

Scoping Report for
Colindale Tube Station
Supplementary Planning Document (SPD)
Sustainability Appraisal
Incorporating Strategic Environment
Assessment (SEA)

February 2019

Introduction

1. This Scoping Report provides updates to relevant plans, policies and programmes, the baseline and key sustainability issues in order to formulate a sustainability appraisal framework for appraisal of the Colindale Tube Station Supplementary Planning Document (SPD). The Scoping Report has informed the Sustainability Appraisal including the Strategic Environmental Assessment (SEA) of the Colindale Underground Station SPD.
2. SPDs do not normally require a sustainability appraisal, however, in exceptional circumstances one may be considered if the significant environmental effects have not been already considered by the Local Plan. The Council considers the development proposed to warrant assessment of the impacts of the framework in line with the SEA Directive.

Colindale Avenue Station SPD and background

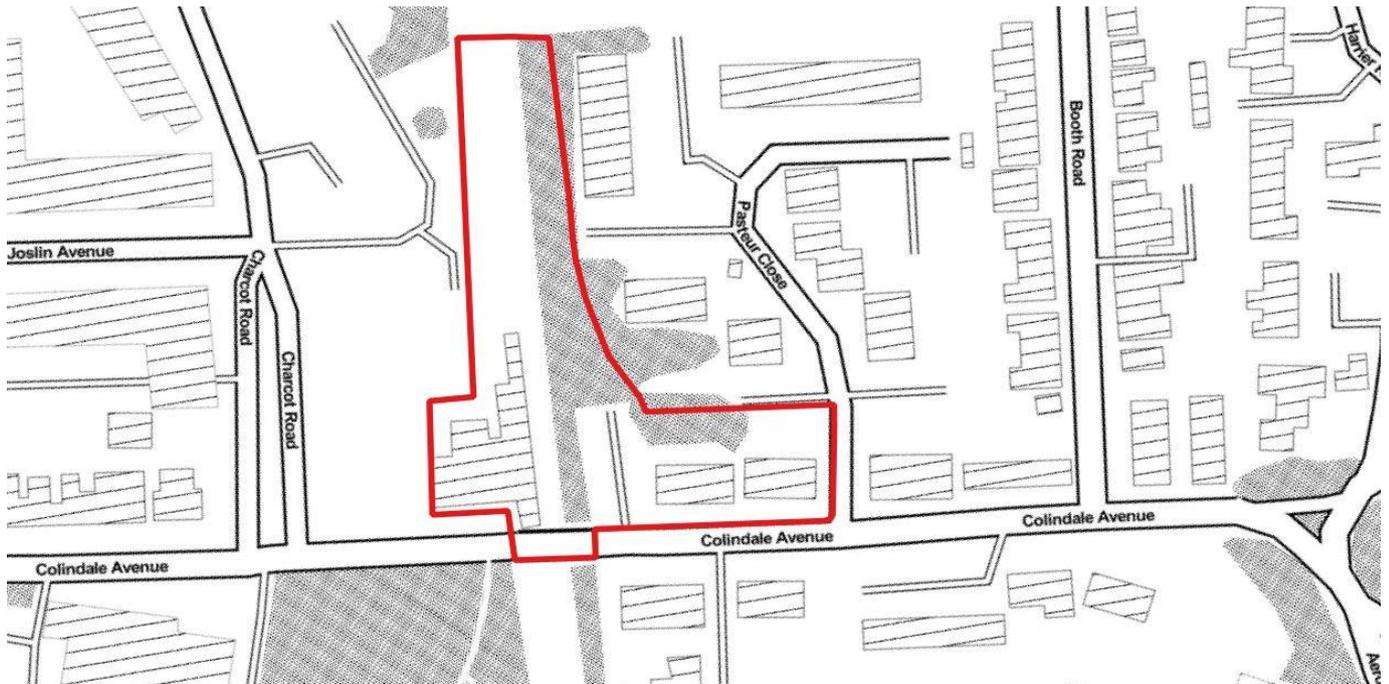
3. As part of the redevelopment of Colindale, substantial investment has been secured by the Council for new and improved infrastructure in the area. This includes a £16million (S106) contribution towards the delivery of a new Colindale Tube Station with increased passenger capacity and step-free access. To meet the terms of the S106 legal agreement associated with this funding contribution, the new station needs to be in place by 2022.
4. As this is the first new Tube Station to be built in an outer-London borough in a number of years and given the Council's commitment to supporting high-quality redevelopment of Colindale, this Supplementary Planning Document is being prepared to set out the Council's detailed design requirements and scale of development which will be supported for the new station and any associated development
5. The purpose of the SPD for Colindale Tube Station is to help inform future planning applications associated with:
 - Redevelopment of Colindale Underground Station
 - Development in the area immediately adjoining the Station, including above the rail tracks, the rail embankment to the north-east of the station, the existing station car-park, 167-173 Colindale Avenue and Agar House (Units 1-6) Colindale Avenue; and
 - Delivery of highway, public realm and bridge improvements on Colindale Avenue immediately adjacent to the Underground Station
6. In providing Transport for London (TfL) and their development partners, with clear planning guidance on the redevelopment of Colindale underground Station and adjoining public realm, the main objectives of the SPD will be to:
 - Establish the policy and design context for a new replacement tube station and associated development;
 - Provide supplementary detail to policies contained within the LBB Core Strategy (2012), Development Management Policies (2012) and the Colindale Area Action Plan (CAAP), as well as the Mayor of London's London Plan;

Scoping Report for Colindale Underground Station SPD SA

- Explain how development will be delivered and infrastructure investments secured;
and
- Engage all interested stakeholders in the development process

The SPD area

7. Map 1 below shows the proposed boundary for the Colindale Underground Station SPD.



11. Access into the station is restricted due to the narrow width of the footway at this point (which cannot be improved upon without widening of the road bridge over the rail-tracks at this point).
12. The area covered by the draft SPD is 0.66 ha and extends from Colindale Station to Pasteur Close. As well as the station with associated retail unit and public car-park (23 pay and display spaces), the area includes 167-173 Colindale Avenue (four two-storey residential units) and Agar House (six properties). The SPD red line boundary includes both sides of Colindale Avenue where it crosses over the Northern Line as well as rail embankment north east of the Station. The SPD boundary includes both sides of the bridge on Colindale Avenue and the rail embankment to the north east.

Sustainability appraisal

13. Sustainability assessment is a statutory obligation for local authorities to ensure that social, environmental and economic considerations are taken into account during all the stages of a plan's preparation. The sustainability process itself follows a prescribed staged approach. This document represents the first stage in this process, setting out the context, the sustainability issues facing the Borough and Colindale and the proposed sustainability objectives against which the policies in the SPD will be assessed.
14. This scoping report explains:

- Why a sustainability appraisal of the SPD document is required;
 - The policies, plans and programmes relevant to them;
 - The baseline information for the various indicators used to appraise the SPD;
 - The SA process and requirements; and
 - How the information obtained is taken forward in the SA and the SPD
15. UK legislation through the Environmental Assessment of plans and programmes regulations 2004 required the local authority to consult on the draft scoping report with the following agencies:
- The Environment Agency;
 - Natural England; and
 - Historic England

Why is a Sustainability Appraisal Required?

16. Both EU and national legislation make it a requirement that local authorities prepare sustainability appraisals of proposed land use or planning policies where there are significant effects

Planning and Compulsory Purchase Act 2004

17. Under the Planning and Compulsory Purchase Act 2004 sustainability appraisal is mandatory for any Local Plan. Section 19(5) of the Act requires local authorities to carry out an appraisal of the sustainability of the proposals within each proposed local development document and prepare a report of the findings of the appraisal.

National Planning Policy Framework (NPPF)

18. Paragraph 32 of the National Planning Policy Framework states that Local Plans and spatial development strategies should be informed throughout their preparation by a sustainability appraisal, which should demonstrate how the plan has addressed relevant economic, social and environmental objectives. The document also states that significant adverse impacts on these objectives should be avoided and, wherever possible, alternative options which reduce or eliminate such impacts should be pursued. Where significant adverse impacts are unavoidable, suitable mitigation measures should be proposed (or, where this is not possible, compensatory measures should be considered).

Environmental Assessment of Plans and Programmes Regulations 2004

19. When preparing the Sustainability Appraisal planning authorities will also be meeting the requirement to carry out an environmental assessment known as a Strategic Environmental Assessment (SEA). This requirement comes from European Directive 2001/42/EC (the SEA Directive) and has been enacted in the UK by a separate piece of legislation – the Environmental Assessment of Plans and Programmes Regulations 2004 (the SEA Regulations).
20. The aim for SEA is “to provide for a high level of protection of the environment and contribute to the integration of environmental considerations into the preparation and adoption of plans... with a view to promoting sustainable development.
21. SEA must take account of the likely significant effects on the environment, including on issues, such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage, including archaeological heritage, landscape and the interrelationship between the above factors.

The Town and Country Planning (Local Planning) (England) Regulations 2012

22. This scoping report establishes a framework to assess the SPD.

The Sustainability Appraisal Process

23. A Sustainability Appraisal is a multi-stage process. The national guidance on SA sets out the process in a number of stages as illustrated in Table 1. This sustainability appraisal represents stage A - Setting the context and objectives, establishing the baseline and deciding on the scope. Stage A comprises five tasks as shown (A1 – A5).

24. The national guidance then sets out four subsequent stages, which are to be carried out within the SA reports of individual policies. These are therefore not carried out in this document.

Table 1: SA process

Stages in the SA process		Sub Stages	Tasks
Stage A	Setting the context and objectives, establishing the baseline and deciding on the scope	A1	Identify other relevant policies, plans, programmes, and sustainability objectives
		A2	Collect baseline information
		A3	Identify sustainability issues and problems
		A4	Develop the sustainability appraisal framework
		A5	Consult the consultation bodies on the scope of the sustainability appraisal report.
Stage B	Developing and refining alternatives and assessing effects	B1	Test the SPD objectives against the sustainability appraisal framework
		B2	Develop the SPD options including reasonable alternatives
		B3	Evaluate the likely effects of the SPD and alternatives
		B4	Consider ways of mitigating adverse effects and maximising beneficial effects
		B5	Propose measures to monitor the significant effects of implementing the SPD.
Stage C	Prepare Sustainability Report		
Stage D	Seek representations on the Sustainability Appraisal Report from consultation bodies and the public		
Stage E	Post adoption reporting and monitoring	E1	Prepare and publish post-adoption statement
		E2	Monitor significant effects of implementing the SPD
		E3	Respond to adverse effects

The Structure of the Scoping Report

25. The structure of this report follows the key tasks detailed in Stage A of Table 1 above.

Stage A1 – Identify other relevant policies, plans, programmes and sustainability objectives.

26. A plan or programme may be influenced in various ways by other plans or programmes, or by external environmental protection objectives such as those laid down in policies or legislation. This draft scoping report lists the relevant legislation, policies and their key objectives and details the way in which future Local Plan documents will take these objectives into account.

Stage A2 – Develop relevant social, environmental and economic baseline information.

27. Data on relevant social, environmental and economic conditions in the Borough, termed as 'baseline information' provides the basis both for identifying emerging or existing sustainability issues and determining sustainability objectives which will be used to conduct the SA of future Local Plan related documents. For each indicator selected, enough information is needed to answer the following questions:

- How good or bad is the current situation? Do trends show that it is getting better or worse?
- How far is the current situation from any established thresholds or targets?
- Are particularly sensitive or important elements of the receiving environment affected?
- Are the problems reversible or irreversible, permanent or temporary?
- How difficult would it be to offset or remedy any damage?

28. This Scoping Report contains current data on the social, environmental and economic conditions of the Borough obtained from a number of sources including the 2011 Census.

Stage A3 – Identify key sustainability issues

29. The baseline information provides the evidence base from which existing and emerging sustainability issues in the Borough are identified. Some sustainability issues are of greater significance than others and as such, attention will be drawn to these issues within the SA.

Stage A4 – Develop the SA Framework

30. The sustainability issues facing the Borough have been used to develop a set of sustainability objectives (SA Objectives), which then make up the SA Framework. The SA Framework forms the basis against which SA of any Local Plan document should be carried out. It provides a way in which sustainability effects can be described, analysed and compared. The SA Objectives have also been tested against themselves to help identify any tensions and incompatibilities that may exist

Stage A5 – Consulting on the scope of the SA

31. As a Local Authority, we are obliged to seek the views of the Consultation Bodies on the scope and level of detail of the Sustainability Appraisal. Consultation at this stage will help ensure that the Sustainability Appraisal will be robust enough to support the plan or programme during the later stages of full public consultation. The Scoping Report has been issued to the statutory consultees along with a covering letter clarifying their input and requirements within the statutory five-week period. Responses are summarised in the Consultation Statement.

32. The Statutory Consultees are:

- The Environment Agency;
- Natural England; and
- Historic England

Stage A1 – Identify other relevant policies, plans, programmes and sustainability objectives.

33. Stage A1 of the SA process involves establishing the context in which the Colindale Underground Station SPD is being prepared, namely the other policies, plans and programmes, and sustainability objectives that could influence its content (and vice-versa) and the opportunities and challenges they present.

34. A review of international, European, national, regional and local policies, plans and programmes has been undertaken and is provided in Table 1 below. The plans, policies and programmes are set out in a hierarchical fashion, starting with relevant international PPPs and ending with local ones.

Table 2: Policy review

International
Johannesburg C40 Cities Climate Leadership Group Mayors Summit 2014
The UN Millennium Declaration and Millennium Development Goals (Goal 7) 2002
UN Framework Convention on Climate Change (UNFCCC) 1992
The Johannesburg Declaration on Sustainable Development 2002
The Living Planet Report 2014 - Biodiversity, biocapacity and better choices
Kyoto Protocol 1997
Convention of Environmental Impact Assessment in a transboundary context (1991) (the ESPOO Convention)
Protocol on Strategic Environmental Assessment (2003)
European
Environmental Impact Assessment Directive of 1985, 85/337/EEC and amendments codified by 2014/52/EU Assessment of the Effects of certain Public and Private Projects on the Environment
The Wild Birds Directive 2009/147/EC
The Convention on Biological Diversity 93/626/EEC
The EU Water Framework Directive 2000/60/EC

Ambient air quality assessment and management Directive 1996/62/EC
Limit values for sulphur dioxide, nitrogen dioxide and oxides of nitrogen, particulate matter and lead in ambient air - Directive 1999/30/EC
Air Quality Directive 2008/50/EC
Environmental Noise Directive 2002/358/EC
Approval of the Kyoto Protocol Decision 2010/778/EU
Landfill Directive 1999/31/EC
EU Renewable Energy Directive 2001/77/EC
EU Energy Efficiency Directive 2012/27/EU
EU Floods Directive 2007/60/EC
Pan European Biological and Landscape Diversity Strategy 2003
Mainstreaming sustainable development into EU policies: Review of the European Union Strategy for Sustainable Development 2009
European Spatial Development Perspective 1999
Roadmap to Single European Transport Area - Towards a competitive and resource efficient transport system,
European Landscape Convention 2000 (The Florence Convention)
Environment Action Plan - 7th EAP will guide European policy until 2020
Promotion of the use of energy from renewable sources - Directive 2009/28/EC
Directive 2001/77/EC - Electricity Production from Renewable Energy Sources
The Ramsar Convention on Wetlands of International Importance (1971)
Directive 2008/118/EC on the protection of groundwater against pollution and deterioration
Directive 97/62/EC on the Conservation of Natural Habitats of Wild Fauna and Flora amending Directive 92/43/EEC (The Habitats Directive)
European Union Biodiversity Strategy to 2020
Directive 2008/98/EC on waste (The Waste Framework Directive)
Communication COM (2005) 666: Taking sustainable use of resources forward - a thematic strategy on the prevention and recycling of waste. European Commission (2005)
Directive 2005/20/EC amending Directive 94/62/EC on packaging and packaging waste (The Packaging Waste Directive)
Directive 2008/98/EC (OJ: L312) on the disposal of waste oils amending Directive 75/439/EEC (OJ: L194/23/75). (Waste Oil Directive)
UNESCO World Heritage Convention (1972)
The European Union Convention on the Protection of Archaeological Heritage (1992)
Convention on the Protection of the Architectural Heritage of Europe (1987)
National
National Planning Policy Framework (2018)
Technical Guidance to the National Planning Policy Framework March 2012
National Planning Practice Guidance on the following:
Advertisements
Air quality
Appeals
Climate change
Community Infrastructure Levy
Conserving and enhancing the historic environment
Consultation and pre-decision matters
Crown Development
Design
Determining a planning application
Duty to cooperate
Ensuring effective enforcement
Ensuring the vitality of town centres
Environmental Impact Assessment
Fees for planning applications
Flexible options for planning permissions

Flood Risk and Coastal Change
Hazardous Substances
Health and wellbeing
Housing and economic development needs assessments
Housing and economic land availability assessment
Land affected by contamination
Land Stability
Lawful development certificates
Light pollution
Local Plans
Minerals
Natural Environment
Neighbourhood Planning
Noise
Open space, sports and recreation facilities, public rights of way and local green space
Planning obligations
Renewable and low carbon energy
Rural Housing
Strategic environmental assessment and sustainability appraisal
Transport evidence bases in plan making
Travel plans, transport assessments and statements in decision-taking
Tree Preservation Orders and trees in conservation areas
Use of Planning Conditions
Viability
Waste
Water supply, wastewater and water quality
A Practical Guide to the Strategic Environmental Assessment Directive 2005
Air Pollution: Action in a Changing Climate 2010
Ancient Monuments and Archaeological Areas Act (1979)
Biodiversity 2020: A strategy for England's wildlife and ecosystem services 2011
BREEAM Assessment 2006
Building a Greener Future - Towards Zero Carbon Development 2006
Climate Change Act 2008
Climate change: The UK Programme 2006
Conservation of Habitats and Species Regulations (2010)
Defra Policy: Reducing and Managing Waste 2013
English Heritage Corporate Plan 2017-2020
Fair Society, Healthy Lives, The Marmot Review 2010
Flood and Water Management Act 2010
Flood Risk Regulations 2009
Future Water – The Government's water strategy for England (2008)
Groundwater protection: principles and practice (GP3) (2013)
Tall Buildings Historic Advice Note 4 2015
Healthy Lives, Healthy People: Our Strategy for Public Health in England 2010
Hedgerow Regulations 1997
Historic England Advice Note 8: Sustainability Appraisal and Strategic Environmental Assessment December 2016
Household Waste Recycling Act 2003
Housing and Planning Act 2016
Localism Act 2011
Model Procedures for the Management of Contaminated Land (Contaminated Land Report 11) 2004
National Flood and Coastal Erosion Risk Management Strategy 2011
National Infrastructure Plan 2014
National Planning Policy for Waste 2014
Natural England Corporate Plan 2012-2015

Natural Environment and Rural Communities Act (2006)
Neighbourhood Planning Act 2017
Planning (Listed Buildings and Conservation Areas) Act (1990)
Planning for our electric future: a white paper for secure, affordable and low carbon technology 2011
Planning Healthier Places - report from the reuniting health with planning project, TCPA 2013
Planning Policy for Traveller Sites March 2012
Strategic Direction 2008 – 2013 (NE92) Natural England
Suburbs and the Historic Environment 2007
Sustainable Communities Act 2007 (as amended)
Sustainable Communities: Building for the Future (ODPM2003)
Thames Catchment Abstraction Licensing Strategy 2014
The Air Quality Strategy (Volume 2) 2011
The Community Infrastructure Levy Regulations 2010 and amendments 2014
The Countryside
The Governments Statement on the Historic Environment for England (2010)
The Hazardous Waste (England and Wales) Regulations 2005
The National Adaptation Programme 2013
The National Heritage Protection Plan – English Heritage 2012
The Natural Choice: Securing the Value of Nature - White Paper 2011
The Plan for Growth 2011
The UK Sustainable Development Strategy: Securing the Future (2005)
The Water Act 2003
The Water Resources Act 1991
The Wildlife and Countryside Act 1981
Transport White Paper - "Creating Growth, Cutting Carbon; Making sustainable local transport happen" 2011
Transport White Paper - The Future of Transport: A Network for 2030 (DoT 2004)
UK Biodiversity Action Plan 1994
UK Climate Projections 2009
UK Energy Efficiency Strategy 2012
UK Post 2010 Biodiversity Framework 2010
Waste Management Plan for England 2013
Waste Strategy for England 2007
Water for People and the Environment; Water Resources Strategy for England and Wales – Environment Agency (2009)
Working with the Grain of Nature: Biodiversity Strategy for England 2002
Regional - London
London's Foundations SPG 2012
A Sustainable Development Framework for London (2003)
Accessible London: Achieving an inclusive environment 2014
All London Green Grid Supplementary Planning Guidance (2012)
Clearing the Air: The Mayor's Air Quality Strategy (2010)
Connecting with London's Nature: The Mayor's Biodiversity Strategy 2002
Cultural Metropolis: The Mayors Cultural Strategy - 2012 and beyond 2010
Delivering London's Energy Future: The Mayor's Climate Change Mitigation and Energy Strategy (2011).
The London Plan 2016 consolidated with alterations since 2011
Draft London Plan (2017)
Green Light to Clean Power: The Mayor's Energy Strategy (2004)
Land for Industry and Transport SPG 2012
Land for Industry and Transport Supplementary Planning Guidance (2012)
London Biodiversity Action Plan (2007)
London Boroughs Gypsy and Traveller Accommodation Needs Assessment 2008
London Office Policy Review 2017

London View Management Framework SPG 2012
London's Wasted Resource: The Mayor's Municipal Waste Management Strategy (2011)
Managing Risks and Increasing Resilience: The Mayor's Climate Change Adaptation Strategy (2011)
Mayor of London's Biodiversity Strategy (and associated London Biodiversity Action Plan) 2002
Mayor's Economic Development Strategy for London 2010
The Mayors Economic Development Strategy for London (draft 2017)
Mayor's Housing SPG 2016
Mayor's Sustainable Design and Construction: SPG 2014
Mayor's Transport Strategy 2018
North London Joint Waste Strategy (2009)
West London Level 1 SFRA (2018)
The Thames River Basin Management Plan (2015)
The Thames Catchment Flood Management Plan (2009)
Planning and Equality and Diversity in London 2007
Rapid Health Impact Assessment Tool, Healthy Urban Development Unit 2013
Securing London's Water Future: The Mayor's Water Strategy (2011)
Shaping Neighbourhoods - play and informal recreation SPG 2012
Shaping Neighbourhoods: Character and Context Supplementary Planning Guidance 2014
Souder City: The Mayor's Ambient Noise Strategy 2004
The London Plan Spatial Development Strategy for Greater London (2015)
Town Centres SPG 2014
Crossrail Mayoral CIL
Better Environment, Better Health. A GLA guide for London Boroughs, London Borough of Barnet 2013
Local
Barnet Local Plan - Core Strategy 2012
Barnet Local Plan - Development Management Policies DPD 2012
Colindale Area Action Plan 2010
Brent Cross Cricklewood Regeneration Area Development Framework 2005
Barnet Waste Prevention Strategy 2005 - 2020
One Barnet: A Sustainable Community Strategy for Barnet 2010 - 2020
Barnet's Statement of Community Involvement, 2015
Barnet's Conservation Area Character Appraisals including:
Barnet Children and Young People Plan 2016 - 2020
Barnet's Air Quality Action Plan
Barnet Carers and Young Carers Strategy 2015 – 2020
Barnet Community Safety Strategy 2015-2020
Barnet's Contaminated Land Strategy 2012
Barnet's Entrepreneurial Strategy 2014
Barnet's Equalities Policy 2014
Barnet's Disability equality scheme 2006-2007
Barnet's Health and Well Being Strategy 2015 - 2020
Barnet's Housing Strategy 2015-2015
Barnet's Local Implementation Plan 2005/6 - 2010/11
Barnet's Parks and Open Spaces Strategy 2016 -2016
Barnet's Sports and Physical Activity Strategy 2014
Barnet's Surface Water Management Plan 2011

35. This list is not exhaustive and may be subject to change over time. When undertaking sustainability appraisals, the appraiser will need to consider whether there have been any notable changes in this list and how this may affect the appraisal.

36. This review is concluded with a set of key messages that are set out below.

Biodiversity, Flora and Fauna

- Ensure biodiversity is considered in all areas of decision and plan making
- Maintain, protect, enhance and restore biodiversity and the natural environment
- Avoid harm to designated sites and protected species
- Ensure the importance of green infrastructure is recognised

Population and Human Health

- Ensure wider health issues are considered and safeguard the health of the community
- Protect and improve the quality of life
- Maintain and improve access to open space for leisure and recreation

Soil

- Prioritise the use of previously developed land
- Avoid ground pollution and seek to reduce land contamination

Water

- Maintain and improve water quality in water courses
- Use water resources efficiently and seek to minimise future demands
- Reduce the impact of flooding and avoid inappropriate development in flood risk area
- Avoid development that could increase flood risk
- Promote the management of surface water and the reduction of flood risk through the use of sustainable urban drainage systems (SUDS).

Air

- Increase the use of sustainable transport methods and reduce the need to travel
- Promote sustainable neighbourhoods which reduce the need to travel by car

Climate

- Reduce contributions to climate change
- Increase the proportion of energy that is generated from renewable sources.

Material Assets

- Prevent/reduce waste and recognise waste as a resource
- Promote employment opportunities and seek to reduce deprivation

Cultural Heritage

- Conserve and enhance the historic environment

Landscape

- Protect and enhance landscape character, improve local environmental quality and protect the environment
- Maintain access to the countryside
- Recognise the value of landscapes and townscapes

Stage 2A – Develop relevant social, environmental and economic baseline information.

- 37. Data on relevant social, environmental and economic conditions in the area, termed as ‘baseline information’ provides the basis for both identifying emerging or existing sustainability issues and determining sustainability objectives to address them. These sustainability objectives will be used to conduct the sustainability appraisal of the **Draft** SPD.
- 38. The level of information making up the baseline data is relevant and appropriate to the spatial scale of the plan and covers the topics and issues listed in the SEA Directive and guidance.
- 39. Data for Colindale is not widely available because of the small size of the geographic area. Where possible, data at output area and super output area level has been used, however, where this level of data is not available, information has been used on a ward and borough wide basis. The principle source is 2011 Census data. This is a limitation of the scoping report.

Population

- 40. Population data for Colindale is set out in the table below. The data indicates that the area has experienced a significant increase in population between 2011 and 2014 and is the highest increase across the whole borough (source: ONS). This increase is indicative of the large scale of development which has taken place within the Colindale area over the last five years.

Table 3: population data

Wards	2011	2014	Percentage Change
Brunswick Park	16,455	16,384	-0.43%
Burnt Oak	18,278	18,031	-1.35%
Childs Hill	20,116	20,428	1.55%
Colindale	17,150	20,956	22.19%
Coppetts	17,312	17,255	-0.33%
East Barnet	16,192	16,106	-0.53%
East Finchley	16,062	16,261	1.24%
Edgware	16,780	17,858	6.42%
Finchley Church End	15,778	15,901	0.78%
Garden Suburb	15,980	16,031	0.32%
Golders Green	18,885	18,952	0.35%
Hale	17,501	17,375	-0.72%
Hendon	18,526	18,850	1.75%
High Barnet	15,364	15,337	-0.18%
Mill Hill	18,523	19,482	5.18%
Oakleigh	15,872	15,773	-0.62%
Totteridge	15,220	15,186	-0.22%
Underhill	15,983	16,049	0.41%
West Finchley	16,590	16,646	0.34%
West Hendon	17,452	17,876	2.43%
Woodhouse	17,641	17,709	0.39%
Barnet	357,653	364,481	1.91%

Age profile

41. The age structure within Colindale mirrors that of the borough as a whole in the younger age groups but has more people in the 15-39 age group and less people in the 40-79 age groups, with significantly less in the 80+ age group.

Table 4: Age profile

Age profile	0 – 14	15 – 39	40 – 59	60 – 79	80+
Colindale	21%	47%	21%	10%	1%
Barnet	21%	35%	26%	14%	4%

Diversity

42. Colindale ward is relatively diverse, with a high proportion of people from Asian or Asian British background and Black and Black British background, which is comparatively higher than the borough average.

Table 5: Diversity

ETHNIC GROUP 5 (ONS CENSUS)	White%	Mixed%	Asian or Asian British%	Black or Black British%	Other%
Brunswick Park	68.4%	5.2%	17.1%	5.0%	4.3%
Burnt Oak	46.5%	5.5%	25.7%	17.4%	4.8%
Childs Hill	61.1%	5.2%	17.1%	8.1%	8.5%
Colindale	40.1%	6.2%	28.9%	19.2%	5.6%
Coppetts	65.0%	6.3%	16.0%	8.5%	4.2%
East Barnet	76.6%	5.0%	10.6%	5.1%	2.7%
East Finchley	71.8%	5.6%	11.8%	7.3%	3.5%
Edgware	60.8%	3.8%	21.8%	9.1%	4.5%
Finchley Church End	66.9%	4.2%	17.8%	4.9%	6.2%
Garden Suburb	78.6%	3.6%	10.4%	2.7%	4.7%
Golders Green	65.8%	3.9%	14.8%	6.8%	8.8%
Hale	59.4%	4.5%	21.6%	10.8%	3.8%
Hendon	63.7%	4.3%	17.6%	7.0%	7.4%
High Barnet	81.7%	4.0%	8.8%	3.1%	2.3%
Mill Hill	63.9%	5.3%	18.5%	8.3%	4.2%
Oakleigh	73.3%	4.4%	14.4%	5.0%	2.9%
Totteridge	65.7%	3.9%	22.7%	3.5%	4.1%
Underhill	72.7%	5.0%	12.1%	7.5%	2.7%
West Finchley	60.8%	5.1%	25.1%	4.2%	4.7%
West Hendon	49.4%	4.2%	32.0%	9.1%	5.3%
Woodhouse	62.4%	5.5%	21.0%	6.2%	4.9%
Barnet	64.1%	4.8%	18.5%	7.7%	4.9%

Religion

43. In terms of religion, 46.6% of residents are among Christian faith which is broadly similar to the borough average (41.2%) and the national average (48.4%). There is also a high proportion of Muslims among its residents (19.3%) which is higher than the borough average of 10.3%. conversely, they have a low proportion of Jewish people (1.4%) when compared to the borough average (15.2%).

Table 6: Religion

Religion 2011	Christian	Buddhist	Hindu	Jewish	Muslim	Sikh	Other religion	No religion	Religion not stated
Colindale	46.6%	1.9%	9.8%	1.4%	19.3%	0.3%	0.4%	13.3%	7.0%
Barnet	41.2%	1.3%	6.2%	15.2%	10.3%	0.4%	1.1%	8.4%	8.4%
London	59.4%	0.5%	1.5%	0.5%	5.0%	0.8%	0.4%	7.2%	7.2%
England	48.4%	1.0%	5.9%	1.8%	12.4%	1.5%	0.6%	8.5%	8.5%

Languages

44. Approximately 63% of school children in Colindale do not speak English as a first language in the home. This is significantly higher than the Barnet average (44%). Somali, Arabic and Tamil are the most common languages other than English spoken in the homes of Colindale pupils attending Barnet schools (with 188, 129 and 109 pupils respectively), followed by Portuguese, Persian-Farsi and Albanian-Shqip (source: Barnet Insight Unit, March 2013).

Deprivation

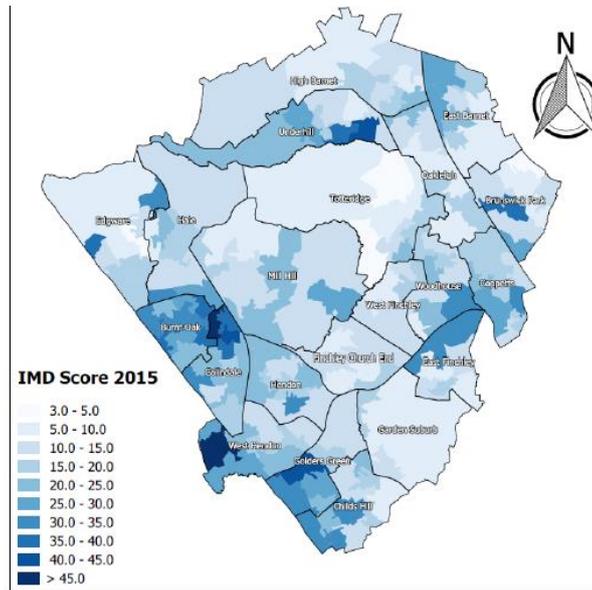
45. Deprivation covers a broad range of issues and refers to unmet needs caused by a lack of resources of all kinds, not just financial. The Index of Multiple Deprivation (IMD) is the official measure of relative deprivation of Lower-layer Super Output Areas (LSOA) in England and ranks areas from 1 (most deprived area) to 32,844 (least deprived area).

46. The IMD combines information from seven domains to produce an overall relative measure of deprivation. The domains used are outlined below along with the weighting assigned to each one:

- Income (22.5%)
- Employment (22.5%)
- Education, skills and training (13.5%)
- Health and disability (13.5%)
- Crime (9.3%)
- Barriers to housing (9.3%)
- Living environment (9.3%)

47. Barnet is the 157th most deprived local authority in England, out of a total of 326 local authorities. Comparing to the 2010 release of the Index of Multiple Deprivation Barnet was ranked 176th, which means that Barnet has become comparatively more deprived and is now amongst the 50% deprived local authorities in England. However, compared to local authorities in London, Barnet ranked 24th in 2015 and 25th in 2010 noting a small increase. The areas in the west of the Borough exhibit the highest levels of deprivation, which are concentrated in Colindale, burnt Oak, Childs hill and West Hendon. The map below shows the IMD scores of LSOAs across the Boroughs.

Figure 1: IMD Scores for Barnet



48. The Map below shows the percentage change in IMD rank during the period 2010 – 2015. The data highlights that 64% Barnet LSOAs became comparatively more deprived whereas 36% became comparatively less deprived.
49. On an overall ward level, all LSOAs in East Barnet and Underhill became comparatively more deprived between 2010 and 2015. And although no wards experienced a reduction in deprivation across all LSOAs within their boundary, more LSOAs in East Finchley, West Finchley, Totteridge and Finchley Church End became less deprived than more deprived over this period.
50. Within Colindale, there were a number of LSOAs in the east of the ward which became more deprived between 2010 – 2015, whereas LSOAs in south of the ward became less deprived over this period.

Figure 2: Change in IMD Scores

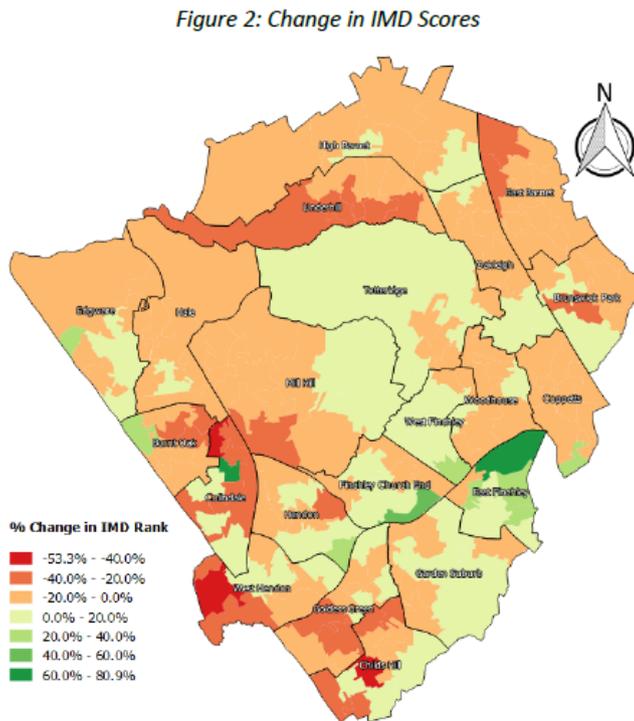
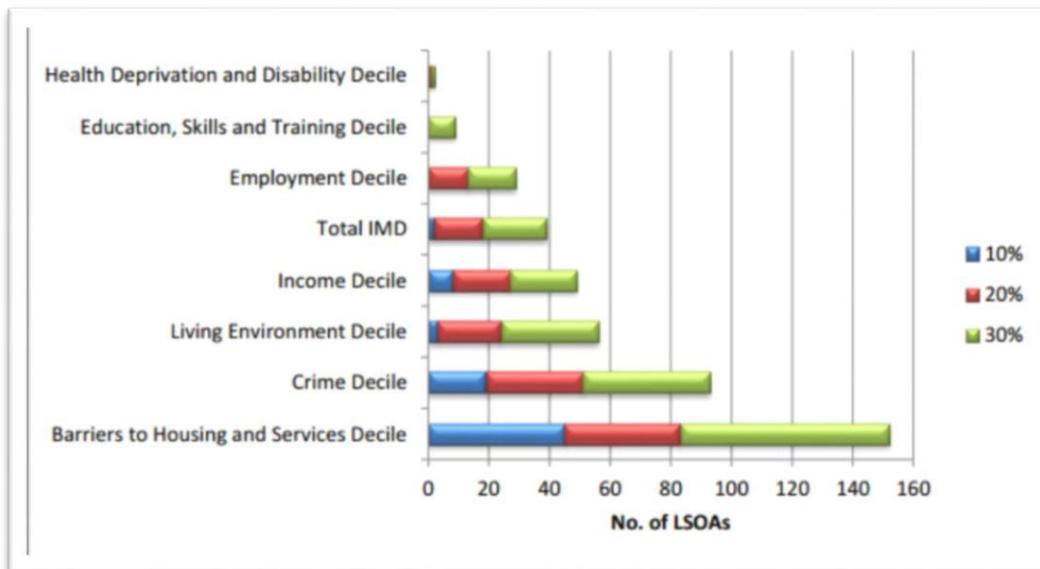


Figure 3: 30% most deprived LSOAs by domain – Barnet



Source: Summary report of the 2015 index of multiple deprivation.

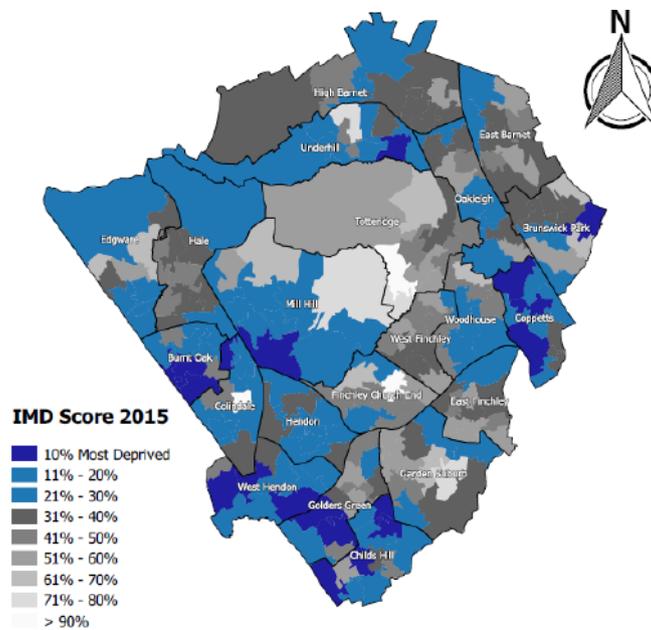
51. Figure 3 above indicates that the Barriers to Housing and Services domain contains the highest levels of deprivation in Barnet, with 21% (45) of Barnet’s LSOAs in the 10% most deprived nationally and 72% (152) of LSOAs in the 30% most deprived. The west of the borough exhibits the highest concentration of deprivation in relation to the Barriers to Housing and Services domain and the most LSOA is located around Graham Park in Colindale ward, which ranks 9th nationally.

52. There is also a high level of deprivation on the Crime and Disorder domain, where Barnet is the 49th most deprived nationally. Deprivation levels relating to this domain increased

Scoping Report for Colindale Underground Station SPD SA

between 2010 and 2015, with an additional 19 Barnet LSOAs within the 30% most deprived LSOAs in England.

Figure 4: Crime and disorder domain



Disability

53. Colindale Tube Station is the nearest station within Colindale ward, it does not have a step free access. Across the Borough the day to day activity limitations for people who have long-term health problems or disabilities are very similar. Colindale ward is highlighted in bold.

Table 7: Disability

2011 ward	All categories: Long-term health problem or disability	Day-to-day activities limited a lot	Day-to-day activities limited a little	Day-to-day activities not limited
Brunswick Park	16,394	1,117	1,361	13,916
Burnt Oak	18,217	1,499	1,390	15,328
Childs Hill	20,049	1,429	1,283	17,337
Colindale	17,098	1,079	1,167	14,852
Coppetts	17,250	1,160	1,198	14,892
East Barnet	16,137	1,042	1,301	13,794
East Finchley	15,989	1,074	1,259	13,656
Edgware	16,728	1,075	1,298	14,355
Finchley Church End	15,715	857	1,229	13,629
Garden Suburb	15,929	694	968	14,267
Golders Green	18,818	1,254	1,228	16,336
Hale	17,437	1,182	1,301	14,954
Hendon	18,472	1,078	1,286	16,108
High Barnet	15,307	1,050	1,242	13,015
Mill Hill	18,451	1,047	1,406	15,998
Oakleigh	15,811	1,073	1,172	13,566
Totteridge	15,159	951	1,121	13,087
Underhill	15,915	1,311	1,430	13,174
West Finchley	16,533	1,023	1,136	14,374
West Hendon	17,402	1,172	1,243	14,987
Woodhouse	17,575	1,308	1,409	14,858

Housing

- 54. The 2011 census showed the Borough of Barnet contains 135,916 households with an average household size of 2.6 persons and 2.7 bedrooms.
- 55. The table below presents Census 2011 occupancy and number of rooms per household by ward has been sorted by average number of rooms per household. The wealthiest wards in the Borough have some of the largest houses in the Borough and consequently the highest average number of rooms per household which therefore shows the lowest levels of overcrowding. However, the number of rooms per household is high across the Borough. Colindale ward has been highlighted in bold.

Table 8: Occupancy and number of rooms per household

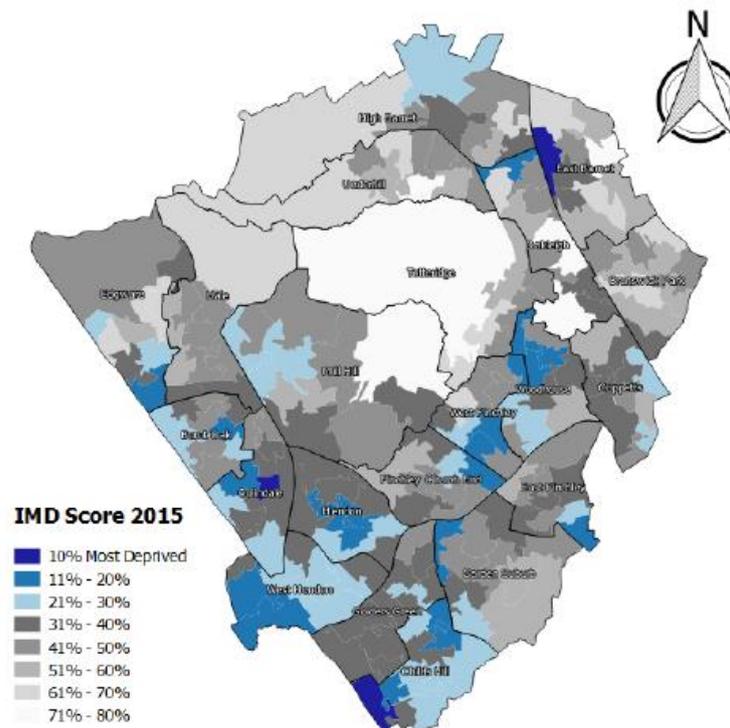
Area	Occupancy rating (rooms) of 1 or less	Average household size	Average number of rooms per household
Barnet Borough	24,489	2.6	5.1
Garden Suburb	738	3.1	5.9
Totteridge	631	2.6	5.7
Oakleigh	674	2.5	5.6
Edgware	919	2.8	5.5
Golders Green	1,269	3.0	5.5
Mill Hill	902	2.7	5.5
Brunswick Park	609	2.7	5.4

Finchley Church End	970	2.5	5.4
Hale	851	2.8	5.3
High Barnet	768	2.3	5.3
East Barnet	748	2.5	5.1
Underhill	822	2.5	5.1
Childs Hill	2,083	2.5	4.9
Woodhouse	1,229	2.5	4.9
Hendon	1,725	2.6	4.8
West Finchley	1,265	2.4	4.8
Coppetts	1,298	2.5	4.7
East Finchley	1,259	2.4	4.7
West Hendon	1,735	2.8	4.7
Burnt Oak	1,823	2.8	4.4
Colindale	2,171	2.6	4.2

Living environment

56. Within this domain, Barnet is within the 81st most deprived local authority in England and the 25th most deprived across London. Three LSOAs fall within the 10% most deprived nationally, including one located in Grahame Park in Colindale, one close to Cricklewood station in Childs hill and another East Barnet close to the New Barnet Station.

Figure 5: Living environment



House price

57. The average house price in Barnet in May 2016 was £533,676 and in May 2018 it was £546,309¹. Since 2000, house prices in the borough have increased by 229%. According to data from Foxtons, Colindale has an average house price of £379,367 in 2018, which is lower than the borough average and an average monthly rent of £1,532 which is lower when compared to the borough average of £2,096

Income

58. Barnet has a widespread of incomes which vary across the borough ranging from £55,491 in more affluent parts to £25,903 in areas such as burnt Oak². Data from the 2015 also demonstrates this and highlights that Barnet has some of the highest and lowest levels of income deprivation nationally.

59. IMD data has shown that Barnet ranks 131st out of all local authorities and 22nd across London for the income domain. Data found three LSOAs in Colindale are amongst the 10% most income deprived LSOAs nationally (the highest number within the borough).

60. Within Colindale, data from CACI shows the median average household income to be £27,048, which is significantly less than the borough average of £41,468³.

Education, Skills and training

61. There are two primary schools, one high school and two higher education institutes within Colindale. Details of these education facilities are outlined below:

- Beis Yaakov Primary School – Ofsted rating good – Ofsted rating good, 20 pupils per teacher
- Colindale Primary School – Ofsted rating good – 25 pupils per teacher
- St James Catholic High School – Ofsted rating good – 15 pupils per teacher
- Barnet and Southgate College – Ofsted rating good
- Middlesex University London

62. The percentage of the various levels of qualifications people have achieved in Colindale are set out below and show a lower percentage of people who have gained level 4 qualifications and above when compared to the borough average, but slightly higher than the national average. In addition, there is higher proportion of residents who have no qualifications when compared to the borough (10.3%) and national average (15%).

Table 9: Qualifications

People	Colindale (%)	Barnet (%)	England and Wales (%)
Level 4 Qualifications and Above	30.8	43.2	29.7
Level 3 Qualifications	10.3	11.4	14.5
Level 2 Qualifications	12.8	12.7	17.2
Level 1 Qualifications	18	10.3	15.2
Apprenticeship and other qualifications	16.8	12.1	8.6
No Qualifications	18	10.3	15

¹ UK Price Index

² www.caci.co.uk

³ www.CACI.co.uk

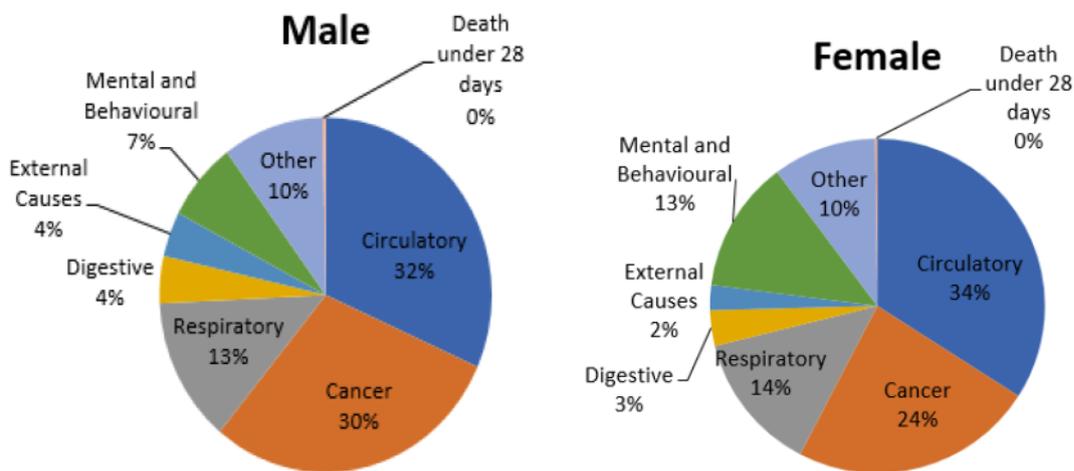
Health and well-being

Mortality rate and causes of death

63. In Barnet, life expectancy at birth in females (85.1 years) is higher than males (82.1 years) and overall life expectancy for both male and female population in Barnet is higher than the average for England (female = 83.2, male = 79.6). The top three broad causes of mortality in both men and women are circulatory diseases, cancers and respiratory disease (Public Health Profiles Barnet, Public Health England, May 2016).

64. Within Colindale, the life expectancy for men is slightly lower than the average for London and England. For women, this figure is slightly lower than the Barnet average but higher than the average for London and England⁴.

Figure 6: Causes of death in Barnet – males/females

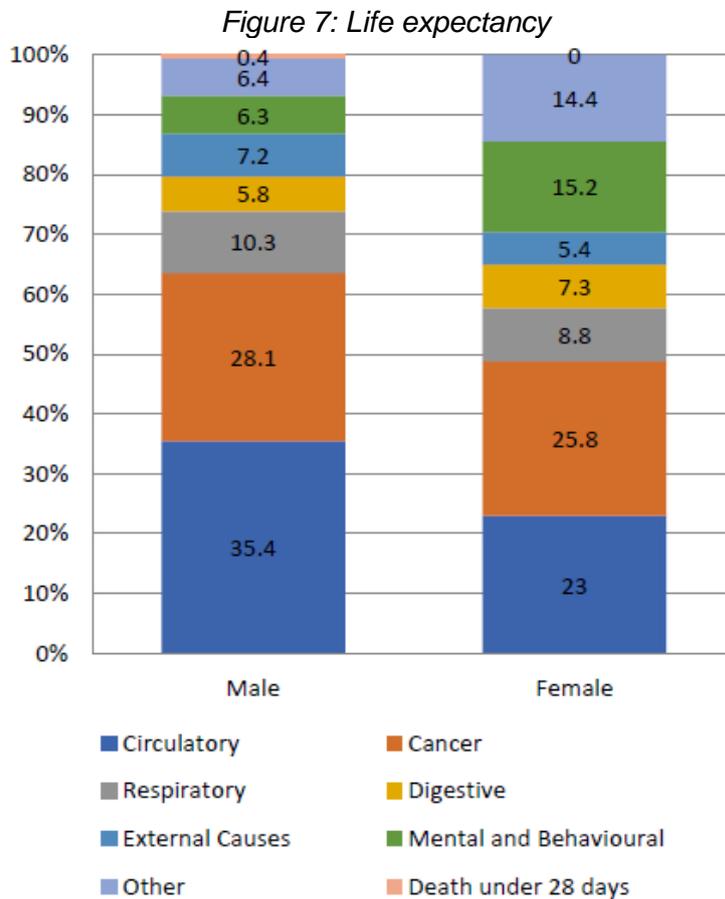


Health Inequality

65. The graph below shows the breakdown of the life expectancy gap between Barnet's most deprived quintile and Barnet's least deprived quintile, by broad cause of death, 2012-2014. There is a slight difference in the contributors from 2010-2012 where circulatory disease was the greatest contributor made to the life expectancy gap for both men and woman.

66. However, this year the biggest contributor to the life expectancy gap for woman was cancer and circulatory in males.

⁴ (Source: ONS Life expectancy by ward 1999-2007)



67. Circulatory disease includes coronary heart disease and stroke. Respiratory disease includes flu, pneumonia and chronic obstructive airways disease. Digestive disease includes alcohol-related conditions such as chronic liver disease and cirrhosis. External causes include deaths from injury, poisoning and suicide. The mental and behavioural category includes dementia and Alzheimer’s disease.

Economic Conditions

The Labour Market

68. The table below shows the percentage of people in employment and those that are unemployed, as well as those who are economically active. The data indicates that Colindale has a higher rate of unemployment when compared to the borough and national average.

Table 10: Economic conditions

All people	Colindale (%)	Barnet (%)	Nationally (%)
Economic Active	70.4	75.8	76.8
In Employment	61.9	70	71
Unemployed	12.0	7.7	7.6

69. The largest majority of people who are economically inactive within the borough are students, followed by those people who are looking after home and family. This composition is slightly higher than the borough and national average.

Table 10: Economic inactivity

	Colindale (%)	Barnet (%)	England & Wales (%)
Economically inactive	29.6	24.2	23.2
Retired	2.2	3.0	4.9
Student	12.2	9.0	6.6
Looking after home or family	6.8	6.0	4.9
Long term sick or disabled	4.1	3.2	4.6
Other	4.3	3.1	2.3

70. Within Colindale, there is a lower proportion of people working as managers, professional and associate professionals when compared to the rest of the borough. In addition, Colindale has a higher proportion of people working within elementary positions and as process, plant and machine operatives.

Table 11: Occupations

	Colindale (%)	Barnet (%)	England and Wales (%)
Managers and senior officials	8.9%	13.6	10.8
Professional	16.2	24.7	17.4
Associate professional & secretarial	11.6	14.9	12.7
Administrative & Secretarial	10.4	11.6	11.4
Skilled trade	11.6	8.2	11.5
Personal services	10.1	8.2	9.4
Sales and customer services	10.8	6.8	8.4
Process plant and machine operatives	7.1	4.1	7.2
Elementary occupations	13.3	7.9	11.2

Land uses

71. Colindale has been identified as a district centre within the Town Centre Floorspace Needs Assessment (2009). The table below indicates that the area has a range of floorspace uses, with service floorspace being the most popular land use type.

Table 12: Land uses

	Convenience		Comparison		Service		Vacant		Total
	Sqm	%	Sqm	%	Sqm	%	Sqm	%	Sqm
Colindale	1,895	12.7%	4,318	29.0%	8,380	56.3%	288	1.9%	14,880

72. The Colindale – the Hyde district centre has a turnover of £1.4million and is performing at broadly average levels. The area has a low representation of multiple retailers at only 11% and has limited convenience provision.

73. Within Colindale Avenue, there are a number of companies and organisations located here including the Health Protection Agency which is a key employer in the area, as is the NHS Blood and Transplant Service which has land safeguarded within the Colindale Hospital

site for expansion if required. The Colindale Business Centre is also located within this area.

Transport

Road

74. Colindale Avenue is a key east/west link that crosses the Underground line, serves Colindale Underground station and links Colindale to the A5/Edgware Road. Although it is a key 'gateway' to the wider Colindale area, its current scale and character do not reflect its importance. The A5 is currently a major bus link and an important route for pedestrians and cyclists. Colindale Avenue is frequently congested on the approach to the A5.

Walking and cycling

75. Colindale Avenue is seen a key pedestrian route within the wider area however, conditions for pedestrians are poor due to narrow footway width, particularly along the road bridge adjacent the station which is unable to adequately accommodate pushchairs and people with mobility issues. Ad hoc public realm surfacing, railings and cluttering of street furniture contribute to a poor visual appearance of the street scape in general. The wider area suffers from poor quality walking routes and connections to other parts of the borough, including green spaces such as Colindale Park and Montrose playing fields. This is due to the severance caused by the strategic road and rail network. Colindale Avenue is also heavily dominated with cars, with this transport mode having priority.

Bus

76. Buses provide a vital service to local people, offering access to key services, jobs and education. Bus Services are somewhat limited with only a few services penetrating the surrounding area and only two bus services offering a service into Central London. While the A5/Edgware Road is a major north-south bus corridor, this runs along the western periphery of the AAP area and these services are not easily accessible from sites in the north of the SPD area. Currently, the main bus routes within and along Colindale Avenue include:

- Route 32 – Edgware bus station towards Kilburn Park
- Route 142- Watford junction station towards Brent Cross
- Route 204 – Sadbury town towards Edgware
- Route 634 – Soute Med towards Kilburn Park
- Route N5 – Edgware Bus Station towards Trafalgar Square
- Route N16 – Edgware Bus Station towards Victoria

Rail

77. The area is serviced by Colindale underground tube station, on the Edgware branch of the Northern line, which serves the immediate area and is within zone 4. The underground provides quick and frequent connections into Euston and central London, which can be reached in approximately 21 minutes.

Environmental conditions

Carbon emissions

78. In 2012, per capita, CO2 emissions in Barnet were 4.4 tonnes per person, down from 5.4 tonnes per person in 2005. This was the fifteenth lowest in London, and below the Greater London rate of 5.2 (Department of Energy and Climate Change, 2012).

79. In 2012, the biggest source of CO₂ emissions within Barnet was from homes (51.4%), with industry and commercial activity generating 24.3% of emissions and road transport creating 24.1%. The overall level of carbon emissions in Barnet fell from 1,759,400 tonnes of CO₂ in 2005 to 1,600,300 tonnes of CO₂ in 2012⁵.

Air quality

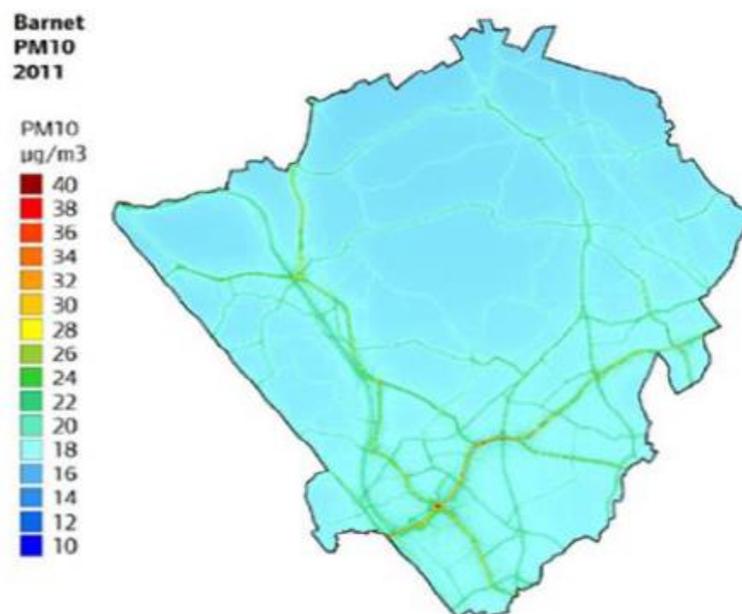
80. For the majority of the population the health impacts of air pollution are not obvious, however, smaller numbers of the population are more vulnerable to the effects of air pollution, as exposure to pollution can exacerbate existing health conditions including cardiovascular and respiratory disease. This can lead to restricted activity, hospital admissions and even premature mortality⁶.

81. In April 2001, the whole Borough was designated an Air Quality Management Area (AQMA). This was due to the predicted exceedance of the annual mean objective for nitrogen dioxide (NO₂) and the 24-hour mean objective for particulates (PM₁₀).

82. The one hour mean objective for nitrogen for the whole Borough was included in July 2010 due to exceedances of this objective at Golders Green bus station and high street locations across the Borough where the public may spend an hour or more. Traffic along the main roads in the Borough formed the primary source of the pollutants, particularly along the M1, A406, A1 and A41. Since then an Air Quality Action Plan 2017-2022, which replaces the previous plan 2003-2016, outlining the action the Council will take to improve air quality came into place.

83. Figures 8 and 9 spatially represent the annual mean concentrations of NO₂ and PM₁₀ in Barnet. Generally, the levels of NO₂ and PM₁₀ are quite low within the Borough, although there are concentrated areas of higher pollution levels around some of the main arterial roads within the Borough.

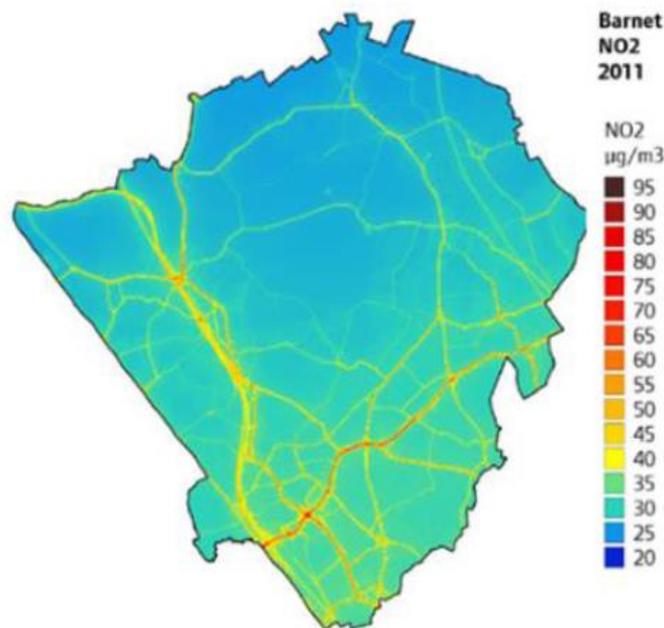
Figure 8: Annual Mean Concentration of NO₂ in Barnet, 2011



⁵ Banet joint Strategic Needs Assessment (2015)

⁶ Greater London Authority (2013)

Figure 9: Air Quality in Barnet a Guide for Public Health Professionals, 2011



Land contamination

84. Contamination of land may threaten public health and safety, the natural environment, the built environment and economic activities, through its impacts on the users of the land, and on neighbouring users. The presence of contamination can affect or restrict the beneficial use of land, although development presents an opportunity to deal with it. Land contamination is therefore a material planning consideration in the preparation of development plan documents and in taking decisions on individual planning applications.
85. The term “contaminated land” is defined in the Environmental Protection Act (1990) (with amendments made in the Environment Act 1995 (Part 2A) and the Radioactive Contaminated Land (Modification of Enactments) (England) Regulations 2006) as: “Any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in on or under the land, that: Significant harm is being caused or there is a significant possibility of such harm being caused; or Pollution of controlled waters is being, or is likely to be caused”. There are no contaminated land sites within a 250 km radius of the SPD area. There are also no groundwater Source Protection Zones underlying or in the near vicinity of the site.

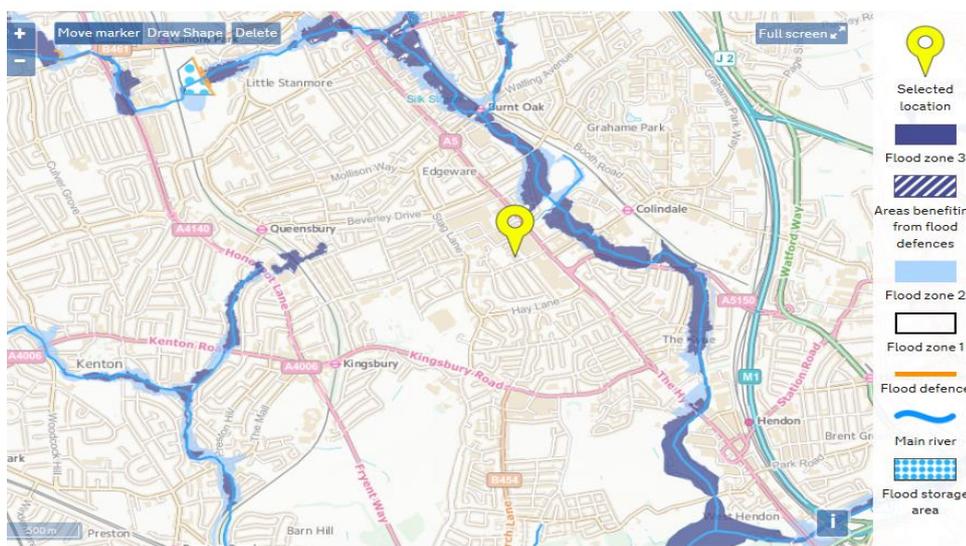
Flooding

86. Colindale is located within the Silk Stream catchment (a tributary of the Brent River). The Silk Stream has been identified as a flood risk by the Environment Agency. The Silk Stream is more than 200 metres from the SPD boundary. There are no groundwater Source Protection Zones in the vicinity of the site.
87. There are no formal flood defences in the Colindale Area, however, the Silk Stream flood alleviation scheme has been completed, which provides flood storage upstream.
88. The SPD boundary lies within Flood Zone 1 which is land assessed as having a less than 1 in 1000 annual probability of river or sea flooding or less than 0.1% chance of flooding in

any year. In terms of fluvial (river) flood risk this is the lowest risk zone and therefore all types of development are appropriate in this zone according to Table 3 of the Planning Practice Guidance (Flood Risk and Coastal Change) (please see appendix 1).

89. The West London Strategic Flood Risk Assessment (WSFRA) has mapped flood risk within Barnet, including areas at risk from surface water flooding in the 1 in 100-year extent (known as Flood Zone 3a Surface Water). There are some very small areas of Flood Zone 3a Surface Water close to or within the boundary of the SPD. Guidance within the boundary of the SPD area. Guidance within the WSDRA states that boroughs should consider implementation of further surface water flood risk mitigation requirements for proposed developments within Flood Zone 3a where the development is also within the 1 in 30 year RoFSW mapped extents.

Figure 10: Likelihood of flood risk



Source: Environment Agency

Sewer Flooding

90. Sewer flooding is often caused by excess surface water entering the drainage network. The sewerage system across west London was installed in the early 20th century and was predominantly designed to accommodate green field run off. This was expanded in 1930's to accommodate increasing population, however, did not take account of any increased water runoff. Expanding urban areas within the borough has led to more impermeable surface coverage, causing significant increase in surface water runoff and causing the surface water drainage system being overwhelmed on a more frequent basis. Surface water flooding is likely to be more common across the borough as the capacity below ground infrastructure weakens, representing increased flood risk.

Water Quality and resources

91. Barnet is predominantly within the Brent catchment, but also covers part of the Lower Lee catchment in the north-east and the Colne catchment in the north-west. Water quality in Barnet is impacted by urban diffuse pollution because:

- The boroughs main water course flows through developed urban areas with impermeable surfaces, and over London Clay, so they respond quickly to rainfall. Urban run-off carries pollutants directly into the rivers;

- Misconnections, caused by the incorrect installation of domestic and industrial plumbing, mean untreated water is discharged directly into the watercourse. This is a particular problem for the smaller tributaries where there is less dilution. A programme was initiated between the Environment Agency and Thames Water to tackle the problem of domestic misconnections; and
- There are three Water Framework Directive designated rivers that flow through Barnet (Silk Stream/Edgware Brook, Dollis Brook and Pymmes Brook).

92. Data from 2009/10 indicates that the average consumption of water by households in 2009/10 was 170 per person per day. In order that Barnet households achieve the target set out in the current Local Plan of 105 litres or less per head per day, water conservation needs to be addressed in new development.

Climatic factors

Available scientific evidence supports the current understanding that global warming causes climate change. London is vulnerable to extreme weather, in the form of floods, droughts, heatwaves and very cold weather.

The Governments climate change projections from 2009 suggest that by 2050, London could see an increase in mean summer temperature of 2.7 degrees, an increase in mean winter rainfall of 15 % and a decrease in mean summer rainfall of 18 % over a 1961 – 1990 baseline. The impacts of a changing climate in London are shown in Table 13.

Table 13: Climate

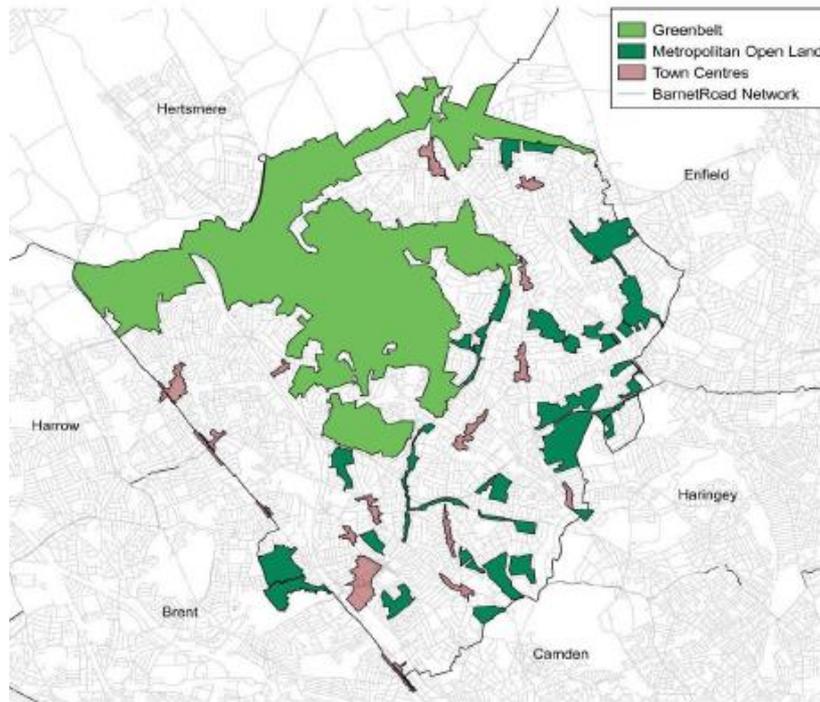
Rising temperatures	Summers will be hotter. By the middle of the century, the average summer day is projected to be 2.7°C warmer and very hot days 6.5°C warmer than the baseline average. By the end of the century the average summer day is likely to be 3.9°C warmer and the hottest day of the year could be 10°C hotter than the hottest day today. Winters will be warmer, with the average, mid-century winter's day being 2.2°C warmer and a very warm winter day 3.5°C above the baseline. Very cold winters will still occur, but will occur less frequently.
Seasonal rainfall	Summers will be drier. By the middle of the century, the average summer is projected to be 19% drier and the driest summer 39% drier than the baseline average. By the end of century average summers could be 23% drier. Winters will be wetter. By the middle of the century, the average winter is projected to be 15% wetter and the wettest winter 33% wetter than the baseline average.
Tidal surges	Tidal surges are not projected to increase in frequency or height, except under an extreme scenario, where a 70cm increase has been projected.
Sea level rise	Sea levels are projected to rise by up to 96cms by the end of the century. An extreme projection of a 2 metre increase has been generated using the latest ice-sheet modelling published after the IPCC (Intergovernmental Panel on Climate Change) Fourth Assessment report.

Source: The Mayors Climate Change Strategy, GLA, 2011

Nature conservation

1. Barnet is rich in green spaces and biodiversity containing 68 Sites of Importance for Nature Conservation, including seven of which are local nature reserves. The Brent Reservoir, (also known as the Welsh Harp) which lies partly in the Borough, is a Site of Special Scientific Interest. There are three landscape character types in Barnet - the Barnet Plateau, Finchley Ridge and Hampstead Ridge each with their own natural signatures. It should also be noted that parts of the River Brent and Silk Stream are part of the Blue-Ribbon Network. There are no sites of importance for nature conservation within Colindale.

Figure 11: Green and open space in Barnet



Source: Green Infrastructure Supplementary Planning Document

Open space

2. Barnet has 888 ha of greenspace provision, this includes parks, playgrounds, sports sites, natural and semi- greenspaces and other miscellaneous sites. A total of 4565.2 ha of this is made up of publicly accessible parkland.
3. Eight regeneration and intensification areas have been identified across the borough, including:
 - Dollis Valley
 - Mill Hill East
 - Granville Road
 - Brent Cross/Cricklewood
 - West Hendon
 - Colindale
 - Grahame Park
 - Stonegrove/Spur Road

4. Seven of these regeneration areas within Barnet will include new high-quality greenspace. This will result in an investment of approximately £20 million in new parks across the borough.
5. Investment from all of these sources will be evenly distributed across the borough, but more will be spent in the south and west of the borough because this is where population growth will be greatest over the new 20 years.
6. As part of the action plan set out in the Open Space Strategy for Barnet, there will be investment in parks and open spaces at Colindale and Burnt Oak associated with regeneration improvements, including improvements to Montrose Playing Fields, Silk Stream Park, Heybourne Park and Colindale Park by 2021.
7. Within Colindale ward, there a number of open spaces surrounding the SPD area:
 - Montrose Playing park
 - Colindale Park
 - Silkstream park
 - Field Mead open space
 - Heybourne Park
 - Rushgrove Park

Waste and Recycling

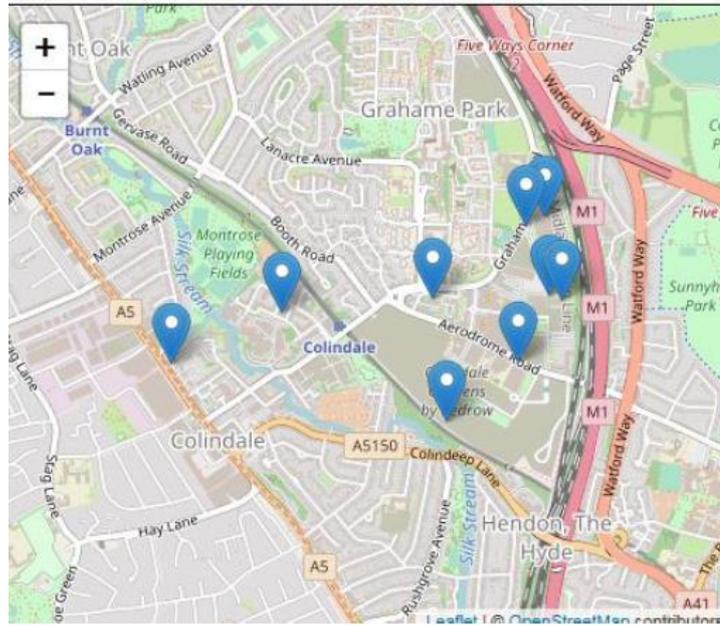
8. In Barnet, the recycling rate for 2014/15 was 37.95% and in 2015/16 it was 36.38% against a target of 42%. In 2014/15 634.96kg of waste per household was disposed of and during 2015/16 646.80kgs was disposed of.

Heritage and Protection of the historic environment

9. In Barnet, there are over 2,200 Listed Buildings and 1,600 buildings on the Local List. In addition, there are two Scheduled Ancient Monuments at Brockley Hill in Edgware and Manor House in Finchley, four registered Historic Parks and Gardens at East Finchley Cemenary, Avenue House Grounds, Golder Green Crematorium and St Pancras and Islington Cemetery. The Borough has 16 designated conservation areas which are areas of special architectural or historic interest that are considered worthy of protection or enhancement.
10. There are nine listed buildings in Colindale ward, including:
 - Colindale hospital administrative block – Grade II
 - Former control Tower, Watch Office, Aircraft Factory and Factory office and Hendon Aerodrome - Grade II
 - Former entrance gates to the Grahame White Aviation company - Grade II
 - Grahame White Hangar - Grade II
 - Milestone Between Greenway and Annesley Avenue - Grade II
 - Police box in Cottenham Dive, Peel Centre - Grade II
 - Royal Air Force Museum - Grade II
 - Royal Air Force Officers Mess - Grade II
 - Statue of Sir Robert Peel, Peel Centre - Grade II
 - Aeroville social housing development - Grade II

There are no assets within the area that are on the 'Heritage at Risk' register.

Figure 12: Listed buildings in Colindale Ward



Stage A3: Identify Key Sustainability Issues and Problems

11. The table below identifies key sustainability issues that have been identified which future sustainability appraisals should aim to address.
12. These issues have been identified through a survey of existing council baseline data and through monitoring, engagement with stakeholders, a review of relevant policies, strategies and programmes and other information about the Borough.
13. The issues have been set out under the headings of ‘social’, ‘economic’ and ‘environmental’. Some of the issues do cut across more than one of these categories. To avoid duplication the cross cutting issues have been limited to one category only.

Social	
Housing to meet the needs of a diverse community	Housing is unaffordable for those on low incomes. Colindale has, on average, a lower household income than the borough average. In 2018 the average house prices for Colindale were over 10 times the average median annual income.
Crime and the fear of crime	The LSOA indices of deprivation evidence suggests that there are relatively high levels of crime within the ward, with a number of LSOAS falling within the 20% most deprived

	nationally. However, baseline data shows that the overall crime rate is slightly lower than the borough average.
Economic	
Public transport	The area has good public transport connections but there is a lack of connectivity between east and west of borough. There is a need to maximise existing and future movement opportunities including links green spaces and pedestrian and cycle connections.
Job opportunities	There is a high proportion of people with high level 4 qualification and the people who are economically inactive are made up of students and those who are looking after home or family.
Environmental	
Poor air quality	Addressing congestion key arterial routes may help reduce poor air quality and reduce impacts on human health. Encouraging use of other forms of transport is also important including walking and cycling.
Protection, provision and improved access to open space	Improving the access and promoting the open spaces surrounding Colindale with improved pedestrian and cycling links will help encourage peoples uses of these spaces, improving human health
Protection of the historic environment	The demand for growth in the Borough, particularly around Colindale will create greater need to protect Barnet's heritage and the historic environment.
Enhance and protect biodiversity in the Borough	The Borough is home to a number of sites of nature conservations which will need to be afforded greater protection as pressure from development increases.

Stage A4: Develop the Sustainability Appraisal Framework

14. The table below sets out the objectives which have been used to assess the Colindale Underground Station SPD

E C O N O M I C		
Objectives	Prompt questions	Indicators
1. Encourage sustainable economic growth and economic regeneration	<ul style="list-style-type: none"> • Increase the vitality and viability of existing town centres, local centres and parades? • Improve business development? • Enhance the image of the area as a good business location? • Help diversify the economy? • Have a positive impact on the local economy? 	<ul style="list-style-type: none"> • Number and range of businesses operating in the borough, including formation and survival rates • Number of local employers paying at least the London Living Wage • Employment floorspace lost/retained/created
2. Increase the opportunities for rewarding and satisfying employment	<ul style="list-style-type: none"> • Help to reduce unemployment? • Encourage the retention and or/growth of local employment and training opportunities in the most deprived areas? • Improve the range of job opportunities for all local people? • Result in the loss of employment land? • Increase the number of higher paid jobs in the Borough? 	<ul style="list-style-type: none"> • Employment floorspace lost/retained/created • Proportion of residents who are economically inactive • Proportion of 16-18years old not in education, employment or training • Proportion of residents with no qualification
3. To provide the necessary infrastructure to support existing and future growth	<ul style="list-style-type: none"> • Provide the necessary social infrastructure to meet existing and future local needs? • Provide enough green infrastructure for the health and well-being of local residents that also contributes to climate change adaptation, biodiversity and water quality? • Provide enough physical infrastructure? 	<ul style="list-style-type: none"> • Density levels achieved against London Plan targets • Progress against infrastructure investment programmes • Provision of green and open space in the ward
E N V I R O N M E N T A L		

<p>4. To reduce contributions to climate change and reduce the risk of flooding</p>	<ul style="list-style-type: none"> • Reduce CO2 and other greenhouse gas emissions? • Reduce consumption of energy resources? • Use renewable resources of energy generation? • Increase energy efficiency in the Borough's housing and other building stocks? • Contributes to climate change adaptation? • Minimise the risk of flooding to any vulnerable properties? • Promote the use of sustainable urban drainage systems? • Increase or reduce the risk of flooding to people and property? • Limit types of development in areas at risk of flooding? 	<ul style="list-style-type: none"> • % of / number of new developments incorporating flood mitigation measures in their design to reduce flood risk e.g. SUDS, evacuation plans, etc • Proportion of developments incorporating low carbon technology and renewable energy solutions
<p>5. To protect and enhance the quality of landscape, townscape and local distinctiveness</p>	<ul style="list-style-type: none"> • Conserve and enhance local landscape and visual amenity? • Improve the relationship between different buildings, streets, parks and waterways and other spaces that make up the townscape character? • Promote high quality design that relates to immediate surroundings? 	<ul style="list-style-type: none"> • Amount of new public space and pedestrian routes created by new development • Proportion of new developments and public spaces designed to be inclusive • Number of developments with BREEAM scores of very good or excellent • Healthy street scores • Overall crime rates in the ward and fear of crime
<p>6. To promote sustainable transport and reduce the need to travel by car</p>	<ul style="list-style-type: none"> • Encourage development at locations that enable walking, cycling and/or the use of public transport? • Encourage development at locations connected to local services and facilities? • Reduce the need to travel by car? • Reduce the number and length of journeys made by car? 	<ul style="list-style-type: none"> • Enhance mode split in favour of active transport, and secondly public transport in the ward/borough • Location of major transport generating demand developments • Distribution of local services across the ward • Proportion of car-free housing • Motor traffic flows through the borough • Proportion of new homes and other floorspace within areas of PTAL scores of 4 or more • PTAL levels

<p>7. To conserve and enhance open spaces, green corridors and biodiversity</p>	<ul style="list-style-type: none"> • Encourage development on previously developed land? • Improve the quality and access to open spaces in areas of deficiency? • Provide a range of play spaces for children and young people? • Maintain, enhance and create green infrastructure assets and networks; such as green space, public rights of way, open recreation and sports facilities? • Help protect and enhance biodiversity in the area and in particular avoid harm to protected species and habitats? • Protect and provide opportunities for creating/enhancing/improving sites designated for their nature conservation value? 	<ul style="list-style-type: none"> • Open spaces and Green Infrastructure linkages lost/gained/improved • Open space deficiency • Access to public open space • Number of sports/playing fields and outdoor recreation spaces
<p>8. To conserve and enhance the historic environment and cultural assets</p>	<ul style="list-style-type: none"> • Protect sites, features and areas of historical, archaeological and cultural value and their setting in and around Barnet? • Ensure Barnet’s historic environment contributes to social and cultural life in the borough? • Encourage management plans to be actively prepared and implemented?? 	<ul style="list-style-type: none"> • Number of new heritage assets identified and appropriately conserved • Number of heritage assets at risk • Change in the number of protected landmarks • Progress on updating and implementing management plans
<p>9. To reduce the risk of flooding</p>	<ul style="list-style-type: none"> • Protect the quality of rivers and groundwater? • Prevent the deterioration of the water quality of rivers and groundwater? • Avoid areas lacking a sewerage network or areas with network capacity issues? 	<ul style="list-style-type: none"> • Number of developments approved against the recommendation of the statutory water/sewerage undertaker on low pressure/flooding grounds

<p>10. To improve air quality</p>	<ul style="list-style-type: none"> • Improve air quality? • Help to reduce emissions of PM10 and NO2? • Minimise construction impacts, such as dust, noise, vibration and odours? 	<ul style="list-style-type: none"> • Annual average concentrations and number of hourly exceedances of Nitrogen dioxide in air • Annual average concentrations and number of daily exceedances of PM10 in air
<p>11. To encourage sustainable use of resources</p>	<ul style="list-style-type: none"> • Encourage water efficiency and drought resilience? • Reduce consumption of energy and reliance on fossil fuels? • Promote the reduction of waste during construction/operation? • Minimise the production of household and commercial waste? • Promote sustainable processing of waste, such as recycling, energy from waste and composting? 	<ul style="list-style-type: none"> • Water use per capita • Residual household recycling rates in the borough • Percentage of household and construction waste sent for reuse, recycling and composting • Percentage of municipal waste sent to landfill
<p>S O C I A L</p>		
<p>12. To improve the health of the population</p>	<ul style="list-style-type: none"> • Encourage and facilitate healthy living and active lifestyles amongst different groups? • Provide opportunities for sport and recreation? • Assist in tackling health inequalities in the Borough? • Improve access to health and social care services for all sectors of the community? • Maintain, enhance and create green infrastructure for recreation, exercise and locally produced food? • Promote non-polluting forms of transport? • Help to improve mental and emotional health, reducing social exclusion, especially for those with poor mobility? • Reduce exposure to poor air quality? 	<ul style="list-style-type: none"> • Indicators set out in the Mayor's Health Inequalities Strategy • Percentage of the population participating in 30 minutes of moderate intensity sport • Healthy street scores • Mortality rate • Number of patients registered at GP surgery • Proportion of the borough deficient in relation to local sports facilities
<p>13. To improve the skills and education of the population</p>	<ul style="list-style-type: none"> • Provide opportunities for improving the skills and qualifications of the population? • Help improve employee education/training programmes? • Help improve access to education for all? 	<ul style="list-style-type: none"> • Jobs, employment and activity rates

<p>14. To provide everyone with the opportunity to live in a decent and affordable home</p>	<ul style="list-style-type: none"> • Improve the supply of housing? • Encourage the range of housing type, size and tenure to meet identified current and future needs of existing and future local residents? • Increase access to good quality and more affordable housing for all? 	<ul style="list-style-type: none"> • Number new homes completed • Proportion of affordable housing delivered • Income to average house price ratio • Housing quality • Proportion of homes split by different tenures within the census • Homeless households in temporary accommodation
<p>15. To reduce crime and the fear of crime.</p>	<ul style="list-style-type: none"> • Improve safety and security? • Encourage measures to reduce crime and the fear of crime? • Encourage a strong and cohesive community? • Reduce antisocial behaviour by designing out crime? 	<ul style="list-style-type: none"> • Overall crime rates in the borough and fear of crime • Programmes / plans/ strategies to reduce crime in the ward/borough
<p>16. To promote social inclusion, equality, diversity and community cohesion</p>	<ul style="list-style-type: none"> • Reduce inequality and the negative consequences of relative poverty? • Reduce social exclusion and ensure that everyone has access to the same opportunities? • Promote fairness, social cohesion and integration? • Promote equity between population groups and those with protected characteristics? • Support active engagement of the wider community in decisions that affect their area? • Encourage active and connected, strong and cohesive community? 	<ul style="list-style-type: none"> • Relative ranking for indices of multiple deprivations (IMD) – income, employment • Relative ranking for income deprivation affecting children index (IDACI) and income deprivation affecting older people index (IDAOPI) • Number of households in fuel poverty • % public buildings fully accessible

Monitoring

104. It is important that the SPD is monitored to keep track of whether it is working in the way it should. This report has identified indicators that should be used to monitor the SPD. The most appropriate way to monitor the SPD is through the Council's Annual Monitoring Report (AMR). The AMR monitors the type of development that is occurring as a result of all of all of the council's planning policies and guidance and the effects development is having in terms of sustainability. Where new indicators have been identified, through the SA process, these can be added to the AMR.

Appendix 1

Flood Zones	Flood Risk Vulnerability Classification				
	Essential infrastructure	Highly vulnerable	More vulnerable	Less vulnerable	Water compatible
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	Exception Test required	✓	✓	✓
Zone 3a †	Exception Test required †	x	Exception Test required	✓	✓
Zone 3b *	Exception Test required *	x	x	x	✓*

Key:

✓ Development is appropriate

x Development should not be permitted.