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## Local Implementation Plan 3

## Strategic Environmental Assessment

Environmental Report

London Borough of Greenwich

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- Continually improve the standard of service we provide internally and externally;
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All employees are trained to understand and discharge their individual responsibilities to ensure the effective operation of the Quality Management System.



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## 1. NON-TECHNICAL SUMMARY

### 1.1 Introduction

- 1.1.1 Under the Strategic Environmental Assessment (SEA) Directive 2001/42/EC, the Royal Borough of Greenwich is required to undertake a 'Strategic Environmental Assessment' (SEA) of the borough's Third Local Implementation Plan (LIP) to determine the likely significant environmental effects of the proposed objectives and initiatives set out therein and to demonstrate how environmental considerations have been integrated into the Local Implementation Plan proposed programmes.
- 1.1.2 The Environmental Report builds on the SEA Scoping Report produced by Project Centre for Greenwich Council in September 2018.
- 1.1.3 The SEA Directive requires authorities to assess the likely significant effects of their plans and programmes on the environment, including on issues such as biodiversity, population, human health, flora and fauna, soil, water, air, climatic factors, material assets, cultural heritage including architectural heritage, landscape and townscape and the interrelationship between these factors.
- 1.1.4 The main requirements introduced by the SEA Regulations are that:
- the findings of the SEA are published in an Environmental Report, which sets out the significant effects of the draft plan, in this case LIP3;
  - consultation is undertaken on the plan and the Environmental Report;
  - the results of consultation are considered in decision-making relating to the adoption of the plan; and
  - information on how the results of the SEA have been considered is made available to the public. It is a systematic process that identifies and predicts the potential significant environmental effects of plans/programmes, informing the decision-making process by testing different alternatives or options against environmental sustainability objectives.

### 1.2 What is the Greenwich Third Local Implementation Plan?

- 1.2.1 A Local Implementation Plan is a statutory document, which sets out how a London Borough proposes to implement the London Mayor's Transport Strategy (MTS) at a local level. The Greenwich LIP provides details of the borough's transport programme and funding requirements. It covers the same period as the third MTS and includes specific delivery proposals for the three-year period 2018/19-2022/23 and outlines the Council's framework for the delivery of transport projects, which accord with the nine outcomes set in the third Mayor's Transport Strategy.
- 1.2.2 It additionally reflects the transport needs and aspirations of the people of Greenwich.

### 1.3 What is a Strategic Environmental Assessment

1.3.1 European Directive 2001/42/EC (known as the ‘SEA Directive’) on the assessment of the effects of certain plans and programmes on the environment was adopted into UK law in July 2004 through the SEA Regulations. SEA is a process which aims to integrate environmental and sustainability considerations into the preparation and adoption of plans and programmes to promote sustainable development.

1.3.2 SEA is a systematic way to examine the likely significant effects of implementing a plan or programme and its reasonable alternatives. It is an iterative process, informing each stage of the development of a plan and feeding back information on how the plan is likely to affect the environment. The stages of the SEA are outlined below:

- **Stage A** – Setting the context and objectives, establishing the baseline and deciding on the Scope.
- **Stage B** – Developing and refining alternatives and assessing effects
- **Stage C** – Preparing the Environmental Report
- **Stage D** – Consulting on the draft plan and the Environmental Report
- **Stage E** – Monitoring the significant effects of implementing the plan or programme on the environment

1.3.3 A key stage of the SEA process is the preparation of the Environmental Report (this report) in which the like significant environmental effects of the plan are described. The purpose of this report is to:

- To aide consultation on the LIP by providing consultees with information on the potential environmental effects.
- To assist Greenwich Council with decision making on the LIP by highlighting the potential environmental effects of the plan.

### 1.4 Coverage of the Environmental Report

1.4.1 The following items have been examined during the assessment and are presented in the Environmental Report:

- Scope of the SEA and the SEA methodology
- Background information on Greenwich’s Third LIP and its main objectives;
- Relationship of the SEA and Third LIP;
- The environmental baseline
- The SEA Framework of objectives
- The compatibility of LIP objectives with SEA objectives
- Development of alternatives for the LIP
- Assessment of the environmental effect of the LIP and its alternatives
- Identification and analysis of environmental problems

- Proposed mitigation and enhancement measures
- Monitoring measures.
- Consultation on Draft LIP3 and SEA

## **1.5 Environmental Context and baseline**

- 1.5.1 The LIP is influenced by other relevant plans, programmes and strategies at international, national, regional and local levels. At international level, international agreements and EU directives establish requirements and guidance on issues such as sustainable development, climate change, biodiversity, habitats, water and air quality. There are also specific national plans, guidance and strategies on aspects such as transport, planning, climate change, air quality, biodiversity, the historic environment and sustainable development. At the London-wide level, the London Plan and MTS are key policy documents which influence the direction of the LIP. At the local level, Greenwich's Local Development Framework sets a framework for the future development of the borough.
- 1.5.2 Key environmental objectives of these various plans and programmes have been considered in the assessment of the Greenwich LIP. The SEA Regulations require that the current state of the environment and its likely evolution without the implementation of the LIP are described.

## **1.6 SEA Framework**

- 1.6.1 A SEA framework of objectives has been devised from the review of plans and programmes, analysis of baseline data and consideration of environmental issues within the borough. This framework, which includes a series of environmental objectives, is used to assess the environmental effects of the Third Greenwich LIP.
- 1.6.2 The SEA Directive does not specifically require the use of objectives or indicators in the SEA, but objectives can usefully demonstrate how environmental effects can be described, analysed and compared. The SEA objectives include:
- Reduce negative impact of the transport network on biodiversity, flora and fauna
  - Increase the number of trees on the highway
  - Create conditions to improve health and reduce health inequalities
  - Reduce CO2 emissions emanating from ground-based transport
  - Minimise soil contamination through land-based transport
  - Minimise ground water contamination through land-based transport
  - Improve surface water drainage
  - Protect and enhance the natural and historic environment and quality and character of Greenwich



- Reduce noise and vibrations from ground based transport
- Ensure all residents have access to public transport
- Ensure footpaths are maintained and easy to navigate by all users
- Reduce levels of ground based transport, mainly private cars, HGVs
- Improve road safety to reduce casualties of all road users in Greenwich

## **1.7 Consideration of Alternatives for the LIP**

1.7.1 A key element of the SEA process is the proactive consideration of alternative ways of delivering the plan so that an assessment can be made of the best environmental options to take forward. In considering alternatives for the LIP, it is important to remember its role in implementing the MTS at a local level and the extent to which this sets a limit on the range of options that can be considered. Alternatives help inform the initial thinking on those transport initiatives that are prioritised within the LIP Delivery Programme. The aim of the exercise is to assess the variety of options available for implementing the draft LIP objectives and the priorities of the MTS. It also assisted decision making on the preferred options to prioritise, taking account of the potential environmental effects of the whole LIP.

## **1.8 Mitigation**

1.8.1 Where significant effects are predicted then the SEA makes recommendation on the measure to prevent, reduce or offset these impacts. Measures may include changes to the Greenwich LIP, requirements for further studies, or recommendation for specific measures to schemes. Measures to enhance beneficial effects can also be included.

## **1.9 Monitoring**

1.9.1 Monitoring helps to keep track of the actual environmental effects of implementing the Greenwich LIP. The Greenwich LIP includes a programme to monitor delivery of the transport initiatives, including annual reports on the performance of the LIP against targets. SEA monitoring is also proposed within the Environmental Report based on the SEA framework. These measures are subject to on-going consultation and will be defined in more detail in the run up to publication of the SEA Statement following adoption of the final LIP which is anticipated in March 2019.

## 2. INTRODUCTION

### 2.1 Background

- 2.1.1 The geographical area that this SEA covers is the Royal Borough of Greenwich.
- 2.1.2 Greenwich, like all London local authorities, is required under the Greater London Authority Act 1999 to produce a Local Implementation Plan (LIP) showing how the authority intends to implement policies, strategies and programmes over the life of the plan to implement the Mayor's Third Transport Strategy (MTS3). The preparation of the LIP should also consider the objectives set out in other Mayoral Strategies. The LIP3 covers the same period as the MTS3 and includes specific delivery proposals for the first three-year period of 2018/19 – 2022/23.
- 2.1.3 Under the Strategic Environmental Assessment (SEA) Directive 2001/42/EC, the Royal Borough of Greenwich is required to undertake an assessment of the borough's Third Local Implementation Plan (LIP) to determine the likely significant environmental effects of the proposed objectives and initiatives set out therein.

### 2.2 The SEA and the regulations

- 2.2.1 Under European legislation the Strategic Environmental Assessment (SEA) Directive (2001/42/EC) requires that responsible authorities ensure that due regard for environmental and sustainability impacts are comprehensively integrated when drawing up any plans.
- 2.2.2 The objective of the SEA directive is:  
  
'to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development'.
- 2.2.3 Thus, a SEA ensures that environmental and sustainability implications of the LIP are adequately identified, addressed, mitigated, communicated to decision makers and monitored. The process also provides adequate opportunities to engage stakeholders, thus reducing the potential harm done to the environment.
- 2.2.4 Article B of the Directive 2001/42/EC requires the Environmental Report and the results of consultation to be considered during the decision-making process. To be effective, an SEA should be undertaken as an iterative process and should be fully integrated into the plan-making process.

### 2.3 Scope of the SEA

- 2.3.1 The SEA Directive provides an indicative list of issues/topics that should be considered when looking at the environmental impacts of the LIP. These include:

- Biodiversity, flora and fauna
- Population and human health
- Air quality
- Soils and contaminated land
- Climate change
- Water
- Preparation for flooding
- Cultural heritage, landscape and townscape
- Noise
- Accessibility
- Congestion
- Road safety

2.3.2 The SEA Directive requires that efforts are focussed on significant environmental impacts of the LIP. The Environmental Report is not intended to cover all impact or environmental issues. The Environmental Report is not meant as a replacement for any Council reports that publish data, targets or monitoring information. In addition, the Environmental report is not designed to carry out an Environmental Impact Assessment of individual proposals, policies or programmes. It is a strategic assessment of potential significant impacts of the LIP.

2.3.3 The SEA Directive and Regulations stress the importance of a reasonable approach to the assessment and the need to conduct the assessment at the right level. A reasonable approach considers issues such as resources, time and information available.

2.3.4 The SEA is restricted to the geographical area of the LIP, being in this case, the Royal Borough of Greenwich. The SEA covers the same period as the LIP, which is from 2018/19 to 2022/23. Elements of the LIP such as targets and the Delivery Plan have a shorter timescale and will be updated during the life of the LIP.

## 2.4 Third Greenwich LIP

2.4.1 The Third LIP sets out Greenwich's long term goals and transport objectives for the next 20 years, a three-year programme of investment starting in 2019/20, and includes delivery proposals for the period 2019/20 - 2021/22 and the targets and outcomes the borough are seeking to achieve. A more detailed delivery plan is provided for the financial year 2019/20.

2.4.2 This LIP identifies how the Royal Borough of Greenwich will work towards achieving the MTS goals of:

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

2.4.3 The Council notes that 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, compared to 63% today. There are different targets set for all London boroughs. The MTS target for Greenwich is 75% of all trips to be made on foot, by cycle or using public transport by 2041 in the borough, compared to the 58% observed in 2016/17.

2.4.4 Greenwich's transport objectives as set out in the third LIP are:

- Healthier Greenwich: a transport network, places and streets that encourage active travel, keeping us all fit and healthy, mentally and physically. Making our roads safer, particularly for walking and cycling. We all feel safe and secure when we're out and about.
- Greener Greenwich: reducing pollution from transport, to keep us healthy, happy and reduce our contribution to climate change. There will be a reduction in car ownership and single occupancy car trips.
- Connected Greenwich: a joined-up transport network provides great access to all the opportunities Royal Greenwich offers. It connects all areas and all people. It is efficient, affordable, attractive and uses innovative technology to create a connected Greenwich. A range of great public transport, walking and cycling options offer the best way to travel in Greenwich.
- Growing Greenwich: getting people into 21,000 new jobs and 40,275 new homes in Royal Greenwich by 2031. Making growth good for existing residents, during construction and beyond.

2.4.5 Greenwich's delivery plan for the period 2019/20 – 2021/22 is indicated in the table below:

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

PROGRAMME BUDGET

Royal Borough of Greenwich – TFL BOROUGH  
FUNDING 2019/20/2021/22

	2019/20	2020/21	2021/22
Local transport initiatives	100	100	100
<b>Corridors, Neighbourhoods &amp; Supporting Measures</b>			
Active Travel Infrastructure			
Development of streetscape guidance for cycle and public realm schemes in the Borough.	40	0	0
Primary cycling routes projects (schemes derived from Strategic Cycling Assessment).	600	650	650
Implementation of localised walking healthy routes. Includes expanding the development of a network of pedestrian priority routes includes investment in key strategic walking routes in the borough such as the Green Chain Walk. Also includes improved wayfinding.	70	60	60
Accessibility improvements such as the provision of tactile paving, the improvement of sub-standard pedestrian islands, lighting enhancements, continuous footways, dropped kerbs, tactile paving, tonal distinction between areas for pedestrians and areas for vehicles and decluttering.	43	40	40
Active Travel Behaviour Change			

Funding for RBG School Travel Advisor position and support to deliver range of school travel plan programmes including updates of travel plans and delivery of activities and initiatives linked to them as identified in other funding sections below.

45 45 45

Behaviour change initiatives including campaigns, publicity, marketing materials etc linked to School Travel Plan actions. Includes funding for school cycle and scooter parking where required. Allows schools to develop active travel schemes in line with their School Travel Plan action plans.

65 65 65

Cycle training co-ordinator role overseeing cycle training contract plus associated training activities e.g. Dr Bikes, cycle maps, HGV/cycle safety initiatives etc

45 45 45

Series of awareness campaigns to boost walking and cycling through behaviour change programmes across the Borough

20 20 20

Reducing Road Danger

Local Safety Scheme - Blackwall Tunnel Southern Approach/Woolwich Road 10 200 280

Local Safety Scheme - Plumstead Common Road (Burrage Road - Garland Road) 109 0 0

Local Safety Scheme - Western Way/eastern Way/Central way 100 0 0

Local Safety Scheme - Blackwall Lane slip into BTSA 10 100 0

Local Safety Scheme - Footscray Road/Avery Hill Road 10 50 0

Local Safety Scheme - Plumstead Common Road/Sandy Hill Road 0 10 50

Local Safety Scheme - Blackwall lane/Draednought Street 0 10 75

Woolwich Road – Phase 2 150 0 0

Waterdale Road Area 20MPH Zone	10	75	0
Colepits Road Area 20MPH Zone	10	50	0
St Johns Park Area 20MPH Zone	0	10	50
Blanmerie Road Area 20MPH Zone	0	10	50
Maintenance and repair of existing 20mph zones	85	85	85
Engineering measures linked to School Travel Plan actions including (where appropriate) raised tables, improved crossings, markings and other safety initiatives. All to be completed by March 2018	45	45	45
School and adult cycle training programme - tendered contract with Bikeworks which includes all output and outcome targets	131	131	131
Targeted measures to support groups at higher risk of road collisions including older people, powered two wheelers, young drivers and BME groups. Includes a mixture of funding for courses (such as Scooter Safe and Bike Safe), online resources (including '2 Wheels London') plus campaigns, behaviour change initiatives, marketing, awareness raising and resources.	90	90	90
<b>Traffic Reduction</b>			
Supporting the development of the car club network. Cost is mainly TMOs. Plus, marketing and other campaigns to promote uptake of Car Clubs in the Borough, and supporting pilot e-car club work	5	5	5
Borough wide ongoing review of freight specific signage, loading restrictions etc including support for involvement with South London Freight Consolidation Centre proposals	10	10	10

The Council is carrying out an extensive review of its Controlled Parking Zones (CPZs) and introduction of some new zones. All the above schemes have, or will be subject to a full consultation and approval process.

	135	233	233
Clean and Green			
Support for the roll out of Source London points, Lamp post charging (match funded by GULCS) and rapid chargers.	40	40	40
Public Transport			
Bus Package - Small scale bus priority measures and maintenance of borough bus stops.	60	60	60
<b>Subtotal</b>	<b>1938</b>	<b>2139</b>	<b>2129</b>
DISCRETIONARY FUNDING			
Liveable Neighbourhoods	1705	2000	285
Bridge strengthening	TBC	TBC	TBC
Traffic signal modernisation	TBC	TBC	TBC
<b>Sub-total</b>	<b>1705</b>	<b>2000</b>	<b>285</b>
STRATEGIC FUNDING			
Bus Priority	TBC	TBC	TBC
Borough cycling programme	TBC	TBC	TBC
Sub-total	0	0	0
Crossrail complementary measures	28	0	0
Mayor's Air Quality Fund	0	0	0
Low Emission Neighbourhoods	0	0	0
Sub-total	28	0	0
<b>All TfL borough funding</b>	<b>3771</b>	<b>4039</b>	<b>2324</b>

**Table 1:** Greenwich's delivery plan for the period 2019/20 – 2021/22

2.4.6 The targets and outcomes the borough is seeking to achieve are indicated below:



Outcomes	Observed	Year	Trajectory	Year	Trajectory	Year
Overall aim: 80% walking, cycling and public transport	58	2014/15 to 2016/17	61	2021	75	2041
Outcome 1a: Londoners to do at least the 20 minutes of active travel they need to stay healthy each day	31	2014/15 to 2016/17	39	2021	70	2041
Outcome 1b: Londoners have access to a safe and pleasant cycle network	2	2016	34	2021	72	2041
Outcome 2: Vision Zero – deaths and serious injuries from all road collisions to be eliminated from our streets	48	2016	42	2021	0	2041
Outcome 3a: Reduce the volume of traffic in London	1057	2016	1056	2021	951	2041 (-10%)
Outcome 3b: London's streets will be used more efficiently and have less traffic on them	18,502	2017/18	18,958	2021	17,842	2026
Outcome 3c: Reduce car ownership in London	80,297	2016	76,900	2021	75,200	2041
Outcome 4a: Reduced CO2 emissions	214,500	2013	192,200	2021	75,200	2041
Outcome 4b: Reduced NOx emissions	790	2013	300	2021	40	2041
Outcome 4c: Reduced particulate emissions (PM10)	77	2013	64	2021	44	2041

Outcome 4d: Reduced particulate emissions (PM2.5)	43	2013	31	2021	21	2041
Outcome 5: Increase public transport use	172	2014/15 to 2016/17	206	2021	327	2041
Outcome 6: Everyone will be able to travel spontaneously and independently	Observed 2015 Average journey time using full network (minutes) 81	Observed 2015 Average journey time using step-free network (minutes) 86	Observed 2015 Time difference (minutes) 5	Trajectory 2041 Average journey time using full network (minutes) 70	Trajectory 2041 Average journey time using step-free network (minutes) 72	Trajectory 2041 Time difference (minutes) 2
Outcome 7: Bus journeys will be quick and reliable, an attractive alternative to the car (15% change)	11.1	2015	11.5	2021	12.8	2041

**Table 2: Greenwich’s borough targets and outcomes**

### 3. SEA METHODOLOGY

#### 3.1 SEA Process

3.1.1 The SEA directive identifies five stages to the SEA process as summarised below:

Stage	Tasks	Output
Stage A	Set context & objectives, establish baseline & scope	Scoping Report
Stage B	Develop and refine alternatives and assess impacts	Environmental Report
Stage C	Prepare the environmental report	Environmental Report
Stage D	Consultation on draft plan and environmental report	Supplementary or revised Environmental Report
Stage E	Monitoring implementation of the plan	SEA post-adoption statement

**Table 3: Stages of the SEA process**

3.1.2 The scoping report (stage A) was issued in September 2018 to the following organisations for consultation:

- English Heritage
- Environment Agency
- Natural England

3.1.3 Responses were received, from Environment Agency (checklist of likely effects on the environment) and Natural England (no comment). English Heritage did not respond however a detailed response was received from Historic England (formerly English Heritage). All responses are summarised in chapter 6, together with an indication of how they have been used in the development of this Environment Report.

3.1.4 The Environmental report is the main output of the SEA process. It builds on the content of the Scoping Report (see appendix A) and covers stages B to C. It therefore documents the process by which the objectives of the Local Implementation Plan for Greenwich have been developed, ensuring the integration of SEA aspects likely to be affected by the plan.

3.1.5 The Environmental Report is part of the LIP. The public and Environmental Bodies will be given the opportunity to comment on the draft LIP and Environmental Report (stage D). Following consultation and revision, the Council will be asked to adopt the LIP.

**3.2 SEA and LIP3 relationship**

- 3.2.1 The SEA Directive requires that ‘an Environmental Report shall be prepared in which the likely significant effects on the environment of the plan or programme, and reasonable alternatives considering the objectives and geographical scope of the plan or programme, are identified, described and evaluated.’
- 3.2.2 This environmental report explains the likely significant environmental impacts of the LIP3 proposals, the alternatives considered and the mitigation measures proposed. It demonstrates compliance with the SEA regulations and will accompany the draft LIP3 through the consultation process to encourage active and transparent consultation on the draft LIP3.
- 3.2.3 Table 4 indicates the main work component stages for the preparation of the Greenwich LIP3, the stages of the SEA process and the links between them.

LIP3 Stage	SEA Stage
Determining the scope of the LIP3; clarifying goals; specifying the problems or challenges	<b>A:</b> Setting the context & objectives, establishing baseline & scope (Scoping Report)
Generating options to resolve these challenges; appraising the options and predicting their effects	<b>B:</b> Developing, refining and appraising strategic options
Selecting preferred options for LIP3 and deciding priorities	<b>B:</b> Assessing the effects of the LIP3 preferred options and proposing mitigation measures
Production of the draft LIP3	<b>C:</b> Prepare Environmental Report
Consultation on draft LIP3	<b>D:</b> Consultation on the Environmental Report
Production of final LIP3	<b>D:</b> Prepare a supplementary or revised Environmental Report if necessary
Adoption of LIP3	<b>E:</b> SEA post-adoption statement

**Table 4: LIP3 and SEA Process Stages and Links**

## 4. REVIEW OF RELEVANT POLICIES

### 4.1 Mayor's Transport Strategy

- 4.1.1 The new MTS (2018) sets out the plans to transform London's streets, improve public transport, improve health and create opportunities for new homes and jobs. To achieve this, the Mayor wants to encourage more people to walk, cycle and use public transport.
- 4.1.2 The city's population is forecast to rise from 9 million people today to 10.8 million in 2041, which generates significant transport challenges. As such, new ways need to be found to plan and manage this expected growth.
- 4.1.3 The Mayor, through TfL and the boroughs, and working with stakeholders, will reduce Londoners' dependency on cars in favour of active, efficient and sustainable modes of travel.
- 4.1.4 The key aims of the MTS are listed below:
- 80 per cent of all trips in London to be made on foot, by cycle or using public transport by 2041
  - By 2041, for all Londoners to do at least the 20 minutes of active travel they need to stay healthy each day
  - No one to be killed in or by a London bus by 2030, and for deaths and serious injuries from all road collisions to be eliminated from the streets by 2041.
  - To reduce freight traffic in the central London morning peak by 10 per cent on current levels by 2026, and to reduce total London traffic by 10-15 per cent by 2041,
  - All taxis and PHVs would be zero emission capable by 2033 at the latest, all buses would be zero emission by 2037 and London's entire transport system would be zero emission by 2050.
  - To open Crossrail 2 by the early 2030s
  - To create a London suburban metro
  - To improve the overall accessibility of the transport system including, by 2041, halving the average additional time taken to make a public transport journey on the step-free network compared to the full network.
  - To ensure that regeneration and new development schemes incorporate the Mayor's principles of Good Growth,
- 4.1.5 The objectives of the MTS are:
- To reduce emissions and concentrations of harmful atmospheric pollutants, particularly in areas of poorest air quality and reduce exposure;

- 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;
- To reduce the threat of climate change through reducing greenhouse gas emissions and moving towards a zero carbon London by 2050; and
- To improve the mental and physical health and wellbeing of Londoners and to reduce health inequalities across the city and between communities.

4.1.6 To implement the strategy's proposals successfully there is a requirement to:

- Develop and deliver strategies and plans to achieve the Mayor's priorities;
- Prepare for new technology and unpredictable changes to the way we live;
- Find a more efficient and fair way of paying for transport projects in London; and
- Work with partners across London and beyond, including the Government, London boroughs, other transport operators, business and other stakeholders.

4.1.7 By 2041, the MTS is expected to have delivered the following nine outcomes:

	MTS Outcomes
1	London's streets will be healthy and more Londoners will travel actively;
2	London's streets will be safe and secure;
3	London's streets will be used more efficiently and have less traffic on them;
4	London's streets will be clean and green;
5	The public transport network will meet the needs of a growing London;
6	Public transport will be safe, affordable and accessible to all;
7	Journeys by public transport will be pleasant, fast and reliable;
8	Active, efficient and sustainable travel will be the best option in new developments; and
9	Transport investment will unlock the delivery of new homes and jobs

**Table 5: MTS Outcomes**

## 4.2 National, London and local policies

4.2.1 Both LIP3 and the SEA should be set in the context of international, national, regional and local objectives along with environmental, strategic planning, transport, health and social policies.

4.2.2 The following national documents have been considered in the preparation of the LIP3 and SEA.

- Air Transport White Paper (2010)
- Equality Act (2010)
- UK Post-2010 Biodiversity Framework (2012)
- National Planning Policy Framework (2012)
- The Climate Change Act (2008)
- Historic England Three Year Corporate Plan 2018 – 2021 (2018)
- UK Plan for Tackling Roadside Nitrogen Dioxide Concentrations (2017)

4.2.3 The following Greater London documents have been reviewed:

- Better Health, Better Environment- a GLA Guide for London Borough's (2013)
- London Environment Strategy (2018)
- Mayor of London's Draft Economic Development Strategy for London (2017)
- Mayor of London's Water Strategy (2011)
- Mayor of London's Vision for Cycling in London (2013)
- Mayor of London's Vision Zero Action Plan (2018)
- Mayor of London's Health Inequalities Strategy (2017)
- Mayor of London's Climate Change Mitigation and Energy Strategy (2015)
- The London Plan (2016)
- The London Plan Habitat Targets (2017)

4.2.4 Greenwich's policy and legislative context includes:

- Greener Greenwich Strategy (2016)
- Greenwich Local Plan (2014)
- Greenwich Contaminated Land Strategy
- Greenwich Air Quality Action Plan (2017-2021)
- Greenwich Supplementary Planning Documents
- Greenwich 2nd Local Implementation Plan
- Greenwich Local Flood Risk Management Strategy (2015)
- Greenwich Biodiversity Action Plan

- Healthy Greenwich, Healthy People - the health and wellbeing strategy for the Royal Borough of Greenwich (2015-2018)
- 4.2.5 The above policies and plans support each other in protecting and enhancing the environment.



## 5. ENVIRONMENTAL BASELINE

### 5.1 Greenwich local context

- 5.1.1 The geographical area that this SEA is the Royal Borough of Greenwich. The Borough extends from the River Thames in the north to Eltham in the south and from Greenwich in the west to Shooters Hill in the east.
- 5.1.2 The Royal Borough of Greenwich is divided into a total of seventeen wards, covering 47.35km<sup>2</sup> in southeast London, and is the twentieth largest of the 32 London Borough's by area. Greenwich shares its borders with the London Boroughs of Lewisham, Bromley and Bexley to the west, south and east respectively and with the River Thames to the north.
- 5.1.3 Greenwich is connected to the rest of London via road, London Underground and Overground services and the Docklands Light Railway (DLR).
- 5.1.4 The A2 Blackheath Hill/East Rochester Way, A102 Blackwall Tunnel Southern Approach, A2213 Kidbrooke Park Road, A205 Well Hall Road, A20 Sidcup Road and A210 Eltham Road are major transport routes within the Borough.
- 5.1.5 The Jubilee London Underground line can be accessed via North Greenwich station, which is located on the Greenwich Peninsula. This is the only London Underground station in the Borough.
- 5.1.6 There are thirteen railway stations in the Borough, all of which are served by Southeastern trains.
- 5.1.7 There are also five stations on the DLR network, which reaches north to Stratford, south to Lewisham cross the River Thames, west to Tower Gateway and Bank in the City of London financial district, and east to Beckton, London City Airport, and to Woolwich Arsenal south of the river.

### 5.2 Biodiversity, flora and fauna

- 5.2.1 The Borough has a land area of 5044 hectares, of which 1,400 hectares is open space, incorporating a mix of woodlands, large formal parks and commons. There is a large swathe of land that is designated Metropolitan Open Land (MOL) and this stretches through the central, eastern and southern parts of the Borough forming part of Green Chain land.
- 5.2.2 Green Chains consists of continuous open space linkages, including areas of Metropolitan Open Land (MOL), parks and river corridors which link into strategic networks of open land extending throughout the wide region. The Green Chain stretches through the London Boroughs of Bexley, Bromley, Greenwich, Lewisham and Southwark and provides a recreational, ecological, historical, amenity and physical break in the urban landscape.
- 5.2.3 There are four 'green' corridors running through the Borough. These are extensive contiguous areas of trees, shrubs and open land that often straddle road, river and rail networks and form corridors that link one habitat with another. These areas can help form a network necessary to ensure the maintenance of the current range and diversity of flora and fauna.

5.2.4 The Borough does not contain any sites which carry a European designation and thus has no sites as part of the Natura 2000 network. However, there are several designated open spaces with within the Borough, the number of which are shown below in Table 6.

Designation	No.
UNESCO World Heritage Site	1
Sites of Special Scientific Interest (SSSI's)	55
National Nature Reserve (NNR)	none
Local Nature Reserve (LNR)	5

**Table 6: Number of designated sites and reserves**

**5.3 Population and human health**

- 5.3.1 Population Census results obtained in 2011 identified that the total population within the Royal Borough of Greenwich was 254,557. By 2023, the population is expected to rise to 300,500 by 2023.
- 5.3.2 Greenwich is not as ethnically diverse as other London Boroughs.
- 5.3.3 Data gathered at the 2011 Census determine that 39,632 people travel into the Borough to work, whilst 71,228 travel out of the Borough to work. It can be determined that commuting results in a population decrease of 31,596 in the Borough.
- 5.3.4 The Mayor has made it his ambition that every Londoner walks or cycles for twenty minutes every day (in periods of at least 10 minutes). This is important because physical activity every day helps to prevent a wide range of diseases. The easiest way for Londoners to keep active is to build walking or cycling into their daily travel, either through walk and cycle trips or as part of a public transport trip.
- 5.3.5 The LIP provides Greenwich with the opportunity to encourage increased activity within the resident population and with those who visit or work in the Borough.
- 5.3.6 The LIP contains many proposals which are aimed at encouraging walking and cycling, through improvements to pedestrian and walking facilities, including personal safety and security, and improved street cleaning. These proposals are in line with the aims of the MTS and will have a beneficial impact on human health.
- 5.3.7 The LIP proposals will improve accessibility for wheelchair users, older people and other user groups such as people with pushchairs, for example, improving bus stop accessibility for these user groups. These proposals are in line with the MTS and will have a positive impact on accessibility

5.3.8 The cumulative positive impact on activity, safety, security and accessibility is expected to be significant.

#### 5.4 Air quality

5.4.1 The European Union (EU) air quality policy sets the overall context for national policy. The aim of the EU policy is to develop an overall strategy through the setting of long-term air quality targets. These air quality limit values are set through a series of directives. The UK National Air Quality Strategy defines the future air quality policy in the UK and sets objectives for several key air pollutants.

5.4.2 The Royal Borough of Greenwich is meeting all the national AQS objectives other than for the gas Nitrogen Dioxide (NO<sub>2</sub>). The Royal Borough of Greenwich is meeting the current objectives for Particulate Matter (PM<sub>10</sub> and PM<sub>2.5</sub>), but as this pollutant is damaging to health at any level, this remains a pollutant of concern. The measured concentrations still exceed the World Health Organisation limit and the whole of Greenwich was designated as an Air Quality Management Area (AQMA) in 2001.

5.4.3 Though the main source of air pollution in the Borough is ground-based vehicle emissions, significant amounts of pollutants are also generated from residential, domestic and commercial gas use, industry, construction sites and other sources.

5.4.4 Air quality modelling has found that pollutant levels are high on the primary road network, particularly the A2, A20, A205, A206 and A102 (Blackwall Tunnel Approach), which are dominated by through traffic. The major town centres of Greenwich, Woolwich and Eltham are also subject to concentrations of NO<sub>2</sub> above the objective limit.

5.4.5 Greenwich has recently revised their Air Quality Action Plan (AQAP) which sets out measures that improve air quality in the Borough between 2017 and 2021.

5.4.6 Major hotspots for poor quality have been identified on the TfL road network, which the Borough has limited direct control, which reduces the Borough's ability to improve air quality from vehicular traffic. This indicates that an effective air quality strategy requires a coordinated approach, involving not only Greenwich, but also regional bodies such as the Greater London Authority, Transport for London and Highways England.

5.4.7 The focus areas are associated with the major road network that uses the Borough. From an air quality perspective, this provides a focus for LIP measures that will alleviate congestion and encourage the smooth flow of traffic.

#### 5.5 Climate change

5.5.1 Road and rail traffic emit carbon dioxide, a greenhouse gas that contributes towards climate change. Infrastructure, buildings, businesses, and community cohesion are all likely to feel the impacts of more regular severe flooding, heatwaves, extreme weather events and reduced access to important

resources like water. It is a key area for councils to engage in resilience thinking.

- 5.5.2 The LIP is expected to generate positive environmental improvements, though the effects on climate change will be difficult to monitor and quantify. The important contribution of sustainable transport policies to the climate change agenda is recognised, though the LIP is unlikely to have a significant impact.

## 5.6 Soils and contaminated land

- 5.6.1 The solid geology underlying Greenwich is variable across the borough. The bedrock varies between London Clay, Lambeth Group, Thanet Formation, Harwich Formation; and Lewes Nodular Chalk Formation, Seaford Chalk Formation and Newhaven Chalk Formation (undifferentiated).
- 5.6.2 The superficial deposits are consistent across the Borough and are alluvium (clay, silt, sand and peat)
- 5.6.3 In Greenwich, contaminated land has predominantly arisen following chemical pollution. Greenwich has a contaminated land strategy that determines how contaminated land will be dealt with in the Borough. There are numerous sites in the borough which have been previously utilised for heavy industry and other contaminative uses, such as landfill, and this may pose land contamination problems for future development on such sites.
- 5.6.4 It is not foreseen that the LIP will have any significant impact on soil quality.

## 5.7 Water

- 5.7.1 The Water Framework Directive (WFD) is a European directive that imposes legal requirements to protect and improve the water environment (including rivers, coasts, estuaries, lakes, ground waters and canals). Physical works can modify the size and shape of a watercourse, reduce or increase the flow of water, introduce artificial materials or remove sediment and/or vegetation.
- 5.7.2 The EA is the lead authority on the WFD and has classified the ecological quality of the Marsh Dykes river water bodies as 'moderate' status ecologically and the River Quaggy and Shuttle Rover as 'poor' ecology under the WFD. All rivers will need to achieve 'good' ecological status or potential by 2027.
- 5.7.3 The River Quaggy, from the Little Quaggy to the River Ravensbourne, was designated under the General Quality Assessment (GQA) scheme and achieved a good water quality rating.
- 5.7.4 The Thames Estuary is the main water body in Greenwich and forms the northern borough boundary. Thirteen kilometres of the borough fronts on to the River Thames.

## 5.8 Preparation for Flooding

- 5.8.1 Under the Flood Risk Regulations 2009, Greenwich was required to carry out a Preliminary Flood Risk Assessment (PFRA) This is a high level screening exercise to identify areas of significant flood risk within a given study area.

The flooding could be caused by surface water, groundwater, ordinary water courses or canals.

- 5.8.2 Greenwich has land within flood zones 2 and 3. Flood zone 2 is applied to land where the probability of flooding occurring is deemed to be ‘medium’. Flood zone 2 includes the land around the River Quarry, sited in the southwest of Greenwich. Flood zone 3 is applied to land where the probability of flooding is deemed to be ‘high’. Flood zone 3 is in the north of the borough around the River Thames.
- 5.8.3 Generally, flood risk is predominantly at the north of the borough near the River Thames, though there is an element of flood risk towards the west of the borough. The borough is protected by the Thames Tidal Defences and the Thames Barrier.

**5.9 Cultural heritage, landscape and townscape**

- 5.9.1 There are several designated buildings and sites within the Borough, the number of which are shown in Table 7.

Designation	No.
Conservation Area	20
Listed buildings	500 (approx.)
Grade I buildings	24
Grade II* buildings	46
Locally listed buildings	534 (approx.)
Scheduled Ancient Monument (SAM)	12
Identified local views	1
Registered Parks & Gardens	4
World Heritage Site	1

**Table 7: Number of designated sites and buildings**

- 5.9.2 Historic England has identified thirty-one sites of archaeological interest in Greenwich, referred to as ‘Archaeological Priority Areas’ based on Historic England review of 2011 [to be reviewed in 2019]
- 5.9.3 The largest use of land use of Greenwich is for housing, though almost a quarter of the borough is open space. The eastern and southern parts of Greenwich contain ‘Green Chain’ land, whilst the land to the north is predominantly industrial. The O2 Arena is in the north of the borough on the

peninsula and is one of the most popular entertainment venues in the world, hosting a wide range of events.

- 5.9.4 Greenwich has an extensive river frontage (thirteen kilometres) and the River Thames is a big part of the borough's identity.
- 5.9.5 Implementation of the LIP should have a significant positive impact on the townscape in the Royal Borough of Greenwich.

## 5.10 Noise

- 5.10.1 The main issues relating to noise are the current patterns of problems relating to road traffic.
- 5.10.2 It is not foreseen that the LIP will have any significant impact on noise in the Borough.

## 5.11 Accessibility

- 5.11.1 PTALs (public transport access levels) quantify relative connectivity to the public transport network for any location in London. The term 'connectivity to the network' indicates that the PTAL measure focuses on the proximity to public transport services, and not on where these services take people to or indeed how accessible they are to all members of the population.
- 5.11.2 PTAL values are on a scale from 1a to 6b, with 6b representing the highest connectivity level.
- 5.11.3 There is a single area within the northern half of the Borough where public transport access is high, though there are areas throughout the Borough where, accessibility is lower.
- 5.11.4 Improved public transport accessibility increases access to employment opportunities. One measure that can be used to quantify the development of the transport networks in terms of the support that they give to London's economy is the number of jobs (whether filled or currently vacant) that are potentially available within a given travel time from a residential location. The basis for assessing this is a travel time contour of 45 minutes by the principal public transport modes, expressed as an aggregate measure across Greater London.
- 5.11.5 Data produced by TfL has identified that the majority of Greenwich has access to less than 2.5 million jobs, within a 45-minute journey from their homes.
- 5.11.6 Implementation of the LIP should have a significant positive impact on accessibility in the Royal Borough of Greenwich.

## 5.12 Congestion

- 5.12.1 The Department for Transport have carried traffic counts, which enables traffic volume to be determined, which then can be used comparatively against, Inner, Outer, Central and Greater London average traffic volumes.
- 5.12.2 Greenwich is an Inner London borough. In 2016, the volume of motor vehicles recorded in the Royal Borough of Greenwich was significantly higher than the

average volume of motor vehicles recorded in Inner and Central London and slightly higher than the average volume of motor vehicles recorded in Greater and Outer London.

- 5.12.3 A travel modal shift from the private car to sustainable travel modes can reduce traffic congestion and air pollution in urban areas. Research carried out by TfL in 2017 into understanding how Londoners wish to travel in the capital, identified that Greenwich has an active, efficient and sustainable mode share (cycling, walking and public transport) of approximately 58%, which is lowest of all the Inner London Boroughs.
- 5.12.4 Implementation of the LIP should have a significant positive impact on congestion in the Royal Borough of Greenwich.

### 5.13 Road safety

- 5.13.1 The Borough is committed to reducing the number of people killed or seriously injured (KSI) because of road traffic collisions.
- 5.13.2 Collision rates produced by TfL in 2015 indicated that Greenwich has the seventh lowest collision rate for 'all roads' in London.
- 5.13.3 The Mayor of London has set out wide-ranging plans that will transform the capital's streets, public places and deliver future growth. Proposals in the strategy include delivering a 'Vision Zero' approach in London to make its streets safer for all, where Vision Zero aspires to a time where there will be no KSI's on London's roads.
- 5.13.4 Implementation of the LIP should have a significant positive impact on road safety in the Borough of Greenwich.

### 5.14 SEA Objectives

- 5.14.1 The state of the environment can be influenced through the implementation of the LIP. However, not all environmental areas or SEA factors will be influenced to the same degree.
- 5.14.2 The significance of environmental impacts (positive or negative) because of the LIP on SEA environmental topics is detailed in Table 9 in Chapter 7.
- 5.14.3 SEA objectives for Greenwich transport strategy have been developed in tandem with the development of Greenwich's transport objectives and the baseline for SEA topics.
- 5.14.4 Table 8 outlines SEA objectives against SEA topics and key relevant LIP policies. SEA objectives have been set for all SEA topics to ensure a thorough scoping exercise. The Council will take a reasonable approach towards monitoring and prioritise those indicators/targets that are associated with those SEA topics that have been identified to have likely significant environmental effects due to the implementation of the LIP. SEA

SEA Topic	SEA Objective	Key relevant LIP policies
Biodiversity, flora and fauna	Reduce negative impact of the transport network on biodiversity, flora and fauna  Increase the number of trees on the highway	2
Population and human health	Create conditions to improve health and reduce health inequalities	1, 2
Air Quality	Reduce emissions emanating from ground-based transport	1,2
Climate change	Reduce CO <sub>2</sub> emissions emanating from ground-based transport	1,2
Soils and contaminated land	Minimise soil contamination through land-based transport	2
Water	Minimise ground water contamination through land-based transport	2
Preparation for flooding	Improve surface water drainage	2
Cultural heritage, landscape and townscape	Protect and enhance the historic environment especially heritage assets at risk.  Protect and enhance the quality and character of Greenwich	3,4
Noise	Reduce noise and vibrations from ground based transport	2
Accessibility	Ensure all residents have access to public transport  Ensure footpaths are maintained and easy to navigate by all users	3,4
Congestion	Reduce levels of ground based transport, mainly private cars, HGVs	1, 2
Road safety	Improve road safety by reducing casualties of all road users in Greenwich	1,3

**Table 8: SEA objectives, topics and relevant LIP policies**



## 6. CONSULTATION RESPONSE

### 6.1 Summary of comments from environmental bodies

6.1.1 Consultation is an integral part of both the LIP and SEA process. The SEA Directive and Regulations required the Responsible Authority to consult with Environmental Bodies on the scoping Report. Responses to the consultation have been used to refine the LIP and this Environmental Report. The Environmental Bodies consulted and summaries of their responses are noted below:

6.1.2 **Natural England:** No comments. Natural England are satisfied with the scope and contents of the proposed SEA (22<sup>nd</sup> October 2018, correspondence from Sharon Jenkin, Consultations Team, Natural England).

6.1.3 **Environment Agency:** The environment agency sent a generic checklist regarding the Scoping report on 15 October 2018. As part of the Strategic Environmental Assessment (SEA), the Environment Agency would like the SEA to consider the likely effects on the environment including on:

- Climatic factors e.g. climate change
- Air quality and human health
- Water and soil
- Biodiversity, flora and fauna
- Material assets e.g. sustainable use of resources and waste

6.1.4 **Historic England** (formerly as English Heritage): Historic England sent a response to the Scoping Report on 01 October 2018. Key comments include:

- Identify the potential for positive effects and opportunities to mitigate harm to London’s built heritage and sites of cultural importance through better revealing historic significance and access to the historic environment.
- Set out more detailed environmental objectives and questions against which to measure outcomes;
- The objectives in respect of Heritage should have greater clarity and alignment with National Policy and Guidance.
- The aims for Cultural Heritage and Heritage Assets should state the need to protect and enhance existing heritage assets and the historic environment, including sites, features, landscapes and areas of historic, archaeological and cultural value, in relation to their significance and their settings.
- Reword assessment criteria from “Create places and spaces that will become a cultural feature of an area.” To “Create well integrated places and spaces which reflect local character and seek opportunities to enhance cultural activities” to better reflect the requirement to protect

the historic environment and seek opportunities to better reveal its significance while promoting cultural uses.

- NPPF Policy 185 requires a positive policy for heritage assets at risk. Consider if initiatives help reduce factors affecting heritage assets at risk.
- Clarification of Grades for listed buildings/structures provided: Grade 1 are of exceptional interest, Grade II\* are particularly important, Grade II are of special interest.
- Clarification on terminology: *Areas of High Archaeological Potential* as stated in the Scoping Report should be termed *Archaeological Priority Areas*.
- *Heritage at Risk* should be termed *Heritage Assets at Risk*. A Conservation Area survey completed by Greenwich in 2017 identified four Conservation Areas and twenty Buildings to be at Risk.
- See Historic England's advice note on Strategic Environmental Assessment (<https://content.historicengland.org.uk/images-books/publications/sustainability-appraisal-and-strategic-environmental-assessment-advice-note-8/heag036-sustainability-appraisal-strategic-environmental-assessment.pdf/>) for a range of potential assessment questions to measure the effects on the historic environment and local townscape and to identify environmental impacts.
- Significant elements of riverside Greenwich are identified as Opportunity Areas in the London Plan. Master Plans produced for these Opportunity Areas will have a significant impact in respect of deliverability of the Transport Plan and associated strategies, and should be influenced by the appropriate heritage asset data (including conservation area appraisals and management guidance). The associated documents should be identified in the scoping report.

## 6.2 Response

- 6.2.1 Natural England – no response required
- 6.2.2 Environment Agency – Table 9 of this ER does consider the likely effects on the environmental factors [as set out in their list reproduced in 6.1.3]
- 6.2.3 Historic England – The cultural heritage SEA objective has been changed as per their suggestion [table 8]. The monitoring framework is set out in paragraph 9.3 of this ER. Para 5.9.2 clarifies the heritage terminology and review reference. Other observations have been taking into account when undertaking the heritage assessment.

**7. ENVIRONMENTAL EFFECTS ASSESSMENT**

**7.1 Identification and analysis of environmental problems**

7.1.1 The SEA Directive requires that environmental problems are identified and analysed in the Environment Report. In this chapter both environmental problems and opportunities have been identified, considering the baseline exercise and the draft LIP. The table also identifies where the LIP is deemed to have significant effects (positive or negative) on the SEA topics.

SEA Topic	Problems	Opportunities – LIP improving or mitigating problem	Likely effects
Biodiversity, flora and fauna	Loss of trees	The LIP provides safety and environmental schemes providing opportunities for tree planting	Insignificant – positive
	Loss/degradation of railway line ecosystems	The LIP strongly supports rail travel as a sustainable form of public transport and the environmentally sensitive management of railway land	Insignificant – neutral or positive
	Transport related impacts on biodiversity	The LIP prioritises walking, cycling and public transport over motorised road traffic, setting targets to reduce road traffic and reduction in CO2 and AQ emissions from land based transport	Insignificant – positive
Population and human health	Road safety: road traffic casualties	The LIP sets targets to reduce road traffic casualties.  The LIP includes safety and environmental schemes aimed at improving road safety, in particular for pedestrians and	Significant – positive

		cyclists and those with mobility impairments.	
	Accessibility: exclusion of people with mobility impairment or those living in deprived areas	The LIP includes personal mobility schemes and safety and environmental schemes in areas of high deprivation	
	Community severance: high road traffic volume, HGV volume, transport related infrastructure	The LIP includes targets for reducing traffic volumes and car ownership.	Significant - positive
	Security: crime and fear of crime	The LIP will include safety and environmental enhancement schemes creating a more secure transport network and reducing the opportunity for crime	Significant - positive
	Unemployment: people not being able to access employment because of lack of access to transport	The LIP included policies and proposals to make travel in Greenwich fairer	Significant - positive
	Social exclusion: people or communities not being able to access services because of lack of access to transport	The LIP includes policies and proposals to make travel in Greenwich fairer and to reduce barriers to exclusion	Significant - positive
	Deprivation - people or communities not being able to access work or services because of a lack of access to transport	The LIP includes policies and proposals to make travel in Greenwich fairer and to reduce barriers to exclusion	Significant - positive

	<p>Noise and vibration: increasing traffic volume, increase in heavy goods vehicles. Poor condition of material assets such as road</p> <p>Physical fitness, mental health and quality of life: significant increase in obesity rates</p>	<p>The LIP includes approaches to reduce the impact of heavy goods vehicles and safety and environmental schemes</p> <p>The LIP prioritises walking and cycling including school and work travel planning, cycle training and has targets for reducing traffic and car ownership</p>	<p>Significant - positive</p> <p>Significant positive</p>
Air Quality	<p>Reduced air quality: increasing road traffic volume congestion, CO<sub>2</sub>, NO<sub>2</sub> and particulates</p>	<p>The LIP prioritises sustainable modes of travel and has targets to reduce traffic and car ownership</p> <p>The LIP has targets to reduce CO<sub>2</sub> and other pollutants</p>	<p>Significant - positive</p>
Climate change	<p>Extreme weather conditions: increasing risk of flooding, disruption to the transport network, deterioration of road network</p>	<p>The LIP promotes the use of sustainable and environmentally friendly materials and construction techniques. The LIP monitors and improves principal road condition</p>	<p>Significant - positive</p>
Soils and contaminated land	<p>Contamination through land- based transport</p>	<p>The LIP promotes the use of sustainable and environmentally friendly materials and construction techniques.</p>	<p>Significant - positive</p>
Water	<p>Ground water contamination through land- based transport</p>	<p>The LIP promotes the use of sustainable and environmentally friendly materials</p>	<p>Insignificant - positive</p>

		and construction techniques.	
Preparation for flooding	Surface water flooding: insufficient drainage capacity for runoff from hard surfacing.	The LIP supports sustainable urban drainage techniques and build these into schemes where feasible	Insignificant – positive
Cultural heritage, landscape and townscape	Reduced air quality: pollution damage to buildings	The LIP includes safety and environmental schemes. Increasing walking and cycling contributes to creating more attractive streets and town centres	Insignificant – positive
	Visual pollution: impact of transport infrastructure	The LIP includes policies and targets aimed at improving the urban realm around key transport interchanges reducing their visual impact	
Noise	Noise and vibration: increase in traffic volume, increase in heavy goods vehicles. Poor condition of material assets such as road	The LIP has targets for reducing traffic and car ownership.  The LIP monitors and improves principal road condition	Significant – positive
Accessibility	Access to public transport: lack of access to public transport leading to unemployment, social exclusion, deprivation	The LIP includes personal mobility schemes and safety and environmental schemes in areas of high deprivation	Significant – positive
	Condition of material assets: poor condition of footways, bus stops impacting accessibility of mobility impaired groups, people with push chairs, etc.	The LIP monitors and improves principal road condition	

Congestion	Air pollution	The LIP has targets to reduce CO2 and other pollutants	Significant - positive
	Increase in noise and vibrations	The LIP has targets for reducing traffic and car ownership.	
Road safety	Road traffic casualties	The LIP sets targets to reduce road traffic casualties.	Significant - positive

**Table 9: Problems, opportunities and likely effects of the LIP**

**7.2 Risk and uncertainty**

7.2.1 Some of the topics are influence by problems and opportunities that originated from outside the borough. This brings uncertainty, risk and difficulty in quantifying the effects the LIP has on the SEA factor. This Environmental Report will consider these issues in more detail where appropriate.

## 8. ASSESSMENT OF PROPOSED MEASURES

### 8.1 Assessment of environmental effects

8.1.1 The SEA Directive and Regulations require that the Council assesses the environmental effects of Greenwich's Third LIP. This section first assesses the relationship between Greenwich's LIP3 objectives and the SEA objectives. It then continues to assess Greenwich's transport interventions for delivering the objectives. Alternatives and the 'do nothing' option are also assessed.

8.1.2 Table 10 assesses the relationship between Greenwich's LIP3 objectives and the SEA objectives. X indicates a positive relationship between SEA objective and LIP objective. A blank space indicates there is no clear relationship.

### 8.2 Identifying alternatives

8.2.1 A necessary part of the SEA scoping process is to look at alternative methods of achieving the objects of the LIP for Greenwich.

Table 11 sets out the type of interventions that will be contained in the plan and suggested alternatives. These are then scored (p = positive impact, pp= very positive, 0 = neutral impact, n = negative impact and nn = very negative). Some of the interventions may change later when the plan is finalised.



LIP SEA Objectives	LIP Transport Objectives				
		Healthier Greenwich	Greener Greenwich	Connected Greenwich	Growing Greenwich
	Reduce negative impact of the transport network on biodiversity, flora and fauna	x	x		
	Increase the number of trees on the highway	x	x		
	Create conditions to improve health and reduce health inequalities	x	X		
	Reduce emissions emanating from ground-based transport	x	x	X	
	Reduce CO <sub>2</sub> emissions emanating from ground-based transport	x	x	X	
	Minimise soil contamination through land- based transport	x	x		
	Improve surface water drainage	x	X		
	Protect and enhance the historic environment especially heritage assets at risk	x	x		

Protect and enhance the quality and character of Greenwich				
Reduce noise and vibrations from ground based transport	x	x		
Ensure all residents have access to public transport			x	X
Ensure footpaths are maintained and easy to navigate by all users	x	X		
Reduce levels of ground based transport, mainly private cars, HGVs	x	X	X	
Improve road safety by reducing casualties of all road users in Greenwich	x	X		

**Table 10: Relationship between Greenwich’s LIP3 objectives and the SEA objectives**

	Environmental Factors											Congestion	Road safety
	Biodiversity, flora and fauna	Population and human health	Air quality	Climate change	Soils and contaminated land	Water	Preparation for flooding	Cultural heritage, landscape and	Noise	Accessibility			
<b>1. Healthier Greenwich</b>													
A transport network, places and streets that encourage active travel, keeping us all fit and healthy, mentally and physically	0	p	p	0	0	0	0	0	p	p	p	0	
Making our roads safer, particularly for walking and cycling	0	p	0	0	0	0	0	p	0	n	n	p	
We all feel safe and secure when we're out and about	0	p	0	0	0	0	0	0	0	p	0	p	
<b>Alternatives</b>													
Pedestrian/bicycle training	0	p	p	0	0	0	0	0	P	p	0	p	
Route maintenance	0	0	p	0	0	0	0	p	p	0	0	0	

Do nothing	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>2. Greener Greenwich</b>													
Reducing pollution from transport, to keep us healthy, happy and reduce our contribution to climate change	0	p	p	p	0	0	0	p	0	0	p	0	
There will be a reduction in car ownership and single occupancy car trips.	0	p	p	0	0	0	0	p	p	n	p	p	
<b>Alternatives</b>													
Expand the existing Low Emission Zone (LEZ)	0	p	p	p	0	0	0	p	p	0	p	p	
Improving active travel information provision	0	p	p	p	0	0	0	p	p	p	p	0	
Do nothing	0	0	0	0	0	0	0	0	0	0	0	0	
<b>3. Connected Greenwich</b>													
A joined-up transport network provides great access to all the	0	0	0	0	0	0	0	0	0	p	0	0	

opportunities Royal Greenwich offers. It connects all areas and all people.													
It is efficient, affordable, attractive and uses innovative technology to create a connected Greenwich	0	0	0	0	0	0	0	p	0	P	P	0	
A range of great public transport, walking and cycling options offer the best way to travel in Royal Greenwich.	0	p	p	p	0	0	0	0	0	p	p	0	
<b>Alternatives</b>													
Faster bus speeds/fewer bus stops	0	0	0	0	0	0	0	0	0	p	0	0	
Do nothing	0	0	0	0	0	0	0	0	0	0	0	0	
<b>4. Growing Greenwich</b>													
Getting people into 21,000 new jobs and 40,275 new homes in Royal	0	P	0	0	0	0	0	p	0	0	N	n	

Greenwich by 2031.													
Making growth good for existing residents, during construction and beyond.	0	p	0	0	0	0	0	0	p	n	0	0	0
<b>Alternatives</b>													
Improving active travel information provision	0	p	P	0	0	0	0	0	P	P	P	0	0
Maintenance of highway assets	0	0	p	0	0	0	0	0	P	P	0	0	0
Do nothing	0	0	0	0	0	0	0	0	0	0	0	0	0

**Table 11: Consideration of LIP3 transport policies and alternatives**

## 9. MONITORING

### 9.1 The Purpose of Monitoring

9.1.1 Under the SEA Directive there is a statutory requirement to monitor the environmental impacts of the implementation of the Plan. The LIP must therefore be monitored and reported to comply with the Directive as well as to continue to identify problems and issues that need resolving.

9.1.2 Monitoring is the systematic measurement of a parameter in terms of magnitude, time and space. Monitoring is not limited to quantitative or technological measurements, and may include qualitative issues such as human health or landscape quality.

9.1.3 Monitoring can be used to answer questions such as:

- Is the plan contributing to the desired environmental objectives and targets?
- Is the plan performing as well as expected?
- Are (mitigating) measures performing as well as expected?
- Are there any undesirable environmental effects? Are these within acceptable limits, or is remedial action required?

9.1.4 This process is beneficial to the Local Implementation plan because it allows any significant environmental effects of the plan's implementation to be identified and dealt with early in the planning process. It allows the actual effects of the plan to be tested against those predicted in the SEA, and can provide baseline information for future plans.

### 9.2 Monitoring for the SEA

9.2.1 To develop a monitoring strategy, the guidance suggests addressing the following questions:

- Determine what needs to be monitored;
- Identify what sort of information is required;
- Identify existing sources of monitoring information;
- Identify and fill any gaps in existing information;
- Determine when remedial action would be required and which actions could be taken; and
- Develop a management plan outlining responsibilities, timeframes and presentation.

9.2.2 Monitoring should focus on any significant environmental impacts that give rise to irreversible impacts upon environmental attributes in the area. This SEA found very little evidence of significant environmental impacts because of measures within Greenwich's Third Local Implementation Plan. Where adverse impacts have been found, mitigation measures were presented to minimise these impacts, therefore no change to the plan was advised in the

Environmental Report. Thus, given the lack of significant impact on the environment that the plan entails, no monitoring for the SEA is necessarily required.

- 9.2.3 When monitoring reveals that remedial action is required, the appropriate measures are enacted. Criteria or thresholds will therefore need to be established as part of the strategy, which can trigger action if they are exceeded. As and when gaps appear in data sets, new data will be collected. However, it should be noted that no primary data collection is necessarily appropriate for this level of monitoring, and is not required for compliance with the Directive.

### **9.3 LIP Monitoring**

- 9.3.1 The boroughs annual reporting is an effective and efficient way to demonstrate the scale of delivery of key outputs through the LIP investment process. This section of the LIP sets out the indicators and targets to be used to assess progress against delivery of LIP objectives and MTS outcomes; it is this that will determine the success or otherwise of the LIP.



## 10. NEXT STEPS

### 10.1 Consultation on Draft LIP3 and SEA

10.1.1 The SEA Regulations set specific requirements for consultation with the statutory consultees, the public and other interested parties and require that the ER is made available for consultation alongside the Consultation Draft LIP.

10.1.2 This ER will be made available for wider public consultation in November 2018 alongside the Greenwich LIP. The ER [and LIP] will be available on the Council's website ([www.royalgreenwich.gov.uk](http://www.royalgreenwich.gov.uk)).

10.1.3 If you would like any further information or if you have any comments on the SEA of the LIP3 we would be grateful to receive them. Comments should be made via e-mail.

10.1.4 Please send any feedback, comments or queries to  
Email: [transport-strategy@royalgreenwich.gov.uk](mailto:transport-strategy@royalgreenwich.gov.uk)

### 10.2 SEA Statement

10.2.1 When the LIP3 is adopted it will be accompanied by an SEA Statement. In line with the SEA Regulations, the SEA Statement will provide the following information:

- How environmental considerations have been integrated into the plan;
- How the ER has been considered in the LIP3's development;
- How opinions expressed in relation to the consultations on the LIP and ER have been considered;
- The reasons for choosing the LIP3 as adopted, in the light of the other reasonable alternatives dealt with; and
- The measures to be taken to monitor any possible significant environmental effects of the implementation of the LIP3.

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