystreetscapes and townscapes. | + | None required |
| | | Will it improve the use of the urban public realm by improving its attractiveness and access? | The implementation of the measures will positively contribute to this. | + | None required |
| Climate change adaptation | To ensure London adapts and becomes more resilient to the impacts of climate change and extreme weather events such as flood, drought and heat risks | Will it protect London from climate change impacts? | Measures will not lead to physical changes/ adaptation to climate change. | 0 | None required |
| | | Will it help London function during extreme weather events (e.g. heat, drought, flood) without impacts on human health and/or well-being? | Measures will not lead to physical changes/ adaptation to climate change. | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective** Outcome 2: London's streets will be safe and secure | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it reduce health inequalities and impacts on vulnerable groups / communities and at-risk groups? | Measures is not likely to have any direct impact on health inequalities. | 0 | None required |
| | | Will it improve access to services during severe weather events? | Measures is not likely to have any direct impact on health inequalities | 0 | None required |
| | | Will it reduce exposure to heat during heatwaves? | Measures is not likely to have any direct impact on this. | 0 | None required |
| | | Will it enable those vulnerable during severe weather events to recover? | Measures is unlikely to support a recovery of those vulnerable during severe weather. | 0 | None required. |
| Climate change mitigation | To help tackle climate change through reducing greenhouse gas emissions and moving towards a zero carbon London by 2050 | Will it help reduce emissions of greenhouse gases (including from transport), and help London meet its emission targets? | Measures is not likely to have any direct impact on this. | 0 | None required |
| | | Will it reduce health inequalities and impacts on more vulnerable communities and at-risk groups | Measures is not likely to have any direct impact on this. | 0 | None required |
| Energy use and supply | To manage and reduce demand for energy, achieve greater energy efficiency, utilise new and | Will it reduce the demand and need for energy, whilst not leading to overheating? | The measure is unlikely to have any direct effect in this respect. | 0 | None required. |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective** Outcome 2: London's streets will be safe and secure | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | existing energy sources effectively, and ensure a resilient smart and affordable energy system | Will it promote and improve energy efficiency in transport, homes, schools, hospitals and other public buildings? | The measure is unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it increase the proportion of energy both purchased and generated from renewable and sustainable sources? | The measure is unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it encourage uptake of green/cleaner fuels and renewable energy provision across all transport providers and private cars? | The measure is unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it provide infrastructure to make a better use of renewable energy sources? | The measure is unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it reduce health inequalities and impacts of fuel poverty on vulnerable communities and at-risk groups? | The measure is unlikely to have any direct effect in this respect. | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective** Outcome 2: London's streets will be safe and secure | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| Fairness and inclusivity | To make London a fair and inclusive city where every person is able to participate, reducing inequality and disadvantage and addressing the diverse needs of the population. | Will it enable deficiencies of access to facilities to be positively addressed? | Measures to improve road safety will positively contribute to this. | ++ | None required |
| Historic Environment | To conserve and enhance the existing historic environment, including sites, features, landscapes and areas of historical, architectural, archaeological and cultural value in relation to their significance and their settings. | Will it protect and enhance sites, features and areas of historical, archaeological and cultural value/potential? | Measures will positively contribute this, although not to a significant extent. | + | None required. |
| | | Will it improve the wider historic environment and sense of place? | Measures will positively contribute this r, although not to a significant extent. | + | None required |
| | | Will it protect and enhance the historic environment, including removing barriers to use from vulnerable communities and at-risk groups? | Measures will positively contribute this. | + | None required. |
| | | Will it protect and enhance valued/important historic environment and streetscape settings through inclusive design and management? | Measures will positively contribute this. | + | None required. |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective** Outcome 2: London's streets will be safe and secure | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| Mental and physical Wellbeing | To improve the mental and physical health and wellbeing of Londoners and to reduce health inequalities across the city and between communities. | Will it improve connectivity to key services by promoting active modes of transport, thereby helping to reduce emissions from road transport | Measures will positively contribute this. | + | None required. |
| | | Will it help to reduce health inequalities and their key contributory factors for all Londoners? | The measure unlikely to have direct impacts on this, | 0 | None required |
| | | Will it reduce at risk and vulnerable groups' exposure to poor air quality? | Measures unlikely to have direct impacts on this. . | 0 | None required. |
| | | Will it reduce flooding, heat and drought risk for at risk and vulnerable communities? | Measures unlikely to have direct impacts on this. | 0 | None required. |
| | | Will it improve access to greenspaces for recreational and health benefits? | Measures will positively contribute to this.. | + | Measures focused on areas near to greenspace. |
| | | Will it help to reduce the number of people dying prematurely from preventable causes such as extreme heat and poor air quality? | Measures unlikely to have direct impacts on this. | 0 | None required. |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective** Outcome 2: London's streets will be safe and secure | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| Natural Capital and Natural Environment | To protect, connect and enhance London's natural capital (including important habitats, species and landscapes) and the services and benefits it provides, delivering a net positive outcome for biodiversity | Will it enhance the potential for the green space network to provide ecosystem services? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it protect and improve the quality and extent of sites of importance for nature conservation and help restore wildlife habitats? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it provide opportunities to enhance the natural environment or restore wildlife habitats? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it protect and enhance the biodiversity of the region's waterbodies to achieve a good ecological status? | Measures unlikely to have direct impacts on this. | 0 | None required. |
| | | Will it increase the planting of green roofs, green walls and soft landscaping? | Measures unlikely to have direct impacts on this. | 0 | None required. |
| | | Will it create better access to green space to enhance mental and physical health benefits for all Londoners, particularly those with existing mental health conditions? | Measures unlikely to have direct impacts on this. | 0 | None required. |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective** Outcome 2: London's streets will be safe and secure | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it result in a greener public realm that can enhance mental health benefits? | Measures unlikely to have direct impacts on this. | 0 | None required. |
| Noise and vibration | To minimise noise and vibration levels and disruption to people and communities across London and reduce inequalities in exposure | Will it improve access to quiet and tranquil places for all? | Measures will positively contribute to this.. | + | None required. |
| | | Will reduce levels of noise generated? | Measures unlikely to have direct impacts on this. | 0 | None required. |
| | | Will it reduce inequalities in exposure to ambient noise? | Measures unlikely to have direct impacts on this. | 0 | None required. |
| | | Will it protect vulnerable groups at risk from impacts of noise pollution? | Measures unlikely to have direct impacts on this. | 0 | None required. |
| | | Will it reduce night time noise in residential areas? | Measures unlikely to have direct impacts on this. | 0 | None required. |
| | | Will it reduce the number of people exposed to high levels of noise with the potential to cause annoyance, sleep disturbance or physiological effects? | Measures unlikely to have direct impacts on this. | 0 | None required. |
| Safety and security | To contribute to safety and security and generate the perceptions of safety; | Will it promote the design and management of green spaces that helps to reduce crime and anti-social behaviour? | Measures unlikely to have direct impacts on this. | 0 | |

### 5.4.5 Matrix 4: LIP Objectives - Outcome 3: London's streets will be used more efficiently and have less traffic on them

**Table 5.8: SEA Matrix 4 LIP Objectives - Outcome 3: London's streets will be used more efficiently and have less traffic on them**

**LIP Objective 7: Croydon will reduce the volume of traffic on our roads and associated congestion through better management of our roads and kerbside space, and by offering pleasant, practical and safe alternatives to private cars and vans**

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective** Outcome 3: London's streets will be used more efficiently and have less traffic on them | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| Air Quality | To reduce emissions and concentrations of harmful atmospheric pollutants, particularly in areas of poorest air quality, and reduce exposure | Will it help to reduce emissions of priority pollutants (e.g. $PM_{10}$, $NO_x$, $NO_2$)? | Measures to reduce road traffic will positively contribute to this matter. | + | None required |
| | | Will it help to achieve national and international standards for air quality? | Measures to reduce road traffic will positively contribute to this.. | + | None required |
| | | Will it reduce the number of people exposed to poor air quality, particularly for vulnerable communities and 'at risk' groups? | Measures to reduce road traffic will positively contribute to this. | + | None required |
| | | Will it result in air quality changes which negatively impact the health of the public? | Measures will not have a negative impact on health. | 0 | None required |
| | | Will it reduce the number of premature deaths caused by poor air quality? | Measures are not likely to be sufficiently great to reduce the number of people exposed to poor air quality. | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective** Outcome 3: London's streets will be used more efficiently and have less traffic on them | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it improve air quality around areas which may have high concentrations of vulnerable people such as schools, outdoor play areas, care homes and hospitals? | Measures to reduce road traffic will positively contribute to this.. | + | None required |
| Attractive neighbourhoods | To create attractive, mixed use neighbourhoods, ensuring new buildings and spaces are appropriately designed that promote and enhance existing sense of place and distinctiveness, reducing the need to travel by motorised transport. | Will it protect and enhance the character, integrity and liveability of key streetscapes and townscapes, including removing barriers to use? | Measures will positively contribute to this matter. | + | None required |
| | | Will it improve the use of the urban public realm by improving its attractiveness and access? | Measures will positively contribute to this matter. | + | None required |
| Climate change adaptation | To ensure London adapts and becomes more resilient to the impacts of climate change and extreme weather events such as flood, drought and heat risks | Will it protect London from climate change impacts? | Measures will positively contribute to this matter. | + | None required |
| | | Will it help London function during extreme weather events (e.g. heat, drought, flood) without impacts on human health and/or well-being? | The proposed measure are unlikely to have direct impacts on this. | 0 | None required |
| | | Will it reduce health inequalities and impacts on vulnerable groups / communities and at-risk groups? | The proposed measure are unlikely to have direct impacts on this. | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective** Outcome 3: London's streets will be used more efficiently and have less traffic on them | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it improve access to services during severe weather events? | The proposed measure are unlikely to have direct impacts on this. | 0 | None required |
| | | Will it reduce exposure to heat during heatwaves? | The proposed measure are unlikely to have direct impacts on this. | 0 | None required |
| | | Will it enable those vulnerable during severe weather events to recover? | The proposed measure are unlikely to have direct impacts on this. | 0 | None required |
| Climate change mitigation | To help tackle climate change through reducing greenhouse gas emissions and moving towards a zero carbon London by 2050 | Will it help reduce emissions of greenhouse gases (including from transport), and help London meet its emission targets? | Measures will positively contribute to this matter. | + | None required |
| | | Will it reduce health inequalities and impacts on more vulnerable communities and at-risk groups | The proposed measure are unlikely to have direct impacts on this. | 0 | None required |
| Energy use and supply | To manage and reduce demand for energy, achieve greater energy efficiency, utilise new and existing energy sources effectively, and ensure a resilient smart and affordable energy system | Will it reduce the demand and need for energy, whilst not leading to overheating? | The proposed measure are unlikely to have direct impacts on this. | 0 | None required |
| | | Will it promote and improve energy efficiency in transport, homes, schools, hospitals and other public buildings? | The proposed measure are unlikely to have direct impacts on this. | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective** Outcome 3: London's streets will be used more efficiently and have less traffic on them | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it increase the proportion of energy both purchased and generated from renewable and sustainable sources? | The proposed measure are unlikely to have direct impacts on this. | 0 | None required |
| | | Will it encourage uptake of green/cleaner fuels and renewable energy provision across all transport providers and private cars? | Measures will positively contribute to this matter. | + | None required |
| | | Will it provide infrastructure to make a better use of renewable energy sources? | Measures will positively contribute to this matter. | + | None required |
| | | Will it reduce health inequalities and impacts of fuel poverty on vulnerable communities and at-risk groups? | The proposed measure are unlikely to have direct impacts on this. | 0 | None required |
| Fairness and inclusivity | To make London a fair and inclusive city where every person is able to participate, reducing inequality and disadvantage and addressing the diverse needs of the population. | Will it enable deficiencies of access to facilities to be positively addressed? | Measures will positively contribute to this matter. | + | None required |
| Historic Environment | To conserve and enhance the existing historic environment, including sites, features, landscapes and areas of | Will it protect and enhance sites, features and areas of historical, archaeological and cultural value/potential? | Measures will positively contribute to this matter. | + | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective** Outcome 3: London's streets will be used more efficiently and have less traffic on them | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | historical, architectural, archaeological and cultural value in relation to their significance and their settings. | Will it improve the wider historic environment and sense of place? | Measures will positively contribute to this matter. | + | None required |
| | | Will it protect and enhance the historic environment, including removing barriers to use from vulnerable communities and at-risk groups? | Measures will positively contribute to this matter. | + | None required |
| | | Will it protect and enhance valued/important historic environment and streetscape settings through inclusive design and management? | Measures will positively contribute to this matter. | + | None required |
| Mental and physical Wellbeing | To improve the mental and physical health and wellbeing of Londoners and to reduce health inequalities across the city and between communities. | Will it improve connectivity to key services by promoting active modes of transport, thereby helping to reduce emissions from road transport | Measures will positively contribute to this matter. | + | None required |
| | | Will it help to reduce health inequalities and their key contributory factors for all Londoners? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it reduce at risk and vulnerable groups' exposure to poor air quality? | Measures unlikely to have direct impacts on this. | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective** Outcome 3: London's streets will be used more efficiently and have less traffic on them | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it reduce flooding, heat and drought risk for at risk and vulnerable communities? | Measures unlikely to have direct impacts on this | 0 | None required |
| | | Will it improve access to greenspaces for recreational and health benefits? | Measures will positively contribute this matter | + | None required |
| | | Will it help to reduce the number of people dying prematurely from preventable causes such as extreme heat and poor air quality? | Measures unlikely to have direct impacts on this. | 0 | None required |
| Natural Capital and Natural Environment | To protect, connect and enhance London's natural capital (including important habitats, species and landscapes) and the services and benefits it provides, delivering a net positive outcome for biodiversity | Will it enhance the potential for the green space network to provide ecosystem services? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it protect and improve the quality and extent of sites of importance for nature conservation and help restore wildlife habitats? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it provide opportunities to enhance the natural environment or restore wildlife habitats? | Measures unlikely to have direct impacts on this. | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective** Outcome 3: London's streets will be used more efficiently and have less traffic on them | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it protect and enhance the biodiversity of the region's waterbodies to achieve a good ecological status? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it increase the planting of green roofs, green walls and soft landscaping? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it create better access to green space to enhance mental and physical health benefits for all Londoners, particularly those with existing mental health conditions? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it result in a greener public realm that can enhance mental health benefits? | Measures unlikely to have direct impacts on this. | 0 | None required |
| Noise and vibration | To minimise noise and vibration levels and disruption to people and communities across London and reduce inequalities in exposure | Will it improve access to quiet and tranquil places for all? | Measures will positively contribute to this matter, although not to a significant extent. | + | None required |
| | | Will reduce levels of noise generated? | Measures will positively contribute to this matter, although not to a significant extent. | + | None required |
| | | Will it reduce inequalities in exposure to ambient noise? | Measures unlikely to have direct impacts on this | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective** Outcome 3: London's streets will be used more efficiently and have less traffic on them | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it protect vulnerable groups at risk from impacts of noise pollution? | Measures unlikely to have direct impacts on this | 0 | None required |
| | | Will it reduce night time noise in residential areas? | Depends on project design and location. Measures will positively contribute to this matter, although not to a significant extent. | + | None required |
| | | Will it reduce the number of people exposed to high levels of noise with the potential to cause annoyance, sleep disturbance or physiological effects? | Depends on project design and location. Measures have the potential to positively contribute to this matter. | + | None required |
| Safety and security | To contribute to safety and security and generate the perceptions of safety; | Will it promote the design and management of green spaces that helps to reduce crime and anti-social behaviour? | Measures unlikely to have direct impacts on this. | 0 | None required |

### 5.4.6 Matrix 5: LIP Objectives - Outcome 4: London's streets will be clean and green

**Table 5.8: SEA Matrix 5 LIP Objectives - Outcome 4: London's streets will be clean and green**

**LIP Objective 8: Croydon will tackle road-based air pollution by reducing traffic volumes, supporting the shift to zero emission vehicles and introducing new green infrastructure.**

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective** Outcome 4: London's streets will be clean and green **Croydon will tackle road-based air pollution by reducing traffic volumes, supporting the shift to zero emission vehicles and introducing new green infrastructure.** | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| Air Quality | To reduce emissions and concentrations of harmful atmospheric pollutants, particularly in areas of poorest air quality, and reduce exposure | Will it help to reduce emissions of priority pollutants (e.g. $PM_{10}$, $NO_x$, $NO_2$)? | Measures will positively contribute to this matter. | + | None required |
| | | Will it help to achieve national and international standards for air quality? | Measures will positively contribute to this matter | ++ | None required |
| | | Will it reduce the number of people exposed to poor air quality, particularly for vulnerable communities and 'at risk' groups? | Measures will positively contribute to this matter. | ++ | None required |
| | | Will it result in air quality changes which negatively impact the health of the public? | Measures will not have a negative impact on health. | 0 | None required |
| | | Will it reduce the number of premature deaths caused by poor air quality? | Measures are not likely to be sufficiently great to reduce the number of people exposed to poor air quality. | 0 | None required |
| | | Will it improve air quality around areas which may have high concentrations of vulnerable people such as schools, outdoor play areas, care homes and hospitals? | Measures will positively contribute to this matter | ++ | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective** Outcome 4: London's streets will be clean and green **Croydon will tackle road-based air pollution by reducing traffic volumes, supporting the shift to zero emission vehicles and introducing new green infrastructure.** | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| Attractive neighbourhoods | To create attractive, mixed use neighbourhoods, ensuring new buildings and spaces are appropriately designed that promote and enhance existing sense of place and distinctiveness, reducing the need to travel by motorised transport. | Will it protect and enhance the character, integrity and liveability of key streetscapes and townscapes, including removing barriers to use? | Measures focused on the introduction of green infrastructures and tackle road based pollution will positively contribute to this matter. | + | None required |
| | | Will it improve the use of the urban public realm by improving its attractiveness and access? | Measures focused on the introduction of green infrastructures and tackle road based pollution will positively contribute to this matter. | + | None required |
| Climate change adaptation | To ensure London adapts and becomes more resilient to the impacts of climate change and extreme weather events such as flood, drought and heat risks | Will it protect London from climate change impacts? | Measures will positively contribute to this, although not to a significant extent. | + | None required |
| | | Will it help London function during extreme weather events (e.g. heat, drought, flood) without impacts on human health and/or well-being? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it reduce health inequalities and impacts on vulnerable groups / communities and at-risk groups? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it improve access to services during severe weather events? | Measures unlikely to have direct impacts on this. | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective** Outcome 4: London's streets will be clean and green **Croydon will tackle road-based air pollution by reducing traffic volumes, supporting the shift to zero emission vehicles and introducing new green infrastructure.** | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it reduce exposure to heat during heatwaves? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it enable those vulnerable during severe weather events to recover? | Measures unlikely to have direct impacts on this. | 0 | None required |
| Climate change mitigation | To help tackle climate change through reducing greenhouse gas emissions and moving towards a zero carbon London by 2050 | Will it help reduce emissions of greenhouse gases (including from transport), and help London meet its emission targets? | Measures aimed at tackling road based air pollution, reducing traffic volumes and supporting the shift to zero emission vehicles will positively contribute to this. | ++ | None required |
| | | Will it reduce health inequalities and impacts on more vulnerable communities and at-risk groups | Measures will positively contribute to this matter, although not to a significant extent. | + | None required |
| Energy use and supply | To manage and reduce demand for energy, achieve greater energy efficiency, utilise new and existing energy sources effectively, and ensure a resilient smart and affordable energy system | Will it reduce the demand and need for energy, whilst not leading to overheating? | Measures will positively contribute tothis matter. | + | None required |
| | | Will it promote and improve energy efficiency in transport, homes, schools, hospitals and other public buildings? | Measures will positively contribute to this matter. | + | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective** Outcome 4: London's streets will be clean and green **Croydon will tackle road-based air pollution by reducing traffic volumes, supporting the shift to zero emission vehicles and introducing new green infrastructure.** | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it increase the proportion of energy both purchased and generated from renewable and sustainable sources? | Measures will positively contribute to this matter. | + | None required |
| | | Will it encourage uptake of green/cleaner fuels and renewable energy provision across all transport providers and private cars? | Measures will positively contribute to this matter. | + | None required |
| | | Will it provide infrastructure to make a better use of renewable energy sources? | Measures will positively contribute to this matter. | + | None required |
| | | Will it reduce health inequalities and impacts of fuel poverty on vulnerable communities and at-risk groups? | The proposed measure is unlikely to have direct impacts on this. | 0 | None required |
| Fairness and inclusivity | To make London a fair and inclusive city where every person is able to participate, reducing inequality and disadvantage and addressing the diverse needs of the population. | Will it enable deficiencies of access to facilities to be positively addressed? | Measures unlikely to have direct impacts on this matter. | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective** Outcome 4: London's streets will be clean and green **Croydon will tackle road-based air pollution by reducing traffic volumes, supporting the shift to zero emission vehicles and introducing new green infrastructure.** | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| Historic Environment | To conserve and enhance the existing historic environment, including sites, features, landscapes and areas of historical, architectural, archaeological and cultural value in relation to their significance and their settings. | Will it protect and enhance sites, features and areas of historical, archaeological and cultural value/potential? | Measures unlikely to have direct impacts on this.. | 0 | None required |
| | | Will it improve the wider historic environment and sense of place? | Measures to promote traffic volumes reduction have the potential to improve sense of place. | + | None required |
| | | Will it protect and enhance the historic environment, including removing barriers to use from vulnerable communities and at-risk groups? | Measures aimed at promoting traffic volumes reduction will positively contribute this matter. | + | None required |
| | | Will it protect and enhance valued/important historic environment and streetscape settings through inclusive design and management? | Measures have the potential to positively contribute this matter, although not to a significant extent. | 0 | None required |
| Mental and physical Wellbeing | To improve the mental and physical health and wellbeing of Londoners and to reduce health inequalities across the city and between communities. | Will it improve connectivity to key services by promoting active modes of transport, thereby helping to reduce emissions from road transport | Measures will positively contribute to this matter. | ++ | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective** Outcome 4: London's streets will be clean and green **Croydon will tackle road-based air pollution by reducing traffic volumes, supporting the shift to zero emission vehicles and introducing new green infrastructure.** | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it help to reduce health inequalities and their key contributory factors for all Londoners? | Measures aimed at tackling road based air pollution by reducing traffic volumes have the potential to positively contribute to this matter. | + | None required |
| | | Will it reduce at risk and vulnerable groups' exposure to poor air quality? | Measures will positively impact to this.. | ++ | None required |
| | | Will it reduce flooding, heat and drought risk for at risk and vulnerable communities? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it improve access to greenspaces for recreational and health benefits? | Measures will positively impact this matter, although not to a significant extent. | + | None required |
| | | Will it help to reduce the number of people dying prematurely from preventable causes such as extreme heat and poor air quality? | Measures will positively contribute this. | + | None required |
| Natural Capital and Natural Environment | To protect, connect and enhance London's natural capital (including important habitats, species and landscapes) and the | Will it enhance the potential for the green space network to provide ecosystem services? | Measures will positively contribute to this matter. | + | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective** Outcome 4: London's streets will be clean and green **Croydon will tackle road-based air pollution by reducing traffic volumes, supporting the shift to zero emission vehicles and introducing new green infrastructure.** | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | services and benefits it provides, delivering a net positive outcome for biodiversity | Will it protect and improve the quality and extent of sites of importance for nature conservation and help restore wildlife habitats? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it provide opportunities to enhance the natural environment or restore wildlife habitats? | Measures will positively contribute to this matter. | + | None required |
| | | Will it protect and enhance the biodiversity of the region's waterbodies to achieve a good ecological status? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it increase the planting of green roofs, green walls and soft landscaping? | Measures aimed at introducing new green infrastructure will positively impact on this matter. | ++ | None required |
| | | Will it create better access to green space to enhance mental and physical health benefits for all Londoners, particularly those with existing mental health conditions? | Measures will positively contribute to this matter. | + | None required |
| | | Will it result in a greener public realm that can enhance mental health benefits? | Measures will positively contribute to this matter. | + | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective** Outcome 4: London's streets will be clean and green **Croydon will tackle road-based air pollution by reducing traffic volumes, supporting the shift to zero emission vehicles and introducing new green infrastructure.** | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| Noise and vibration | To minimise noise and vibration levels and disruption to people and communities across London and reduce inequalities in exposure | Will it improve access to quiet and tranquil places for all? | Measures will positively contribute to this matter. | + | None required |
| | | Will reduce levels of noise generated? | Measures aimed at reducing traffic volumes will positively impact this matter | + | None required |
| | | Will it reduce inequalities in exposure to ambient noise? | Measures aimed at reducing traffic volumes will positively impact this matter | + | None required |
| | | Will it protect vulnerable groups at risk from impacts of noise pollution? | Measures aimed at reducing traffic volumes will positively contribute this matter, although not to a significant extent. | + | None required |
| | | Will it reduce night time noise in residential areas? | Measures aimed at reducing traffic volumes will positively contribute this matter. | + | None required |
| | | Will it reduce the number of people exposed to high levels of noise with the potential to cause annoyance, sleep disturbance or physiological effects? | Depends on project design and location. | + | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective** Outcome 4: London's streets will be clean and green **Croydon will tackle road-based air pollution by reducing traffic volumes, supporting the shift to zero emission vehicles and introducing new green infrastructure.** | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| Safety and security | To contribute to safety and security and generate the perceptions of safety; | Will it promote the design and management of green spaces that helps to reduce crime and anti-social behaviour? | Measures unlikely to have direct impacts on this. | 0 | None required |

### 5.4.7 Matrix 6: LIP Objective - Outcome 5: The public transport network will meet the needs of a growing London

**Table 5.8: SEA Matrix 6 LIP Objective - Outcome 5: The public transport network will meet the needs of a growing London**

**Objective 9: Work with the Mayor, TfL, Network Rail, bus operators and TOCs to improve public transport links, reduce overcrowding on the public transport network and ensure Croydon is the best connected Metropolitan Town Centre in Outer London.**

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective** Outcome 5: The public transport network will meet the needs of a growing London | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| Air Quality | To reduce emissions and concentrations of harmful atmospheric pollutants, | Will it help to reduce emissions of priority pollutants (e.g. $PM_{10}$, $NO_x$, $NO_2$)? | . Measures aimed at improving public transportlikely to positively contribute to this... | + | All new buses introduced to public transport fleet should be low emission, hybrid or electric |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective** Outcome 5: The public transport network will meet the needs of a growing London | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | particularly in areas of poorest air quality, and reduce exposure | Will it help to achieve national and international standards for air quality? | Measures will positively contribute to this. However, it is unlikely that the reduction will be significant at the national level in addition to effects of changes in vehicle technology and other MTS policies | 0 | None required |
| | | Will it reduce the number of people exposed to poor air quality, particularly for vulnerable communities and 'at risk' groups? | .Measures will positively contribute to this.. However, it is unlikely that the reduction will be significant at the national level in addition to effects of changes in vehicle technology and other MTS policies | 0 | None required |
| | | Will it result in air quality changes which negatively impact the health of the public? | Measures will not have a negative impact on health. | 0 | None required |
| | | Will it reduce the number of premature deaths caused by poor air quality? | Measures are not likely to be sufficiently great to reduce the number of people exposed to poor air quality. | 0 | None required |
| | | Will it improve air quality around areas which may have high concentrations of vulnerable people such as schools, outdoor play areas, care homes and hospitals? | Measures will positively contribute this matter. However, it is unlikely that the reduction will be significant at the national level in addition to effects of changes in vehicle technology and other MTS policies. | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective** Outcome 5: The public transport network will meet the needs of a growing London | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| Attractive neighbourhoods | To create attractive, mixed use neighbourhoods, ensuring new buildings and spaces are appropriately designed that promote and enhance existing sense of place and distinctiveness, reducing the need to travel by motorised transport. | Will it protect and enhance the character, integrity and liveability of key streetscapes and townscapes, including removing barriers to use? | Improvements in public transport links are likely to support enhancement of character of key streetscapes and townscapes by removing barriers to use. | + | None required |
| | | Will it improve the use of the urban public realm by improving its attractiveness and access? | Improvements in public transport links are likely to improve the use of the urban public realm. | + | None required |
| Climate change adaptation | To ensure London adapts and becomes more resilient to the impacts of climate change and extreme weather events such as flood, drought and heat risks | Will it protect London from climate change impacts? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it help London function during extreme weather events (e.g. heat, drought, flood) without impacts on human health and/or well-being? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it reduce health inequalities and impacts on vulnerable groups / communities and at-risk groups? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it improve access to services during severe weather events? | Measures will positvely contribute to this though this is only likely be to slight. | + | None required |
| | | Will it reduce exposure to heat during heatwaves? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective** Outcome 5: The public transport network will meet the needs of a growing London | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it enable those vulnerable during severe weather events to recover? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| Climate change mitigation | To help tackle climate change through reducing greenhouse gas emissions and moving towards a zero carbon London by 2050 | Will it help reduce emissions of greenhouse gases (including from transport), and help London meet its emission targets? | Measures will positively contribute to this by potential reduction. | 0 | None required |
| | | Will it reduce health inequalities and impacts on more vulnerable communities and at-risk groups | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| Energy use and supply | To manage and reduce demand for energy, achieve greater energy efficiency, utilise new and existing energy sources effectively, and ensure a resilient smart and affordable energy system | Will it reduce the demand and need for energy, whilst not leading to overheating? | Measures will positively contribute to this with potential reduction. | + | None required |
| | | Will it promote and improve energy efficiency in transport, homes, schools, hospitals and other public buildings? | Measures will positively contribute this though the impact is unlikel to be significant. | 0 | None required |
| | | Will it increase the proportion of energy both purchased and generated from renewable and sustainable sources? | Measures are unlikely to have any direct effect in this respect | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective** Outcome 5: The public transport network will meet the needs of a growing London | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it encourage uptake of green/cleaner fuels and renewable energy provision across all transport providers and private cars? | Measures will positvely contribute to this. | + | None required |
| | | Will it provide infrastructure to make a better use of renewable energy sources? | Measures will positvely contribute to this. | + | None required |
| | | Will it reduce health inequalities and impacts of fuel poverty on vulnerable communities and at-risk groups? | Measures are unlikely to have any direct effect in this respect | 0 | None required |
| Fairness and inclusivity | To make London a fair and inclusive city where every person is able to participate, reducing inequality and disadvantage and addressing the diverse needs of the population. | Will it enable deficiencies of access to facilities to be positively addressed? | Measures will positively address deficiencies of access. | ++ | None required |
| Historic Environment | To conserve and enhance the existing historic environment, including sites, features, landscapes and areas of historical, architectural, archaeological and cultural value | Will it protect and enhance sites, features and areas of historical, archaeological and cultural value/potential? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it improve the wider historic environment and sense of place? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective** Outcome 5: The public transport network will meet the needs of a growing London | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | in relation to their significance and their settings. | Will it protect and enhance the historic environment, including removing barriers to use from vulnerable communities and at-risk groups? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it protect and enhance valued/important historic environment and streetscape settings through inclusive design and management? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| Mental and physical Wellbeing | To improve the mental and physical health and wellbeing of Londoners and to reduce health inequalities across the city and between communities. | Will it improve connectivity to key services by promoting active modes of transport, thereby helping to reduce emissions from road transport | Measures will have significant positive impact on connectivity. | ++ | None required |
| | | Will it help to reduce health inequalities and their key contributory factors for all Londoners? | Measures unlikely to have direct impacts on this matter. | 0 | None required |
| | | Will it reduce at risk and vulnerable groups' exposure to poor air quality? | Measures will positively contribute to this. | + | None required |
| | | Will it reduce flooding, heat and drought risk for at risk and vulnerable communities? | Measures unlikely to have direct impacts on this. | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective** Outcome 5: The public transport network will meet the needs of a growing London | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it improve access to greenspaces for recreational and health benefits? | Measures will positively impact this. | + | None required |
| | | Will it help to reduce the number of people dying prematurely from preventable causes such as extreme heat and poor air quality? | Measures unlikely to have a direct impact on this. | 0 | None required |
| Natural Capital and Natural Environment | To protect, connect and enhance London's natural capital (including important habitats, species and landscapes) and the services and benefits it provides, delivering a net positive outcome for biodiversity | Will it enhance the potential for the green space network to provide ecosystem services? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it protect and improve the quality and extent of sites of importance for nature conservation and help restore wildlife habitats? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it provide opportunities to enhance the natural environment or restore wildlife habitats? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it protect and enhance the biodiversity of the region's waterbodies to achieve a good ecological status? | Measures unlikely to have direct impacts on this. | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective** Outcome 5: The public transport network will meet the needs of a growing London | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it increase the planting of green roofs, green walls and soft landscaping? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it create better access to green space to enhance mental and physical health benefits for all Londoners, particularly those with existing mental health conditions? | Measures will positively contribute this albeit that this will be relatively minor. | + | None required |
| | | Will it result in a greener public realm that can enhance mental health benefits? | Measures unlikely to have direct impacts on this. | 0 | None required |
| Noise and vibration | To minimise noise and vibration levels and disruption to people and communities across London and reduce inequalities in exposure | Will it improve access to quiet and tranquil places for all? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will reduce levels of noise generated? | Overall noise should be reduced though there is a possibility that measures could ead to increase in noise to a marginal extent unless mitigated | 0 | Noise mitigation measures should be implemented when necessary |
| | | Will it reduce inequalities in exposure to ambient noise? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it protect vulnerable groups at risk from impacts of noise pollution? | Measures unlikely to have direct impacts on this. | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective** Outcome 5: The public transport network will meet the needs of a growing London | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it reduce night time noise in residential areas? | Overall noise should be reduced though there is a possibility that measures could ead to increase in noise to a marginal extent unless mitigated | - | Noise mitigation measures should be implemented when necessary |
| | | Will it reduce the number of people exposed to high levels of noise with the potential to cause annoyance, sleep disturbance or physiological effects? | Overall noise should be reduced though there is a possibility that measures could ead to increase in noise to a marginal extent unless mitigated. | - | Noise mitigation measures should be implemented when necessary |
| Safety and security | To contribute to safety and security and generate the perceptions of safety; | Will it promote the design and management of green spaces that helps to reduce crime and anti-social behaviour? | Measures to improve the public transport network will support these factors. | + | None required |

### 5.4.8 Matrix 7: LIP Objective - Outcome 6: Public transport will be safe, affordable and accessible to all

**Table 5.8: SEA Matrix 7 LIP Objectives - Outcome 6: Public transport will be safe, affordable and accessible to all**

**LIP Objective 10: Work with the Mayor, TfL, Network Rail, bus operators and TOCs to ensure the entire public transport network is accessible, safe and step free.**

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective Outcome 6: Public transport will be safe, affordable and accessible to all** | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| Air Quality | To reduce emissions and concentrations of harmful atmospheric pollutants, particularly in areas of poorest air quality, and reduce exposure | Will it help to reduce emissions of priority pollutants (e.g. $PM_{10}$, $NO_x$, $NO_2$)? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it help to achieve national and international standards for air quality? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it reduce the number of people exposed to poor air quality, particularly for vulnerable communities and 'at risk' groups? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it result in air quality changes which negatively impact the health of the public? | Measures will not have a negative impact on health. | 0 | None required |
| | | Will it reduce the number of premature deaths caused by poor air quality? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it improve air quality around areas which may have high concentrations of vulnerable people such as schools, outdoor play areas, care homes and hospitals? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective Outcome 6: Public transport will be safe, affordable and accessible to all** | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| Attractive neighbourhoods | To create attractive, mixed use neighbourhoods, ensuring new buildings and spaces are appropriately designed that promote and enhance existing sense of place and distinctiveness, reducing the need to travel by motorised transport. | Will it protect and enhance the character, integrity and liveability of key streetscapes and townscapes, including removing barriers to use? | Measures will positively impact this. | ++ | None required |
| | | Will it improve the use of the urban public realm by improving its attractiveness and access? | Measures will positively impact this. | ++ | None required |
| Climate change adaptation | To ensure London adapts and becomes more resilient to the impacts of climate change and extreme weather events such as flood, drought and heat risks | Will it protect London from climate change impacts? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it help London function during extreme weather events (e.g. heat, drought, flood) without impacts on human health and/or well-being? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it reduce health inequalities and impacts on vulnerable groups / communities and at-risk groups? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it improve access to services during severe weather events? | Measures will positively contribute to this. | + | None required |
| | | Will it reduce exposure to heat during heatwaves? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective Outcome 6: Public transport will be safe, affordable and accessible to all** | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it enable those vulnerable during severe weather events to recover? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| Climate change mitigation | To help tackle climate change through reducing greenhouse gas emissions and moving towards a zero carbon London by 2050 | Will it help reduce emissions of greenhouse gases (including from transport), and help London meet its emission targets? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it reduce health inequalities and impacts on more vulnerable communities and at-risk groups | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| Energy use and supply | To manage and reduce demand for energy, achieve greater energy efficiency, utilise new and existing energy sources effectively, and ensure a resilient smart and affordable energy system | Will it reduce the demand and need for energy, whilst not leading to overheating? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it promote and improve energy efficiency in transport, homes, schools, hospitals and other public buildings? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it increase the proportion of energy both purchased and generated from renewable and sustainable sources? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective Outcome 6: Public transport will be safe, affordable and accessible to all** | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it encourage uptake of green/cleaner fuels and renewable energy provision across all transport providers and private cars? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it provide infrastructure to make a better use of renewable energy sources? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it reduce health inequalities and impacts of fuel poverty on vulnerable communities and at-risk groups? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| Fairness and inclusivity | To make London a fair and inclusive city where every person is able to participate, reducing inequality and disadvantage and addressing the diverse needs of the population. | Will it enable deficiencies of access to facilities to be positively addressed? | Measures will have a significant positive impact on this. | ++ | None required |
| Historic Environment | To conserve and enhance the existing historic environment, including sites, features, landscapes and areas of historical, architectural, archaeological and cultural value | Will it protect and enhance sites, features and areas of historical, archaeological and cultural value/potential? | Measures are unlikely to have any direct effect in this respect | 0 | None required |
| | | Will it improve the wider historic environment and sense of place? | Measures will positively contribute to this. | + | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective Outcome 6: Public transport will be safe, affordable and accessible to all** | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | in relation to their significance and their settings. | Will it protect and enhance the historic environment, including removing barriers to use from vulnerable communities and at-risk groups? | Measures will positively contribute to this. | + | None required |
| | | Will it protect and enhance valued/important historic environment and streetscape settings through inclusive design and management? | Measures are unlikely to have any direct effect in this respect | 0 | None required |
| Mental and physical Wellbeing | To improve the mental and physical health and wellbeing of Londoners and to reduce health inequalities across the city and between communities. | Will it improve connectivity to key services by promoting active modes of transport, thereby helping to reduce emissions from road transport | Measures will positively contribute to this. | + | None required |
| | | Will it help to reduce health inequalities and their key contributory factors for all Londoners? | Measures will positively contribute to this. | + | None required |
| | | Will it reduce at risk and vulnerable groups' exposure to poor air quality? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it reduce flooding, heat and drought risk for at risk and vulnerable communities? | Measures unlikely to have direct impacts on this | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective Outcome 6: Public transport will be safe, affordable and accessible to all** | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it improve access to greenspaces for recreational and health benefits? | Measures will positively contribute to this. | + | None required |
| | | Will it help to reduce the number of people dying prematurely from preventable causes such as extreme heat and poor air quality? | Measures unlikely to have direct impacts on this. | 0 | None required |
| Natural Capital and Natural Environment | To protect, connect and enhance London's natural capital (including important habitats, species and landscapes) and the services and benefits it provides, delivering a net positive outcome for biodiversity | Will it enhance the potential for the green space network to provide ecosystem services? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it protect and improve the quality and extent of sites of importance for nature conservation and help restore wildlife habitats? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it provide opportunities to enhance the natural environment or restore wildlife habitats? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it protect and enhance the biodiversity of the region's waterbodies to achieve a good ecological status? | Measures unlikely to have direct impacts on this. | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective Outcome 6: Public transport will be safe, affordable and accessible to all** | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it increase the planting of green roofs, green walls and soft landscaping? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it create better access to green space to enhance mental and physical health benefits for all Londoners, particularly those with existing mental health conditions? | Measures will positively contribute to this. | + | None required |
| | | Will it result in a greener public realm that can enhance mental health benefits? | Measures unlikely to have direct impacts on this. | 0 | None required |
| Noise and vibration | To minimise noise and vibration levels and disruption to people and communities across London and reduce inequalities in exposure | Will it improve access to quiet and tranquil places for all? | Measures likely to positively contribute to this. | + | None required |
| | | Will reduce levels of noise generated? | Measures unlikely to have direct impacts on this | - | None required. |
| | | Will it reduce inequalities in exposure to ambient noise? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it protect vulnerable groups at risk from impacts of noise pollution? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it reduce night time noise in residential areas? | Measures unlikely to have direct impacts on this. | 0 | Noise mitigation measures should be implemented when necessary |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective Outcome 6: Public transport will be safe, affordable and accessible to all** | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it reduce the number of people exposed to high levels of noise with the potential to cause annoyance, sleep disturbance or physiological effects? | Measures unlikely to have direct impacts on this. | 0 | Noise mitigation measures should be implemented when necessary |
| Safety and security | To contribute to safety and security and generate the perceptions of safety; | Will it promote the design and management of green spaces that helps to reduce crime and anti-social behaviour? | Measures will positively contribute to this matter | + | None required |

### 5.4.9 Matrix 8: LIP Objective - Outcome 7: Journeys by public transport will be pleasant, fast and reliable

**Table 5.8: SEA Matrix 8 LIP Objectives - Outcome 7: Journeys by public transport will be pleasant, fast and reliable**

**LIP Objectives:**
**11. Work with TfL to introduce additional bus priority measures on key road corridors to improve efficiency and reliability of bus services.**
**12. Lobby the TOCs and the DfT to improve performance of train services and reduce gaps in service frequencies**

| Topic | **Objective** | **Assessment guide questions** | **LIP Objectives - Outcome 7: Journeys by public transport will be pleasant, fast and reliable** | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| Air Quality | To reduce emissions and concentrations of harmful atmospheric pollutants, particularly in areas of poorest air quality, and reduce exposure | Will it help to reduce emissions of priority pollutants (e.g. $PM_{10}$, $NO_x$, $NO_2$)? | Measures will likely positively contribute to this through irmproved public transport . | + | None required |
| | | Will it help to achieve national and international standards for air quality? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it reduce the number of people exposed to poor air quality, particularly for vulnerable communities and 'at risk' groups? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it result in air quality changes which negatively impact the health of the public? | Measures will likely positively contribute to this through irmproved public transport | + | None required |
| | | Will it reduce the number of premature deaths caused by poor air quality? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it improve air quality around areas which may have high concentrations of vulnerable people such as schools, outdoor play areas, care homes and hospitals? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objectives - Outcome 7: Journeys by public transport will be pleasant, fast and reliable** | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| Attractive neighbourhoods | To create attractive, mixed use neighbourhoods, ensuring new buildings and spaces are appropriately designed that promote and enhance existing sense of place and distinctiveness, reducing the need to travel by motorised transport. | Will it protect and enhance the character, integrity and liveability of key streetscapes and townscapes, including removing barriers to use? | Measures are unlikely to have any direct effect in this respect | 0 | None required |
| | | Will it improve the use of the urban public realm by improving its attractiveness and access? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| Climate change adaptation | To ensure London adapts and becomes more resilient to the impacts of climate change and extreme weather events such as flood, drought and heat risks | Will it protect London from climate change impacts? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it help London function during extreme weather events (e.g. heat, drought, flood) without impacts on human health and/or well-being? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it reduce health inequalities and impacts on vulnerable groups / communities and at-risk groups? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| | | Will it improve access to services during severe weather events? | Measures will have a minor positive impact. | + | None required |
| | | Will it reduce exposure to heat during heatwaves? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objectives - Outcome 7: Journeys by public transport will be pleasant, fast and reliable** | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it enable those vulnerable during severe weather events to recover? | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| Climate change mitigation | To help tackle climate change through reducing greenhouse gas emissions and moving towards a zero carbon London by 2050 | Will it help reduce emissions of greenhouse gases (including from transport), and help London meet its emission targets? | Depends on schemes implementation. Measures will likely positively contribute to this matter by a reduction in privet car usage. However, the introduction of bus priority might lead to congestion caused by other users of the road. Overall, the impact unlikely will be significant | 0 | None required |
| | | Will it reduce health inequalities and impacts on more vulnerable communities and at-risk groups | Measures are unlikely to have any direct effect in this respect. | 0 | None required |
| Energy use and supply | To manage and reduce demand for energy, achieve greater energy efficiency, utilise new and existing energy sources effectively, and ensure a resilient smart and affordable energy system | Will it reduce the demand and need for energy, whilst not leading to overheating? | Measures will positively contribute to this | + | None required |
| | | Will it promote and improve energy efficiency in transport, homes, schools, hospitals and other public buildings? | Measures will positively contribute to this matter thoughr the impact is unlikely to be significant. | + | None required |
| | | Will it increase the proportion of energy both purchased and generated from renewable and sustainable sources? | This depends on transport operators' procurement. | ? | Lobby transport operators as part of work with TfL, NR, DfT and operators |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objectives - Outcome 7: Journeys by public transport will be pleasant, fast and reliable** | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it encourage uptake of green/cleaner fuels and renewable energy provision across all transport providers and private cars? | This depends on transport operators' procurement. | ? | Lobby transport operators as part of work with TfL, NR, DfT and operators |
| | | Will it provide infrastructure to make a better use of renewable energy sources? | This depends on transport operators' procurement. | + | Lobby transport operators as part of work with TfL, NR, DfT and operators |
| | | Will it reduce health inequalities and impacts of fuel poverty on vulnerable communities and at-risk groups? | Measures are unlikely to have any direct effect in this respect | 0 | None required |
| Fairness and inclusivity | To make London a fair and inclusive city where every person is able to participate, reducing inequality and disadvantage and addressing the diverse needs of the population. | Will it enable deficiencies of access to facilities to be positively addressed? | Measures will positively impact on this. | + | None required |
| Historic Environment | To conserve and enhance the existing historic environment, including sites, features, landscapes and areas of historical, architectural, archaeological and cultural value | Will it protect and enhance sites, features and areas of historical, archaeological and cultural value/potential? | Measures are unlikely to have any direct effect in this respect | 0 | None required |
| | | Will it improve the wider historic environment and sense of place? | Measures are unlikely to have any direct effect in this respect | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objectives - Outcome 7: Journeys by public transport will be pleasant, fast and reliable** | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | in relation to their significance and their settings. | Will it protect and enhance the historic environment, including removing barriers to use from vulnerable communities and at-risk groups? | Measures are unlikely to have any direct effect in this respect | 0 | None required |
| | | Will it protect and enhance valued/important historic environment and streetscape settings through inclusive design and management? | Measures are unlikely to have any direct effect in this respect | 0 | None required |
| Mental and physical Wellbeing | To improve the mental and physical health and wellbeing of Londoners and to reduce health inequalities across the city and between communities. | Will it improve connectivity to key services by promoting active modes of transport, thereby helping to reduce emissions from road transport | Measures will positively impact this. | ++ | None required |
| | | Will it help to reduce health inequalities and their key contributory factors for all Londoners? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it reduce at risk and vulnerable groups' exposure to poor air quality? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it reduce flooding, heat and drought risk for at risk and vulnerable communities? | Measures unlikely to have direct impacts on this. | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objectives - Outcome 7: Journeys by public transport will be pleasant, fast and reliable** | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it improve access to greenspaces for recreational and health benefits? | Measures will positively impact this matter | + | None required |
| | | Will it help to reduce the number of people dying prematurely from preventable causes such as extreme heat and poor air quality? | Measures unlikely to have direct impacts on this | 0 | None required |
| Natural Capital and Natural Environment | To protect, connect and enhance London's natural capital (including important habitats, species and landscapes) and the services and benefits it provides, delivering a net positive outcome for biodiversity | Will it enhance the potential for the green space network to provide ecosystem services? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it protect and improve the quality and extent of sites of importance for nature conservation and help restore wildlife habitats? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it provide opportunities to enhance the natural environment or restore wildlife habitats? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it protect and enhance the biodiversity of the region's waterbodies to achieve a good ecological status? | Measures unlikely to have direct impacts on this. | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objectives - Outcome 7: Journeys by public transport will be pleasant, fast and reliable** | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it increase the planting of green roofs, green walls and soft landscaping? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it create better access to green space to enhance mental and physical health benefits for all Londoners, particularly those with existing mental health conditions? | Measures will positively contribute to this. | + | None required |
| | | Will it result in a greener public realm that can enhance mental health benefits? | Measures unlikely to have direct impacts on this. | 0 | None required |
| Noise and vibration | To minimise noise and vibration levels and disruption to people and communities across London and reduce inequalities in exposure | Will it improve access to quiet and tranquil places for all? | Measures may have a broadly positively contributtion to this. | + | None required |
| | | Will reduce levels of noise generated? | Depends on schemes' location and implementation. However, it is unlikely to have direct impacts. | 0 | None required |
| | | Will it reduce inequalities in exposure to ambient noise? | Depends on schemes' location and implementation. However, it is unlikely to have direct impacts | 0 | None required |
| | | Will it protect vulnerable groups at risk from impacts of noise pollution? | Depends on schemes' location and implementation. However, it is unlikely to have direct impacts | 0 | None required |

| Topic | Objective | Assessment guide questions | LIP Objectives - Outcome 7: Journeys by public transport will be pleasant, fast and reliable | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it reduce night time noise in residential areas? | Depends on schemes' location and implementation. However, it is unlikely to have direct impacts | 0 | None required |
| | | Will it reduce the number of people exposed to high levels of noise with the potential to cause annoyance, sleep disturbance or physiological effects? | Depends on schemes' location and implementation. However, it is unlikely to have direct impacts | 0 | None required |
| Safety and security | To contribute to safety and security and generate the perceptions of safety; | Will it promote the design and management of green spaces that helps to reduce crime and anti-social behaviour? | Measures unlikely to have direct impacts on this | 0 | None required |

### 5.4.10 Matrix 9: LIP Objective - Outcome 8: Active, efficient and sustainable travel will be the best option in new developments

**Table 5.8: SEA Matrix 8 LIP Objective - Outcome 8: Active, efficient and sustainable travel will be the best option in new developments**

**LIP Objective 13. Croydon will ensure all new development incorporates the ten Healthy Streets principles into their design, and ensure they are integrated with the local walking and cycling networks as well as public transport.**

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective Outcome 8: Active, efficient and sustainable travel will be the best option in new developments.** | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| Air Quality | To reduce emissions and concentrations of harmful atmospheric pollutants, particularly in areas of poorest air quality, and reduce exposure | Will it help to reduce emissions of priority pollutants (e.g. $PM_{10}$, $NO_x$, $NO_2$)? | Measures will likely positively contribute to this.r However, overall, measures are not likely to give a significant improvement in air quality in addition to that due to changes in vehicle technology. | + | None required |
| | | Will it help to achieve national and international standards for air quality? | Measures unlikely to have direct impacts on this | 0 | None required |
| | | Will it reduce the number of people exposed to poor air quality, particularly for vulnerable communities and 'at risk' groups? | Measures will likely positively contribute to this matter. However, overall, measures are not likely to give a significant improvement in air quality in addition to that due to changes in vehicle technology. | + | None required |
| | | Will it result in air quality changes which negatively impact the health of the public? | Measures will not have a negative impact on health. | 0 | None required |
| | | Will it reduce the number of premature deaths caused by poor air quality? | Measures are not likely to be sufficiently great to have a significant impact on this. | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective Outcome 8: Active, efficient and sustainable travel will be the best option in new developments.** | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it improve air quality around areas which may have high concentrations of vulnerable people such as schools, outdoor play areas, care homes and hospitals? | Measures will likely positively contribute to this. | + | None required |
| Attractive neighbourhoods | To create attractive, mixed use neighbourhoods, ensuring new buildings and spaces are appropriately designed that promote and enhance the existing sense of place and distinctiveness, reducing the need to travel by motorised transport. | Will it protect and enhance the character, integrity and liveability of key streetscapes and townscapes, including removing barriers to use? | Implementation of Healthy Street principles as a part of new development design is likely to support the enhancement of streetscapes and townscapes. | + | None required |
| | | Will it improve the use of the urban public realm by improving its attractiveness and access? | Implementation of Healthy Street principles as a part of new development design will support increased use of the public realm. | + | None required |
| Climate change adaptation | To ensure London adapts and becomes more resilient to the impacts of climate change and extreme weather events such as flood, drought and heat risks | Will it protect London from climate change impacts? | Implementation of Healthy Street principles as a part of new development design will positively contribute to this. | + | None required |
| | | Will it help London function during extreme weather events (e.g. heat, drought, flood) without impacts on human health and/or well-being? | Implementation of Healthy Street principles as a part of new development design will positively contribute to this. | + | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective Outcome 8: Active, efficient and sustainable travel will be the best option in new developments.** | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it reduce health inequalities and impacts on vulnerable groups / communities and at-risk groups? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it improve access to services during severe weather events? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it reduce exposure to heat during heatwaves? | Implementation of Healthy Street principles as a part of new development design will positively contribute to this. | + | None required |
| | | Will it enable those vulnerable during severe weather events to recover? | Measures unlikely to have direct impacts on this. | 0 | None required |
| Climate change mitigation | To help tackle climate change through reducing greenhouse gas emissions and moving towards a zero carbon London by 2050 | Will it help reduce emissions of greenhouse gases (including from transport), and help London meet its emission targets? | Implementation of Healthy Street principles as a part of new development design will positively contribute to this. | + | None required |
| | | Will it reduce health inequalities and impacts on more vulnerable communities and at-risk groups | Implementation of Healthy Street principles as a part of new development design will positively contribute to this. However, the impact is unlikely tot be significant. | + | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective Outcome 8: Active, efficient and sustainable travel will be the best option in new developments.** | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| Energy use and supply | To manage and reduce demand for energy, achieve greater energy efficiency, utilise new and existing energy sources effectively, and ensure a resilient smart and affordable energy system | Will it reduce the demand and need for energy, whilst not leading to overheating? | Implementation of Healthy Street principles as a part of new development design will positively contribute to this, albeit in a minor way. | + | None required |
| | | Will it promote and improve energy efficiency in transport, homes, schools, hospitals and other public buildings? | Implementation of Healthy Street principles as a part of new development design will positively contribute to this albeit in a minor way | + | None required |
| | | Will it increase the proportion of energy both purchased and generated from renewable and sustainable sources? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it encourage uptake of green/cleaner fuels and renewable energy provision across all transport providers and private cars? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it provide infrastructure to make a better use of renewable energy sources? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it reduce health inequalities and impacts of fuel poverty on vulnerable communities and at-risk groups? | Measures unlikely to have direct impacts on this. | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective Outcome 8: Active, efficient and sustainable travel will be the best option in new developments.** | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| Fairness and inclusivity | To make London a fair and inclusive city where every person is able to participate, reducing inequality and disadvantage and addressing the diverse needs of the population. | Will it enable deficiencies of access to facilities to be positively addressed? | Measures likely to be positive towards this. | + | None required |
| Historic Environment | To conserve and enhance the existing historic environment, including sites, features, landscapes and areas of historical, architectural, archaeological and cultural value in relation to their significance and their settings. | Will it protect and enhance sites, features and areas of historical, archaeological and cultural value/potential? | Implementation of Healthy Street principles as a part of new development design is likely to support the enhancement of areas of historical, archaeological and cultural value/potential. | + | None required |
| | | Will it improve the wider historic environment and sense of place? | Implementation of Healthy Street principles as a part of new development design is likely to positively impact on the wider historic environment and create a sense of place. | + | None required |
| | | Will it protect and enhance the historic environment, including removing barriers to use from vulnerable communities and at-risk groups? | The integration of Healthy Streets principles with new development design and local walking and cycling networks as well as public transport will positively contribute to this. | + | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective Outcome 8: Active, efficient and sustainable travel will be the best option in new developments.** | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it protect and enhance valued/important historic environment and streetscape settings through inclusive design and management? | The integration of Healthy Streets principles with new development design and local walking and cycling networks as well as public transport will positively contribute to this. | + | None required |
| Mental and physical Wellbeing | To improve the mental and physical health and wellbeing of Londoners and to reduce health inequalities across the city and between communities. | Will it improve connectivity to key services by promoting active modes of transport, thereby helping to reduce emissions from road transport | The integration of Healthy Streets principles with new development design and local walking and cycling networks as well as public transport will contribute positively to this. | ++ | None required |
| | | Will it help to reduce health inequalities and their key contributory factors for all Londoners? | The implementation of Healthy Streets principles as part of new development design is likely to have a positive impact on this. | + | None required |
| | | Will it reduce at risk and vulnerable groups' exposure to poor air quality? | Implementation of Healthy Street principles as a part of new development design will positively contribute to this, although the contribution is likely to be relatively small. | + | None required |
| | | Will it reduce flooding, heat and drought risk for at risk and vulnerable communities? | Measures unlikely to have direct impacts on this. | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective Outcome 8: Active, efficient and sustainable travel will be the best option in new developments.** | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it improve access to greenspaces for recreational and health benefits? | Implementation of Healthy Street principles as a part of new development design will positively contribute to this. | + | None required |
| | | Will it help to reduce the number of people dying prematurely from preventable causes such as extreme heat and poor air quality? | Measures unlikely to have direct impacts on this. | 0 | None required |
| Natural Capital and Natural Environment | To protect, connect and enhance London's natural capital (including important habitats, species and landscapes) and the services and benefits it provides, delivering a net positive outcome for biodiversity | Will it enhance the potential for the green space network to provide ecosystem services? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it protect and improve the quality and extent of sites of importance for nature conservation and help restore wildlife habitats? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it provide opportunities to enhance the natural environment or restore wildlife habitats? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it protect and enhance the biodiversity of the region's waterbodies to achieve a good ecological status? | Measures unlikely to have direct impacts on this. | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective Outcome 8: Active, efficient and sustainable travel will be the best option in new developments.** | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it increase the planting of green roofs, green walls and soft landscaping? | Implementation of Healthy Street principles as a part of new development design will positively contribute to this. | + | None required |
| | | Will it create better access to green space to enhance mental and physical health benefits for all Londoners, particularly those with existing mental health conditions? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it result in a greener public realm that can enhance mental health benefits? | Implementation of Healthy Street principles as a part of new development design will positively contribute to this. | + | None required |
| Noise and vibration | To minimise noise and vibration levels and disruption to people and communities across London and reduce inequalities in exposure | Will it improve access to quiet and tranquil places for all? | Implementation of Healthy Street principles as a part of new development design will positively contribute to this. | + | None required |
| | | Will reduce levels of noise generated? | Implementation of Healthy Street principles as a part of new development design will positively contribute to this. | + | None required |
| | | Will it reduce inequalities in exposure to ambient noise? | Measures unlikely to have direct impacts on this. | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective Outcome 8: Active, efficient and sustainable travel will be the best option in new developments.** | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it protect vulnerable groups at risk from impacts of noise pollution? | Depends on project design and location. Implementation of Healthy Street principles as a part of new development design will likely positively contribute to this. | + | None required |
| | | Will it reduce night time noise in residential areas? | Depends on project design and location. Implementation of Healthy Street principles as a part of new development design will positively contribute to this though the impact is likely to be minor. | + | None required |
| | | Will it reduce the number of people exposed to high levels of noise with the potential to cause annoyance, sleep disturbance or physiological effects? | Depends on project design and location. Implementation of Healthy Street principles as a part of new development design will positively contribute to this. | + | None required |
| Safety and security | To contribute to safety and security and generate the perceptions of safety; | Will it promote the design and management of green spaces that helps to reduce crime and anti-social behaviour? | Implementation of Healthy Street principles as a part of new development design and their integration with the local walking and cycling networks as well as public transport will positively contribute to this. | + | None required |

### 5.4.11 Matrix 10: LIP Objective - Outcome 9: Transport investment will unlock the delivery of new homes and jobs

**Table 5.8: SEA Matrix 10 LIP Objectives - Outcome 9: Transport investment will unlock the delivery of new homes and jobs'**

**LIP Objective 14. Work with key partners to increase public transport capacity in the borough to support the creation of new homes and jobs planned over the next two decades, including the extension of the tram to Crystal Palace and the upgrade of Brighton Mainline.**

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective Outcome 9: Transport investment will unlock the delivery of new homes and jobs** | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| Air Quality | To reduce emissions and concentrations of harmful atmospheric pollutants, particularly in areas of poorest air quality, and reduce exposure | Will it help to reduce emissions of priority pollutants (e.g. $PM_{10}$, $NO_x$, $NO_2$)? | Measures will likely positively contribute to this matter albeit that the contribution will be minor. | + | None required |
| | | Will it help to achieve national and international standards for air quality? | Contribution to this is likely to be very low indeed in proportion to other efforts. | 0 | None required |
| | | Will it reduce the number of people exposed to poor air quality, particularly for vulnerable communities and 'at risk' groups? | Measures will likely positively contribute to this though contribution to this is likely to be very slight in proportion to other efforts. | 0 | None required |
| | | Will it result in air quality changes which negatively impact the health of the public? | Measures will not have a negative impact on health. | 0 | None required |
| | | Will it reduce the number of premature deaths caused by poor air quality? | Measures unlikely to have direct impacts on this. | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective Outcome 9: Transport investment will unlock the delivery of new homes and jobs** | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it improve air quality around areas which may have high concentrations of vulnerable people such as schools, outdoor play areas, care homes and hospitals? | Measures unlikely to have direct impacts on this. | 0 | None required |
| Attractive neighbourhoods | To create attractive, mixed use neighbourhoods, ensuring new buildings and spaces are appropriately designed that promote and enhance the existing sense of place and distinctiveness, reducing the need to travel by motorised transport. | Will it protect and enhance the character, integrity and liveability of key streetscapes and townscapes, including removing barriers to use? | Measures will likely positively contribute to this. | + | None required |
| | | Will it improve the use of the urban public realm by improving its attractiveness and access? | Measures will likely positively contribute to this. | + | None required |
| Climate change adaptation | To ensure London adapts and becomes more resilient to the impacts of climate change and extreme weather events such as flood, drought and heat risks | Will it protect London from climate change impacts? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it help London function during extreme weather events (e.g. heat, drought, flood) without impacts on human health and/or well-being? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it reduce health inequalities and impacts on vulnerable groups / communities and at-risk groups? | Measures unlikely to have direct impacts on this. | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective Outcome 9: Transport investment will unlock the delivery of new homes and jobs** | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it improve access to services during severe weather events? | Measures will likely positively impact to this matter | ++ | None required |
| | | Will it reduce exposure to heat during heatwaves? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it enable those vulnerable during severe weather events to recover? | Measures unlikely to have direct impacts on this. | 0 | None required |
| Climate change mitigation | To help tackle climate change through reducing greenhouse gas emissions and moving towards a zero carbon London by 2050 | Will it help reduce emissions of greenhouse gases (including from transport), and help London meet its emission targets? | Measures will likely positively contribute to this matter | + | None required |
| | | Will it reduce health inequalities and impacts on more vulnerable communities and at-risk groups | Measures unlikely to have direct impacts on this. | 0 | None required |
| Energy use and supply | To manage and reduce demand for energy, achieve greater energy efficiency, utilise new and existing energy sources effectively, and ensure a resilient smart and affordable energy system | Will it reduce the demand and need for energy, whilst not leading to overheating? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it promote and improve energy efficiency in transport, homes, schools, hospitals and other public buildings? | Measures will likely positively contribute to this matter albeit that the contribution will be minor. | + | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective Outcome 9: Transport investment will unlock the delivery of new homes and jobs** | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it increase the proportion of energy both purchased and generated from renewable and sustainable sources? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it encourage uptake of green/cleaner fuels and renewable energy provision across all transport providers and private cars? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it provide infrastructure to make a better use of renewable energy sources? | Measures will likely positively contribute to this matter, albeit that the contribution will be minor. | + | None required |
| | | Will it reduce health inequalities and impacts of fuel poverty on vulnerable communities and at-risk groups? | Measures unlikely to have direct impacts on this. | 0 | None required |
| Fairness and inclusivity | To make London a fair and inclusive city where every person is able to participate, reducing inequality and disadvantage and addressing the diverse needs of the population. | Will it enable deficiencies of access to facilities to be positively addressed? | Measures will positively impact this matter | + | None required |
| Historic Environment | To conserve and enhance the existing historic environment, including sites, features, landscapes and areas of | Will it protect and enhance sites, features and areas of historical, archaeological and cultural value/potential? | Measures unlikely to have direct impacts on this. | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective Outcome 9: Transport investment will unlock the delivery of new homes and jobs** | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | historical, architectural, archaeological and cultural value in relation to their significance and their settings. | Will it improve the wider historic environment and sense of place? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it protect and enhance the historic environment, including removing barriers to use from vulnerable communities and at-risk groups? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it protect and enhance valued/important historic environment and streetscape settings through inclusive design and management? | Measures unlikely to have direct impacts on this. | 0 | None required |
| Mental and physical Wellbeing | To improve the mental and physical health and wellbeing of Londoners and to reduce health inequalities across the city and between communities. | Will it improve connectivity to key services by promoting active modes of transport, thereby helping to reduce emissions from road transport | Increased transport capacity to support homes and jobs will provide a positive contribution to this. | + | None required |
| | | Will it help to reduce health inequalities and their key contributory factors for all Londoners? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it reduce at risk and vulnerable groups' exposure to poor air quality? | Measures unlikely to have direct impacts on this. | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective Outcome 9: Transport investment will unlock the delivery of new homes and jobs** | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it reduce flooding, heat and drought risk for at risk and vulnerable communities? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it improve access to greenspaces for recreational and health benefits? | Measures will likely positively contribute to this. | + | None required |
| | | Will it help to reduce the number of people dying prematurely from preventable causes such as extreme heat and poor air quality? | Measures unlikely to have direct impacts on this. | 0 | None required |
| Natural Capital and Natural Environment | To protect, connect and enhance London's natural capital (including important habitats, species and landscapes) and the services and benefits it provides, delivering a net positive outcome for biodiversity | Will it enhance the potential for the green space network to provide ecosystem services? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it protect and improve the quality and extent of sites of importance for nature conservation and help restore wildlife habitats? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it provide opportunities to enhance the natural environment or restore wildlife habitats? | Measures unlikely to have direct impacts on this. | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective Outcome 9: Transport investment will unlock the delivery of new homes and jobs** | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it protect and enhance the biodiversity of the region's waterbodies to achieve a good ecological status? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it increase the planting of green roofs, green walls and soft landscaping? | Measures unlikely to have direct impacts on this. | 0 | None required |
| | | Will it create better access to green space to enhance mental and physical health benefits for all Londoners, particularly those with existing mental health conditions? | Measures will likely provide a broadly positive contribution to this albeit minor | + | None required |
| | | Will it result in a greener public realm that can enhance mental health benefits? | Measures unlikely to have direct impacts on this. | 0 | None required |
| Noise and vibration | To minimise noise and vibration levels and disruption to people and communities across London and reduce inequalities in exposure | Will it improve access to quiet and tranquil places for all? | Measures will likely positively contribute to this, albeit that the contribution will be minor. | + | None required |
| | | Will reduce levels of noise generated? | Depends on schemes' location and implementation though unlikely to have direct impact. | 0 | None required |
| | | Will it reduce inequalities in exposure to ambient noise? | Measures unlikely to have direct impacts on this. | 0 | None required |

| Topic | **Objective** | **Assessment guide questions** | **LIP Objective Outcome 9: Transport investment will unlock the delivery of new homes and jobs** | | |
|---|---|---|---|---|---|
| | | | **Assessment** | **Scale of Effect** | **Mitigation or Enhancement** |
| | | Will it protect vulnerable groups at risk from impacts of noise pollution? | Depends on schemes' location and implementation though unlikely to have direct impact. | 0 | None required |
| | | Will it reduce night time noise in residential areas? | Depends on schemes' location and implementation though unlikely to have direct impact. | 0 | None required |
| | | Will it reduce the number of people exposed to high levels of noise with the potential to cause annoyance, sleep disturbance or physiological effects? | Depends on schemes' location and implementation though unlikely to have direct impact. | 0 | None required |
| Safety and security | To contribute to safety and security and generate the perceptions of safety; | Will it promote the design and management of green spaces that helps to reduce crime and anti-social behaviour? | Measures unlikely to have direct impacts on this. | 0 | None required |

## 5.5 Monitoring

The LIP does not currently include specific proposals for environmental monitoring. However, in relation to the effects identified in the SEA, Temple and Steer recommend that key indicators from the set compiled by the London Sustainable Development Commission (LSDC) on Quality of Life issues be used by Croydon Council to monitor the environmental effects of the final Strategy and LIP. The LSDC indicator set is designed to gauge how London is performing against key measures of a sustainable city that supports and enhances quality of life. It has been specifically designed to be used by policy-makers to monitor trends and to inform future policy-making.

The recommended indicators for monitoring set out in **Table 5.12** following:

**Table 5.12: Recommended indicators for monitoring the SEA for the draft Transport Strategy and LIP**

| No. | Indicator | Measure |
|---|---|---|
| | **Environment** | |
| 1, 2 | $CO_2$ emissions | Total $CO_2$ emissions in London |
| 4 | Oxides of nitrogen emissions | Tonnes of $NO_x$ emitted in London |
| 5 | Particulate emissions | Tonnes of $PM_{2.5}$ and $PM_{10}$ emitted in London |
| 8b | Flood risk (surface water) | Properties at risk of surface water flooding |
| | **Social** | |
| 10 | Healthy Life Expectancy | Healthy life expectancy at birth for men and women |
| N/A[19] | Child Obesity | Percentage of overweight and obese children in Reception Year (aged 4-5) and Year 6 (aged 10-11) |
| 15 | Happiness | Self-reported levels of happiness |
| 16 | Satisfaction with London | % of Londoners satisfied with the capital as a place to live |
| 18 | Social integration | % of people who think their local area is a place where people from different backgrounds get on well together |
| | **Economic** | |
| 19 | Gross Value Added | Gross Value Added (GVA) per head (£) in London |
| 20 | Employment | Employment rate in London |
| 24 | Income inequality | Disposable income differentials in London |
| 25 | Child poverty | Children living in households below 60 per cent median income |
| 27 | London Living Wage | % of people earning less than London Living Wage (LLW) per hour in London |

[19] Department of Health statistics on prevalence of childhood obesity available at www.data.london.uk.

# 6.0 Next Steps

## 6.1 Development of the LIP

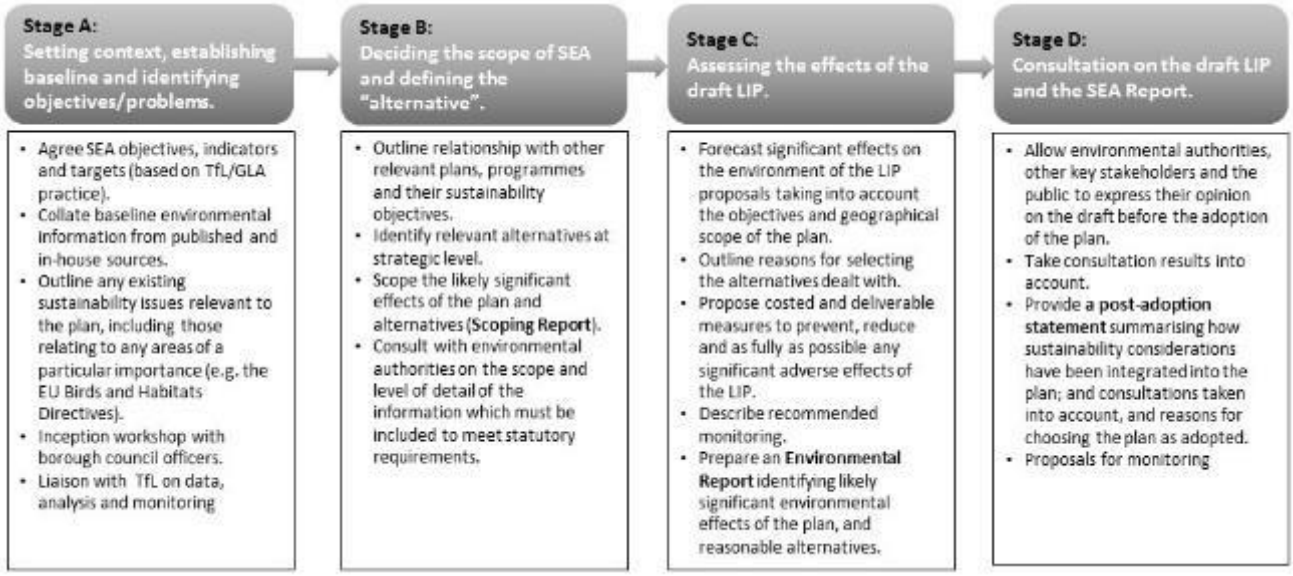
A draft of the LIP was submitted to Transport for London in November 2018 for comment. Croydon Council conducted a public consultation exercise on the LIP proposals up until the end of January 2019.

Taking account of the comments received from TfL and the outcomes of the consultation, together with the analysis presented in this Environmental Report, Croydon Council will make any revisions to the LIP that may be necessary, and a final version will be approved in early 2019. The LIP will come into operation in April 2019.

## 6.2 Remaining Stages in the SEA Process

The stages that Temple and Steer are following in the SEA process are shown in **Figure 6.1** below.

**Figure 6.1: Stages in the SEA Process**




Adapted from: ODPM (2005) - **A Practical Guide to the Strategic Environmental Assessment Directive**

This Environmental Report represents the output from Stage C of the process illustrated above.

During Stage D, Temple and Steer will prepare the Post-Adoption Statement on behalf of Croydon Council, who will publish this in turn. The Post-Adoption Statement will clearly summarise the way that consultation has influenced the assessment process, demonstrate how feedback has been considered, identify changes that have been made and the reasons for choosing the preferred policies and options.

In line with the requirements of the SEA Regulations, the Borough Council will monitor the effects of the LIP. This will feed into any future LIP progress reporting.