Camden Infrastructure Study

PREPARING FOR GROWTH:

Executive Summary and Strategic Infrastucture Plan

URS

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Contents

Abbreviations

BSF	Building Schools for the Future
CAZ	Central Activities Zone (of London)
CIL	Community Infrastructure Levy
DfSCF	Department for Schools, Children and Families
EFT	Equivalent Full Time
FoE	Form of Entry (for schooling)
GA	Growth area
INA	Infrastructure Needs Assessment(s)
LBC	London Borough of Camden
LDF	Local Development Framework
NA	Not assessed / not assessable / not applicable
NLWA	North London Waste Authority
NLWP	North London Waste Plan
PPS	Planning Policy Statement
SA	Sub-area
SIP	Strategic Infrastructure Plan
TBC	To be confirmed
TCRd	Tottenham Court Road

1. Introduction: Preparing For Growth In Camden

Purpose and Scope

1.1 This document sets out the results of an inquiry conducted by URS and its partners for the London Borough of Camden[1] regarding strategic infrastructure requirements. Specifically, the study has looked to identify the type and quantum of infrastructure that will be required to enable the growth over the period to 2026 envisaged in Camden's emerging Local Development Framework (LDF) to take place. The types of infrastructure examined fall under three main categories (as set out in **Box 1**). These three categories form the basis for the three technical Infrastructure Need Assessment documents (covering social, transport and utilities and physical infrastructure) that are referenced throughout this summary.

1.2 This work provides a part of the evidence base for Camden's emerging LDF and also feeds into the development of a methodology for the Community Infrastructure Levy (CIL) so that Camden is ready to apply the levy to new development proposals once the relevant legislation takes effect. This work expands upon the results of a more strategic level study that has recently been undertaken by URS and its partners for the Central London Forward area of operation; an area which includes Camden.

Key Driver for the Study

1.3 A key driver for this work is the need to deliver the ambitious targets for population and employment growth in Camden in a sustainable manner, in line with the guidance on infrastructure planning in the revised Planning Policy Statement (PPS) 12[2].

1.4 In particular PPS12 – Local Spatial Planning requires planning authorities to place infrastructure planning at the heart of the planning process. Accordingly, it supports evidenced infrastructure planning to corroborate LDFs and their Core Strategies, as well as housing growth targets and the creation of sustainable development and communities. To this end PPS12 states that:

> *"The Core Strategy should be supported by evidence of what physical, social and green infrastructure is needed to enable the amount of development proposed for the area, taking account of its type and distribution. This evidence should cover who will provide the infrastructure and when it will be planned."*

1.5 PPS12 further articulates that in identifying infrastructure required to support development, infrastructure planning should consider the costs, sources of funding, timescales for delivery and gaps in funding. The Statement encourages a strategic, collaborative and comprehensive approach to the forward planning of infrastructure that involves key infrastructure providing agencies in identifying requirements in alignment with the Core Strategy planning process. However it recognises also that 'the budgeting process of different agencies may mean that less information may be available when the Core Strategy is being prepared than would be ideal'. Accordingly PPS12 states that the 'test should be whether there is reasonable prospect of provision'.

1.6 Accordingly, understanding the scale of residential and commercial growth in Camden is essential in light of PPS12's additional requirement to identify the type and level of infrastructure required to support growth.

Report Structure

1.7 The remainder of this document is structured as follows:

- **Section 2** explains how a development trajectory, forecasting rates of residential and commercial development growth over the life of the LDF, were arrived at
- **Section 3** explains some of the key factors taken into consideration in the process of assessing the demand that growth will create for infrastructure
- **Section 4** details the resulting findings of the infrastructure needs assessments carried out for social, transport and utilities and physical infrastructure leading to the identification of the strategic infrastructure plan for Camden
- **Section 5** concludes the report by setting out the issues regarding prioritisation of infrastructure needs and by making a number of recommendations in regard to utilising the findings of this study and moving forward to the preparation of a methodology for the implementation of the CIL.

[1] Hereafter, generally referred to simply as 'Camden'.
[2] DCLG, 2008, Planning Policy Statement 12: Local Spatial Planning

Box 1:

Camden Infrastructure Study: Infrastructure Assessment Categories and Types

Social Infrastructure

- **Education**
  - Early Years Education
  - Primary Education
  - Secondary Education
  - Further Education and Adult Learning
  - Higher Education
- **Health**
  - Primary Health Care (GPs and Dentists)
  - Secondary Health Care
- **Sports and Leisure**
  - Swimming Pools
  - Sports Halls
- **Parks and Open Space**
  - Parks and Open Spaces
  - Children's Play Areas
- **Libraries**
- **Cemeteries**
- **Job Brokerage**
- **Community Space and Faith Facilities**
  - Children's services,
  - Advice services,
  - Adult and community learning and
  - Meeting rooms and halls
  - Faith facilities

Transport Infrastructure

- **Pedestrian and Cyclist infrastructure**
- **Public transport, including London Buses, London Underground / Overground and National Rail**
- **Road space for taxis and private motor vehicles**
- **Distribution and commercial transport**

Utilities and Physical Infrastructure

- **General Utilities**
  - Water
  - Energy (Electricity / Gas / Heating)
  - Telecommunications
- **Foul and Surface Water Drainage**
  - Sewerage
  - Flood Risk
- **Waste**
  - Waste Management
- **Emergency Services**
  - Police
  - Ambulance

2. Understanding Camden's Growth Figures

2.1 Understanding the quantum of development that is envisaged for Camden over the forthcoming planning period, or in other words confirming the anticipated development trajectory, is a critical first step to examining the consequential infrastructure requirements of growth. To do so, it is firstly necessary to acknowledge the context for growth in Camden.

National / Regional Policy Context for Growth

2.2 National and regional planning policy encourages and sets a context for Camden's growth. The regional spatial plan for the capital, the London Plan, does this in two main ways[3]:

- First, by setting out an annual and 10 year housing target for each borough within Greater London
- Secondly, by identifying several locations as being suitable for large-scale redevelopment or significant increases in jobs and homes (known as opportunity areas and areas for intensification respectively but collectively referred to as growth areas throughout this report – see **Box 2**).

The Context as set by Camden's Emerging LDF

2.3 Reflecting the targets outlined in the London Plan, Camden's emerging LDF and the Core Strategy estimates relatively significant levels of population growth by 2026.

2.4 The Core Strategy makes provision for this growth in two ways:

- First, it promotes a concentration of development within the five growth areas nominated by the London Plan that fall predominantly within the borough's boundaries[4].
- Secondly, it also assumes and promotes development outside of the identified growth areas (at other highly accessible locations and in a more limited manner elsewhere).

[3]Shaping Camden: Core Strategy Preferred Approach consultation document, October 2008.
[4]As set out in The Mayor's London Plan, the Opportunity Areas located at King's Cross, Euston and Tottenham Court Road and the Areas for Intensification located at Holborn and the West Hampstead Interchange.

Box 2:

Camden's Five Growth Areas and Three Sub-Areas

GA-1 King's Cross
King's Cross is located on the northern edge of London's Central Activities Zone (CAZ) and is Camden's largest single growth area. King's Cross is already London's most accessible area by public transport and plans to improve transport links, including the Thameslink upgrade and King's Cross Station enhancements, will further enhance accessibility. Planning permission was granted in 2006 for a high-density mixed-use development including 1,700 homes and up to 650 units of student housing, and up to 25,000 jobs across more than 400,000 sq m of commercial floorspace. Development of the site is likely to commence shortly and extend over approximately one and a half decades.

GA-2 Euston
Euston, located a short distance west of King's Cross, is also on the northern edge of London's Central Activities Zone (CAZ). The area is recognised as one of London's major transport hubs. While to the immediate south Euston is bordered by significant office development along Euston Road, to the north it is by flanked by residential communities including Somers Town to the east and Regent's Park to the immediate west. The Euston growth area is not as large as that at King's Cross, however there are a range of development opportunities that may arise with the proposed remodelling of Euston Station as well as at a number of other adjacent brownfield sites.

GA-3 Tottenham Court Road
This growth area is well served by public transport and is located around Tottenham Court Road Underground Station. Committed investments in the area include the Crossrail Station that will be linked to the Tottenham Court Road Underground Station. This will help prompt further residential and commercial development. Only approximately two-thirds of the growth area lies within Camden's borders with the remainder falling within the City of Westminster.

GA-4 Holborn
This growth area is primarily a commercial area focused around Holborn Underground Station and is close to the Tottenham Court Road growth area. The area's potential for intensification is expected to largely derive from the redevelopment of existing properties, particularly offices, at higher densities.

GA-5 West Hampstead Interchange
This growth area is situated in the west of the borough and is highly accessible by public transport being centred on and around London Underground, Mainline and London Overground Stations. The stations are however poorly linked and proposals for improved connections between them are currently being prepared by Transport for London. The main opportunities for housing and employment development are expected to arise from redevelopment of under-utilised sites, particularly alongside the railway lines dissecting the growth area.

SA-A South
The sub-area is expected to see significant residential and commercial development growth over the life of the Core Strategy planning period, both within and outside of the growth areas, although the greatest concentration of development will take place in the growth areas.

SA-B North East
This sub-area takes in six wards and includes the town centres of Camden Town, Kentish Town and part of Highgate. Although lacking a specified growth area, this sub-area is expected to accommodate a higher quantity of development than the north west sub-area, even including the growth anticipated in GA-5. Much of this growth will occur in and around Camden Town.

SA-C North West
This sub-area takes in seven wards and includes the neighbourhoods and town centres of Belsize Park, Swiss Cottage, Hampstead and Fortune Green. It contains the West Hampstead Growth Area, although it is expected to experience the lowest levels of growth of the three sub-areas over the projected period.

Deriving a Development Trajectory

2.5 The recognition that growth will happen both inside and outside of the growth areas has driven the approach used to inform the examination of the infrastructure requirements arising from growth. Accordingly, for the purposes of this study the borough is broken down into eight areas: comprised of the five growth areas and three sub-areas (described in **Box 2**), for which residential and commercial development growth has been forecast[5].

- In the case of the growth areas, the London Plan and the Core Strategy Preferred Approach consultation document do identify a particular number of homes and jobs for each respective growth area. However, these figures are recognised as being indicative in nature. Accordingly, in order to gain a more comprehensive understanding of the scale and location of growth within Camden's growth areas and across the remainder of the borough, URS and the London Borough of Camden worked together to produce a more accurate forecast of the quantum and location of residential and commercial development within the borough over the period to 2026.

- The sub-areas have been developed specifically for this project based on an assemblage of wards that divides the borough into three parts. They were developed for two main reasons. First, they provide for a means of identifying growth that will occur outside of the five growth areas. Secondly, they allow for documenting the distribution of infrastructure that would not necessarily be contained within the tight GA site boundaries, even though it may serve growth area development.

2.6 Subdividing the borough into these growth areas and sub-areas has been useful for ensuring a more robust and distinctive assessment of the infrastructure requirements for Camden. To further ensure that the assessment of infrastructure requirements is as robust as possible, forecasts for development have been divided into four five-year development periods extending to the Core Strategy planning horizon of 2026 beginning with 2006-2011 and ending with 2021-2026.

2.7 The result is a 'development trajectory' (as shown in **Figure 1**), which forecasts development rates both in terms of location (for each growth area, sub-area and the borough in total) and development phasing periods. It does this for both residential development (by number of dwellings and population) and commercial residential (by square metres of floorspace and the corresponding number of jobs) growth).

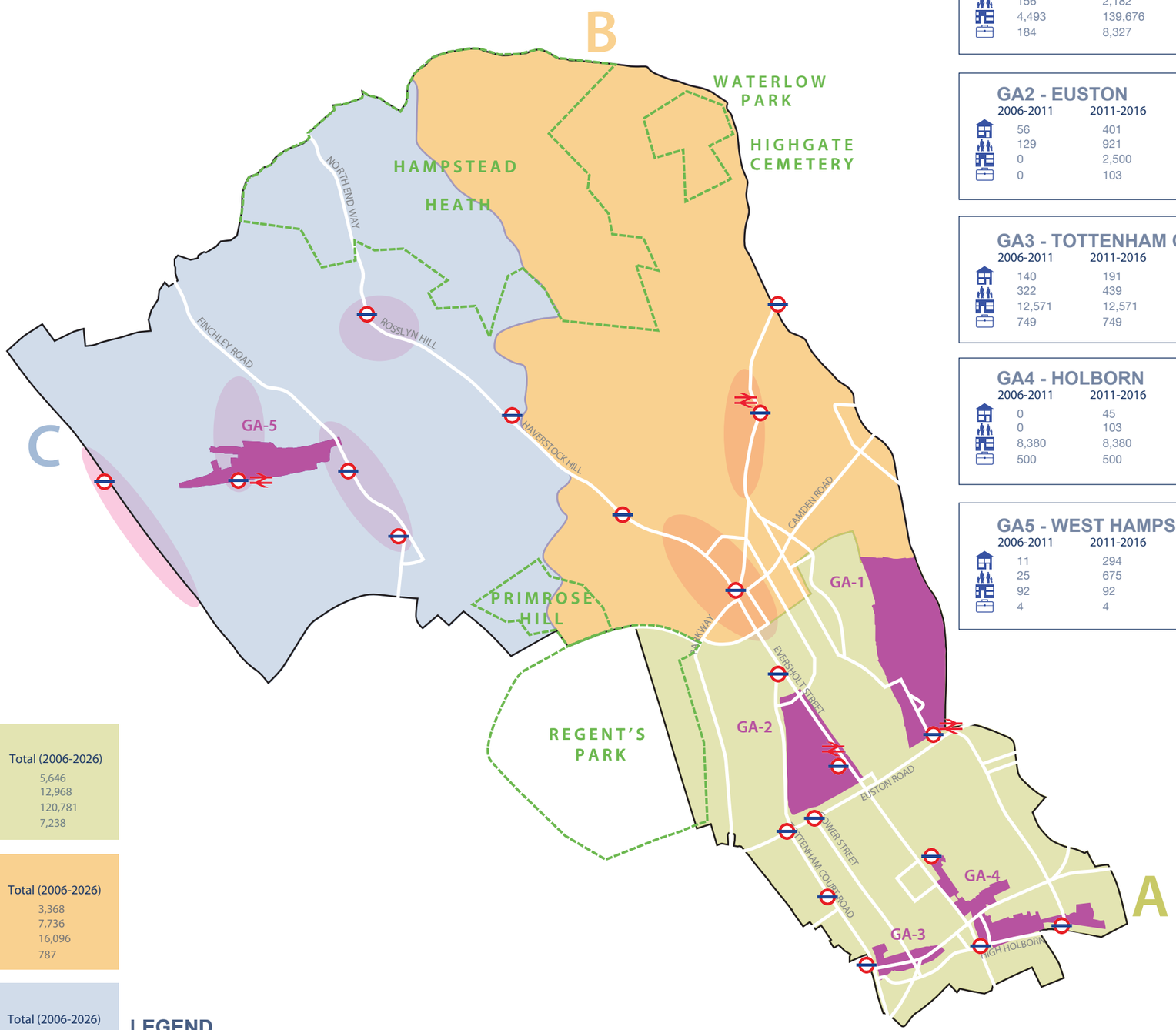
2.8 The figures shown within **Figure 1** reflect the outcome of an exercise undertaken by the London Borough of Camden with assistance from URS to re-examine the London Plan targets and take account of detailed knowledge of potential specific site yields and past development rates (see **Appendix A** for more detail on the assumptions and caveats affecting the figures) to arrive at a more up to date forecast of development by growth area, sub-area and development phase period.

2.9 Of note in **Figure 1** is that while the scale of residential growth envisaged in the growth areas, such as King's Cross, Euston and West Hampstead Interchange, is quite substantial in own right, it is still less in total than the scale of growth envisaged in other areas of the borough outside of the five growth areas as summarised for each of the three sub-areas. Indeed, cumulatively, the growth areas only account for 31% of total forecast increase in population for the borough to 2026.

2.10 With commercial development the situation however is more than reversed: taken cumulatively, the five growth areas together account for over 80% of anticipated commercial floorspace development. Of particular note is that the King's Cross growth area accounts for over 55% of commercial development by itself. This anticipated commercial development pattern reflects the desire to ensure that the growth areas, all of which are located in and around important transport interchanges, capitalise on their transport assets and develop as highly accessible, concentrated clusters of commercial development.

[5]Forecasts of residential and commercial development were principally informed by the Camden Housing Trajectory; Camden Retail Needs Assessment and Camden Employment Land Review.

Figure 1: Camden's Development Trajectory



GA1 - KING'S CROSS

	2006-2011	2011-2016	2016-2021	2021-2026	Total (2006-2026)
Dwellings	68	950	750	0	1,768
Population	156	2,182	1,723	0	4,061
Floorspace	4,493	139,676	139,676	139,676	423,521
Jobs	184	8,327	8,327	8,327	25,166

GA2 - EUSTON

	2006-2011	2011-2016	2016-2021	2021-2026	Total (2006-2026)
Dwellings	56	401	900	195	1,552
Population	129	921	2,067	448	3,565
Floorspace	0	2,500	45,356	42,856	90,713
Jobs	0	103	2,640	2,537	5,280

GA3 - TOTTENHAM COURT ROAD

	2006-2011	2011-2016	2016-2021	2021-2026	Total (2006-2026)
Dwellings	140	191	151	0	482
Population	322	439	347	0	1,107
Floorspace	12,571	12,571	12,517	12,517	50,284
Jobs	749	749	749	749	2,998

GA4 - HOLBORN

	2006-2011	2011-2016	2016-2021	2021-2026	Total (2006-2026)
Dwellings	0	45	0	0	45
Population	0	103	0	0	103
Floorspace	8,380	8,380	8,380	8,380	33,521
Jobs	500	500	500	500	1,998

GA5 - WEST HAMPSTEAD INTERCHANGE

	2006-2011	2011-2016	2016-2021	2021-2026	Total (2006-2026)
Dwellings	11	294	314	400	1,019
Population	25	675	721	919	2,340
Floorspace	92	92	4,128	4,128	8,439
Jobs	4	4	247	247	502

SA-A - SOUTH

	2006-2011	2011-2016	2016-2021	2021-2026	Total (2006-2026)
Dwellings	1,444	1,710	1,175	1,317	5,646
Population	3,317	3,928	2,699	3,025	12,968
Floorspace	30,195	30,195	30,195	30,195	120,781
Jobs	1,810	1,810	1,810	1,810	7,238

SA-B - NORTH EAST

	2006-2011	2011-2016	2016-2021	2021-2026	Total (2006-2026)
Dwellings	1,255	798	650	665	3,368
Population	2,882	1,833	1,493	1,527	7,736
Floorspace	1,899	6,899	4,899	2,399	16,096
Jobs	110	315	233	130	787

SA-C - NORTH WEST

	2006-2011	2011-2016	2016-2021	2021-2026	Total (2006-2026)
Dwellings	665	428	357	339	1,789
Population	1,527	983	820	779	4,109
Floorspace	2,149	2,149	2,149	2,149	8,596
Jobs	120	120	120	120	479

TOTAL BOROUGH

	2006-2011	2011-2016	2016-2021	2021-2026	Total (2006-2026)
Dwellings	3,639	4,817	4,297	2,916	15,669
Population	8,358	11,064	9,869	6,697	35,988
Floorspace	59,779	202,463	247,355	242,355	751,951
Jobs	3,476	11,927	14,625	14,420	44,448

LEGEND

Map

- LU Stations
- Main Line Stations
- FINCHLEY ROAD — A-roads
- Town Centres
- Green Spaces
- Growth Areas

Tables

- Dwellings
- Population
- Floorspace
- Jobs

Please note that totals may not add up due to rounding

3. Assessing Camden's Demand for Infrastructure

Overall Methodological Approach

3.1 A common approach has been employed for investigating Camden's future requirements for social, transport and utilities and physical infrastructure. The study commences by exploring current provision. It then examines the forecasts and plans of providers in terms of the quantum of provision, costs and planned investment. The study then highlights existing or potential future gaps in provision and also risks to delivery. Alongside this, where suitable and possible, demand for infrastructure and the associated costs are independently modelled. This includes identifying the timing or location of need and provision.

3.2 A summary of the approach to this study and subsequent plan is set out in **Figure 2** below.

Modelling the Scale of the Growth

3.3 Key to the assessment of infrastructure demand, particularly for social infrastructure and at least to some degree for utilities, was the establishment of a Camden Infrastructure Model, the detail of which is explained in **Appendix B.**

3.4 To put our analysis into context it was necessary to look at overall expected growth and the relationship of the infrastructure assessment exercise to various factors affecting overall scale and distribution of demand for services.

3.5 The anticipated changes in population, dwellings and commercial floorspace that formed the starting point of the modelling exercise are summarised in **Table 1**. Estimated baseline figures showing the current position are also provided to give a clear impression of the scale of additional development that is envisaged.

Figure 2: Camden Infrastructure Study, Methodology

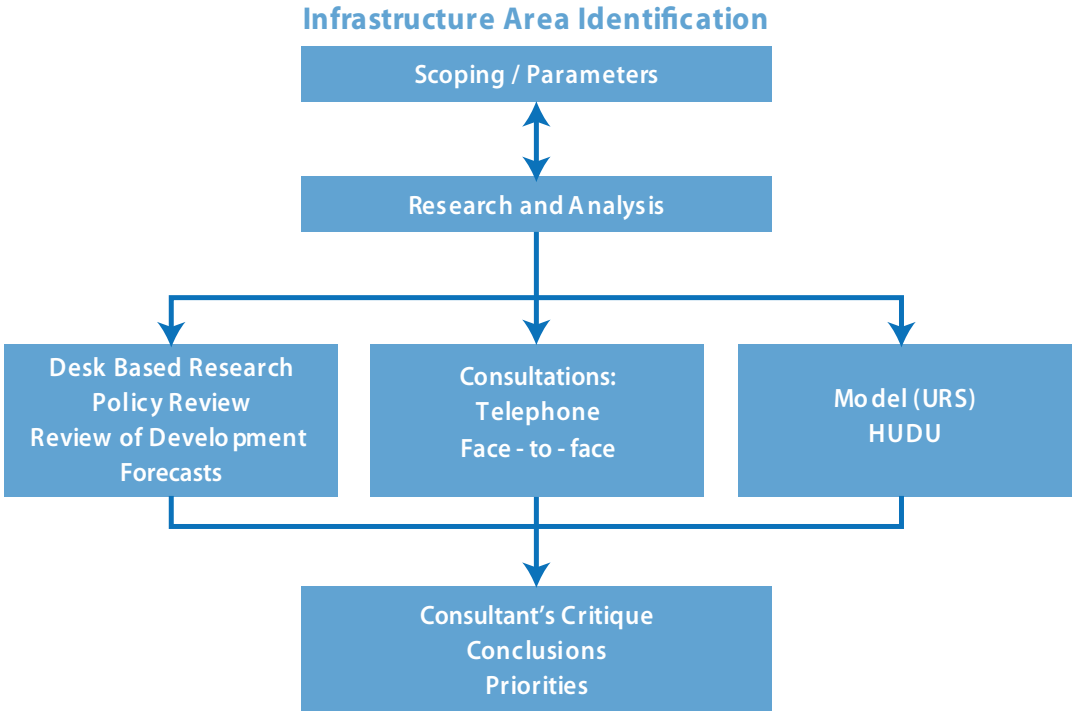


Table 1: Baseline and Projected Residential and Commercial Growth

Category	Existing / Baseline ca.2006	Predicted Growth 2006 to 2026	Growth as % of Existing
Residential Development			
Population (Number of residents)	205,100	35,988	18%
Dwellings (Number of dwellings)	96,641	15,669	16%
Commercial Floorspace			
Business/Office (sqm)	2,179,000	614,820	28%
Retail (sqm)	641,000	46,965	7%
Leisure (sqm)	Not available	90,166	Not available

Source: Population: GLA 2006 RLP High, ONS, 2007; Dwellings: ONS 2006; Business / Office Floorspace (2005 data): ONS, 2007; Retail Floorspace (2005 data): ONS, 2007. Baseline information for leisure floorspace is not available.

3.6 **Table 1** illustrates that growth over the plan period is significant – representing between 7% and 28% of the existing baseline situation for different types of commercial and residential development. These figures have been used as the inputs driving our analysis and infrastructure requirement forecasts. However there are a number of caveats to modelling demand for infrastructure according to projected growth in homes and jobs. Relevant points include:

- There is likely to be significant background growth in demand that is not captured in our analysis of additional infrastructure requirements. For example within inner city administrative areas such as Camden there is evidence of increasing intensity of occupation and use of existing development: household sizes appear to be increasing for the first time in years and vacant space is being brought back into use.

- There is a changing nature of demand and provision. London is becoming a 24-hour city and Camden is one of the boroughs at the forefront of this trend. Associated with this, uses are becoming increasingly intensified in response to changing technology and lack of space. This requires new thinking about the relationship between development and the spatial and financial outcomes of the resulting demand for infrastructure.

- There is particular uncertainty over the modelling of future demand for energy and water. Forecasts need to take account of government policies that promote more sustainable living and therefore a potential reduction in per capita usage. However, historically usage has increased year on year, and there is as yet no clear evidence that government policy will successfully be able to counter this.

3.7 In planning infrastructure for growth, PPS12 confirms that it is often relevant to consider the location of growth and relative issues of growth in different locations. Accordingly, the Camden Infrastructure Study has examined demand for facilities from the growth area level upwards to ascertain where, and what types of infrastructure, will be required in the context of Camden's patterns of growth and the phased development trajectory. This is particularly so for specific types of infrastructure that need to be provided close to people's homes or workplaces. On the other hand, it has transpired in the case of some types of strategic level infrastructure serving a wider catchment area, such as rail line upgrades or further education provision, that the spatial distribution of growth is less relevant. This latter observation is partly so because Camden is a dense urban area in the middle of the wider urban area of London.

3.8 In this context, a consideration of overall development levels is more relevant to strategic infrastructure requirements than consideration of particular sites or discrete geographical areas where a relatively small amount of development might be accommodated. Our distribution by sub-area should be considered against this point. Accordingly, the focus and level of our analysis responds to the type of infrastructure in question to draw out geographically specific recommendations where the impact of growth will result in locally significant infrastructure requirements.

Existing Information, Strategy and Planned Investment

3.9 Through our research and stakeholder consultation we sought to establish the degree to which providers themselves had forecast demand associated with new growth, and planned for it. This exercise frequently proved difficult because of gaps in provider strategy and information. Reasons for these issues include:

- Strategic planning requirements and priorities for service providers do not always match with the LDF framework. The LDF process considers growth and infrastructure requirements over a 20-year planning period. For many infrastructure providers the development of strategies and funding on such timescales is not meaningful or necessary.
- There is little incentive for some service providers to engage in the LDF planning process. For example electricity, gas and water utilities providers tend to plan local infrastructure on a reactive basis and assume that others will fund provision, such as developers. They have little encentive to plan more strategically.
- The regulatory environment encouraging competition discourages or prevents co-ordinated strategic planning.
- Some providers are behind schedule in their strategy planning exercises. For example the London Strategic Health Authority has not yet started preparing an overall estate strategy.

3.10 In summary, for the following infrastructure areas providers' strategy and their available documented infrastructure requirements were well or at least reasonably, developed in a format that related well to our demand forecasts:

- Transport
- Children's services (including education)
- Parks, sports and leisure.

3.11 In some cases service providers have shorter term funding arrangements and strategic planning horizons than the scope of the study and therefore URS have tried to fill gaps in the input received from various service providers and / or made assumptions based on benchmarking data which has informed the URS Camden Infrastructure Model:

- Gas, electricity and telecommunications
- Water and sewerage
- Further education and adult learning
- Primary and secondary healthcare
- Libraries
- Emergency services (police, fire, ambulance)
- Community and faith facilities, job brokerage, cemeteries.

3.12 A more detailed analysis of service providers' plans is given in **Appendix C**. This outlines the adequacy of the providers' planning documents and processes in the context of identified LDF growth. It can be seen that in most cases providers' estimates of forecast demand were not available.

4. Results: Strategic Infrastructure Requirements in Camden

URS Assessment of Demand

4.1 To provide an independent assessment of the likely demand associated with planned growth in Camden we modelled the requirements for various infrastructures for the borough to 2026, consistent with the planning horizon for the Core Strategy.

4.2 It was not meaningful or feasible to quantify demand for all infrastructures and therefore in some cases the scope of the exercise was necessarily broad brush and strategic. This is for instance the case with the physical infrastructure associated with flood risk, waste management and emergency services.

4.3 In the case of utilities it is not possible to come to a definite conclusion on the physical requirements associated with the estimated increase in demand deriving from the projected growth. For this reason URS was limited to quantifying the scale of demand, by employing a pragmatic approach to the modelling exercise, and to identifying worst-case infrastructure requirement scenarios that utilise strategic and design standards used currently by utilities companies. Ultimately, this point emphasises the significance of meeting demand for energy and water through low carbon and/or renewable sources, and these issues, particularly for energy, are examined within **Section 3.7** within the Utilities and Physical Infrastructure Needs Assessment report. **Table 2** presents a summary of the estimated increase in demand for utilities services.

Table 2: Scale of Increase in Demand for Utilities Services

Infrastructure Theme	Infrastructure Item	Estimated Baseline Provision / Existing Requirement ca.2006	Estimated Total Additional Demand 2006 - 2026	Estimated New Requirement as % of Existing
Utilities[6]	Electricity (kVA)	362,590	77,152	21%
	Gas (m^3/hour)	58,313	14,273	24%
	Water (litres/day)	52,781,598	9,931,350	19%
	Sewerage (litres/day)	67,089,216	14,301,512	21%

Source: URS calculations

[6]The baseline information was estimated by applying the industry standards to the baseline residential and commercial figures presented in **Table 1**

Please note that for utilities the absence of baseline information on leisure floorspace means that the baseline demand figures only account for demand arising from existing residential, office and retail uses. This means that the estimate of new demand as a percentage of existing is likely to be overestimated.

The Resulting Strategic Infrastructure Requirements

4.4 The respective Infrastructure Needs Assessment reports set out the conclusions on Camden's strategic infrastructure needs arising from envisaged growth within the borough for the period to 2026. The respective results of each Infrastructure Needs Assessment are represented in **Appendix D: Strategic Infrastructure Plans.**

4.5 To assist with understanding the location and timing of infrastructure requirements, **Figures 3, 4** and **5** illustrate the social, transport and utilities and physical infrastructure needs respectively as they are required by sub-area and where possible with reference to the development phase period in which the infrastructure is likely to need delivering[7].

4.6 For social infrastructure **Figure 3** illustrates the quantum of each type of infrastructure required to support projected growth. Given that several items of social infrastructure required over the Core Strategy planning period have already been planned for or committed, the figure indicates where this is the case. Accordingly, the remaining infrastructure requirements that have been identified are those which have not yet been accounted for by the relevant provision agency or extend beyond the timelines for which they have planned.

4.7 For transport, **Figure 4** illustrates the infrastructure schemes required over the coming 20 year period including those which TfL and other providers have already identified in their strategic investment plans, and additional requirements identified by this study.

4.8 For utilities, **Figure 5** illustrates the types of infrastructure required, albeit it has not been possible in all cases to identify quantums of infrastructure requirement. To explain, as discussed above, an estimate of the additional demand for servicing arising from the projected residential and commercial growth has been made. However, for a range of valid reasons, it has not been possible to translate the additional demand into specific requirements for physical infrastructure[8].

4.9 Therefore, in order to provide an indication of the scale of likely requirements URS have estimated the quantum of utilities infrastructure that could be required as a result of the scale of demand growth envisaged. It should be noted that the magnitude, limitations and the locations of these requirements are not identified at this stage. The estimated quantums of infrastructure required could thus be expected to include:

- For water: additional water mains and pumping stations (or at least upgraded pumping stations). As Thames Water is already planning for an additional reservoir and desalination plant, it can be expected that additional resources will be adequate to support the projected growth. The additional amount of clear water required would equate to a football pitch sized reservoir.
- For electricity: three primary substations, an upgrade to or establishment of one grid site (converting electricity typically from 132kV to 33kV), and up to 77 1MVA substations (i.e. secondary substation catering for local demand).
- For gas: the network is assumed to be functional and not to require uprating for the most part, with the exception of local reinforcement works that may be applicable. Assuming no capacity is available in the existing network the scale of projected demand would potentially translate into the need for two or three pressure reducing stations (transforming the gas from medium pressure to low pressure).
- For sewerage: seven new or renovated sewage treatment works (SWT) as well as new and renovated sewers.

[7]The following points should be noted with regard to the results as presented in **Figures 3, 4** and **5**.

- The figures provide a summary only. More detail regarding specific infrastructure investment requirements is provided within **Appendix D, Tables D-1, D-2** and **D-3** and within the three respective Infrastructure Needs Assessment reports.
- Infrastructure requirements are presented for aggregated (i.e. including growth areas) sub-area level or higher as while demand for an infrastructure scheme / facility might be wholly arising from a particular growth area; it does not immediately follow that the need must be catered for within the growth area.
- Infrastructure requirements may potentially be met elsewhere depending on the type of infrastructure and whether or not the nature of the infrastructure dictates that demand be met locally (there are practical considerations to take into account when locating infrastructure and it is not for this study to determine a precise location for most elements of infrastructure identified.

[8]More details can be found in the Utilities and Physical Infrastructure Needs Assessment that accompanies this Executive Summary and Strategic Infrastructure Plan.

Figure 3: Summary Strategic Social Infrastructure Requirements

SUB AREA A - SOUTH

Infrastructure	Requirement	Timeline for Delivery	Planned for? Funded?
P	2	2012 / 2013 at the earliest	Y, Y (Kings Cross S106)
	2	2009 - 2013	Y, Y (Kings Cross S106)
	3	Phased over 2006 - 2011, 2011 - 2016; and 2016 - 2026	Not confirmed, Not confirmed
	Up to 3	Phased over 2011 -2026	Not confirmed, Not confirmed
	1	2011 - 2016	Y, Y (Kings Cross S106)
	1	2011 - 2016	Y, Y (Kings Cross S106)

SUB AREA B - NORTH EAST

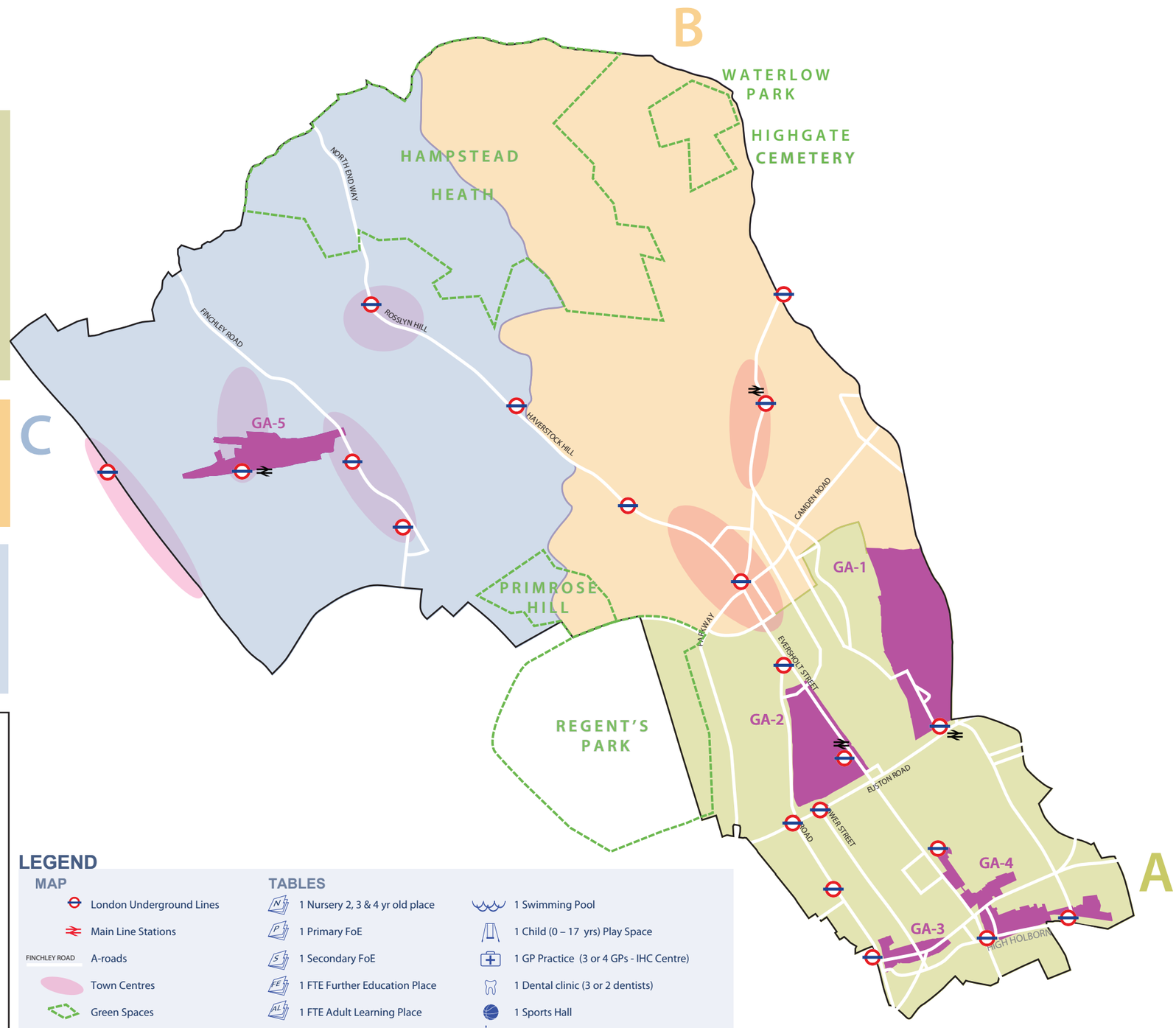
Infrastructure	Requirement	Timeline for Delivery	Planned for? Funded?
	1	2006 - 2011	Not confirmed, Not confirmed
	1	2011 - 2021	Not confirmed, Not confirmed

SUB AREA C - NORTH WEST

Infrastructure	Requirement	Timeline for Delivery	Planned for? Funded?
P	0.5	By 2013	Y, Y
	1	2011 - 2016	Not confirmed, Not confirmed
	1	2011 -2021	Not confirmed, Not confirmed

BOROUGH WIDE

Infrastructure	Requirement	Timeline for Delivery	Planned for? Funded?
P	Estimated 581 places	Phased up to 2026	Ongoing, N
N	Estimated 3 to 5	Phased over 2011/12 - 2026	Ongoing, N
S	Estimated 8	by 2014	Y, Y - BSF
S	Estimated up to 4	Phased over 2017 -2026	Ongoing, N
FE	Estimated 160	Phased over 2016 - 2026	Ongoing, N
AL	Estimated 271	Phased over 2011 - 2026	Ongoing, N
	1 (Either in North West or North East - TBC)	2016 - 2026	Not confirmed, Not confirmed
Acute Beds	Estimated up to 89	2006 - 2026	Not confirmed, Not confirmed
Intermediate Beds	Estimated up to 18	2006 - 2026	Not confirmed, Not confirmed
Intermediate Day Spaces	Estimated up to 18	2006 - 2026	Not confirmed, Not confirmed
	6	2010 - 2017	Y; As part of BSF
	28	by 2010	Y, Y
	22	2011 - 2026	Y, Not yet
	1 (Potentially)	Unknown	Ongoing, NA



LEGEND

MAP

- London Underground Lines
- Main Line Stations
- FINCHLEY ROAD — A-roads
- Town Centres
- Green Spaces
- Growth Areas
- GA-1 King's Cross
- GA-2 Euston
- GA-3 TC Court Rd
- GA-4 Holborn
- GA-5 West Hampstead

TABLES

- N 1 Nursery 2, 3 & 4 yr old place
- P 1 Primary FoE
- S 1 Secondary FoE
- FE 1 FTE Further Education Place
- AL 1 FTE Adult Learning Place
- 1 Swimming Pool
- 1 Child (0 – 17 yrs) Play Space
- 1 GP Practice (3 or 4 GPs - IHC Centre)
- 1 Dental clinic (3 or 2 dentists)
- 1 Sports Hall
- 1 Mosque
- tbc To be confirmed
- Y Yes
- N No
- NA Not Applicable for Public Funding
- BSF Building Schools for the Future

This plan provides a summary account of social infrastructure requirements. For a more detailed understanding of the circumstances surrounding the specified requirements, please see the summary tables and the Social Infrastructure Needs Assessment.

Figure 4: Summary Strategic Transport Infrastructure Requirements

SUB AREA A - SOUTH

Infrastructure Type	Schemes and Actions	Location	Timeline for Delivery
	Crossrail Crossrail 2	Tottenham Court Road King's Cross and TC Road	M L
	CTRL Domestic Services	St Pancras	S
	First Capital Connect	St Pancras	S
	East Coast Main Line	Kings Cross	S
	Station Congestion Schemes	Kings Cross and Tottenham Court Road	S S
	Road Links and Junction Improvements	Euston Underpass, Mornington Crescent, Euston Road, Roads South of Euston Road	M-L
	St Giles Public Realm Improvements	St Giles	S
	Legible London	South	S-M
	West End Improvements	TC Road, Euston Circus, St Giles Circus and Princes Circus	S-L

SUB AREA B - NORTH EAST

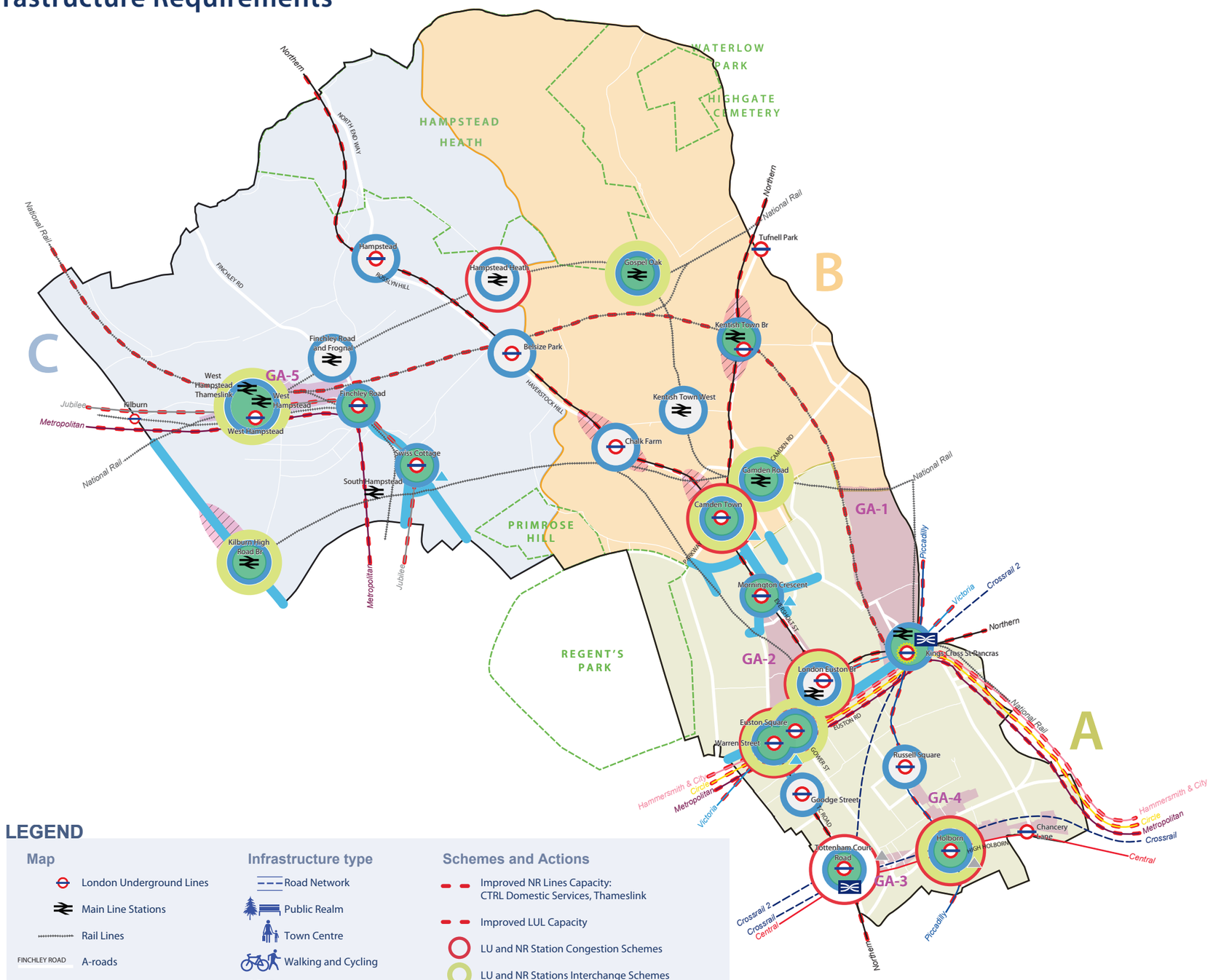
Infrastructure Type	Schemes and Actions	Location	Timeline for Delivery
	First Capital Connect	Camden Road Kentish Town	S
	Station Congestion Schemes	Camden Town	M-L
	Road Links and Junction Improvements	Camden High Street	M-L
	Legible London	Camden Town	S-M
	Town Centre Projects	Kentish Town, Camden Town, Chalk Farm	S-M

SUB AREA C - NORTH WEST

Infrastructure Type	Schemes and Actions	Location	Timeline for Delivery
	First Capital Connect	West Hampstead	S
	Road Links and Junction Improvements	Swiss Cottage and Kilburn High Road	M-L
	Legible London	West Hampstead	S-M
	Town Centre projects	Kilburn High Road	M M

BOROUGH WIDE

Infrastructure Type	Schemes and Actions	Timeline for Delivery
	Crossrail	M
	Crossrail 2	L
	First Capital Connect	S
	Increase capacity of (See map):	
	Jubilee Line	S
	Victoria Line	S
	Northern Line	S-M
	Piccadilly Line	S
	Metropolitan Line	M
	Circle Line	M
	Hammersmith & City Lines	M
	Station Interchange Schemes (See map)	M-L
	Step Free Access at LUL Station (See map)	M-L
	Step Free Access at Rail Stations (See map)	M-L
	Bus Priority and Bus Stop Accessibility	S-L
	Bus Service Enhancement	S-L
	Improvements to Coach Facilities	M-L
	Improvements to Taxi Facilities	M-L
	Car Club Schemes	S-L
	Electric Car Charging Schemes	S-L
	Local Road Safety Schemes	S-L
	Principal Road Renewal	S-L
	Public Realm Improvements at Stations (See map)	S-L
	Legible London	S-M
	Air quality monitors and improvements	S-L
	Travel Demand Management	S-L



LEGEND

Map

- London Underground Lines
- Main Line Stations
- Rail Lines
- FINCHLEY ROAD — A-roads
- B-roads
- Green Spaces
- Growth Areas

GA-1 King's Cross
GA-2 Euston
GA-3 TC Court Rd
GA-4 Holborn
GA-5 West Hampstead

S: Short Term (2009-2014)
M: Medium Term (2015-2020)
L: Long Term (2021-2026)

Infrastructure type

- Road Network
- Public Realm
- Town Centre
- Walking and Cycling
- Air Quality
- Travel Demand Management
- Bus Network
- London Underground
- National Rail
- Crossrail

Schemes and Actions

- Improved NR Lines Capacity: CTRL Domestic Services, Thameslink
- Improved LUL Capacity
- LU and NR Station Congestion Schemes
- LU and NR Stations Interchange Schemes
- Step-free Access at LU and NR Stations
- Public Realm Improvements at LU Stations
- Town Centre Projects
- Main Congested Road Schemes
- Main Congested Road Junction Schemes

Please note that walking, cycling and pedestrian environment improvements are not shown on this map.

Figure 5: Summary Strategic Utilities and Physical Infrastructure Requirements

SUB AREA A - SOUTH

Infrastructure	Demand	Action	Requirement
	7.5 M l/d		
	65, 114 kVA 9,161 m3/s		GA-1, GA-2, GA-3, GA-4
	11.2 M l/d		
			New police office in GA-1 King's Cross (in the pipeline)
			Sewer flooding investigation

SUB AREA B - NORTH EAST

Infrastructure	Demand	Action	Requirement
	1.3 M l/d		
	6,750 kVA 2,823 m3/s		
	1.7 M l/d		
			Sewer flooding investigation
			Hampstead Heath reservoirs: emergency plans and inundation mapping
			Regents Canal: Analysis of flood risk

SUB AREA C - NORTH WEST

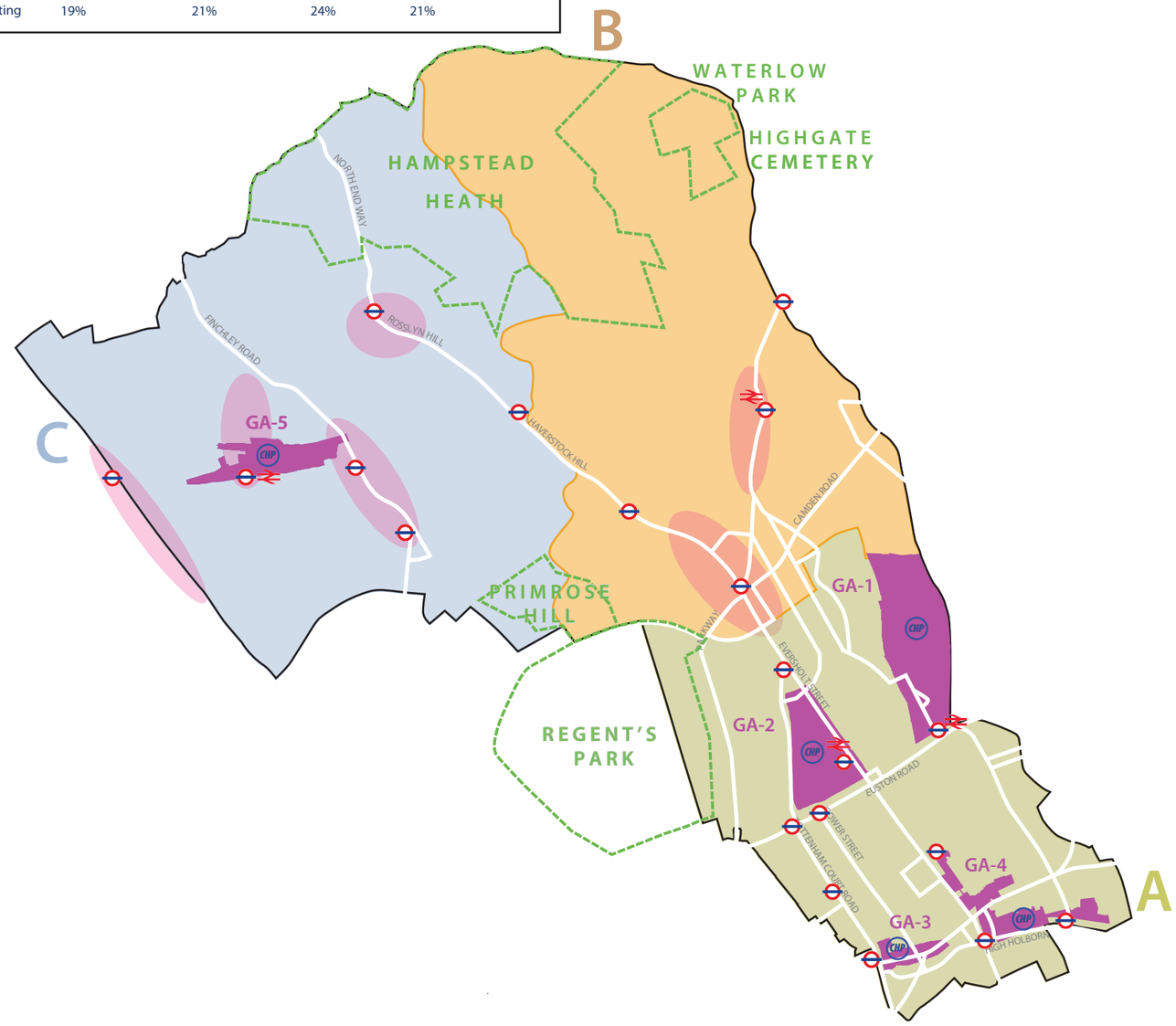
Infrastructure	Demand	Action	Requirement
	1.1 M l/d		
	5,719 kVA 2,325 m3/s		GA-5
	1.5 M l/d		
			Sewer flooding investigation
			Hampstead Heath reservoirs: emergency plans and inundation mapping
			Regents Canal: Analysis of flood risk

BOROUGH WIDE

Infrastructure	Action	Requirement
		Lobbying utility providers and regulatory bodies to devise strategic longer term planning approach to provision
		Programme to utilise organic and non-recyclable waste streams New partnership management arrangements between waste operators and energy suppliers
		Sustainability policies to encourage developers to utilise low carbon fuel sources and to connect to sustainable utilities
		Identify scope for a biomass supply chain
		Sewer flooding investigation Preparation of a Surface Water Management Plan
		Maintenance of highway drainage, with replacement of impermeable surfaces with permeable systems.
		Implementation of SUDS and promotion of flood resistant architecture
		Use of additional waste management facilities and land Integrated waste management facilities in new developments
		Delivery of police shop fronts Modernisation and consolidation of estate

BOROUGH WIDE UTILITIES DEMAND (DOMESTIC AND COMMERCIAL)

	Water, M L/day	Electricity, kVA	Gas, m3/s	Sewage, M L/day
Growth	9.9	77,152	14,273	14.3
Existing	52.7	362,590	58,313	67.1
Growth as % of Existing	19%	21%	24%	21%



LEGEND

Map

- LU Stations
- Main Line Stations
- FINCHLEY ROAD — A-roads
- Town Centres
- Green Spaces
- Growth Areas

GA-1 King's Cross
GA-2 Euston
GA-3 TC Court Rd
GA-4 Holborn
GA-5 West Hampstead

Infrastructure type

- Water
- Energy
- Sewage
- Flood risk
- Waste
- Police

Action

- Further engagement or partnership working requirement
- Further detailed analysis required
- Infrastructure scheme or works required

Requirement

- CHP — Combined Heat and Power
- Main / Pipe / Cable infrastructure network
- Primary substation
- Secondary substation
- Pumping station

5. Next Steps and Recommendations

Infrastructure Importance

5.1 Within **Appendix D**, **Tables D-1, D-2**, and **D-3,** infrastructure items have been categorised in terms of relative importance, rating them from 1 to 3. Items labelled as '1' are critical or definitely required over the plan period to realise Camden's aspiration for growth as set out in the emerging Core Strategy. Items labelled as '2' are highly desirable but are not critical. Items labelled as '3' are important but not essential. The groupings take account of whether each infrastructure item is critical to ensuring development can proceed, and the implications of not providing it in terms of enabling development. Works required to bring existing infrastructure up to standard, or to meet existing deficits in provision, are considered as well as increased pressure associated with new population and commercial growth.

5.2 The tables in **Appendix D**, drawing from the respective Infrastructure Needs Assessments, also lay out where possible: when and where the infrastructure is required; who is responsible for delivery and funding; and potential costs as identified by the provider and/or by URS. These dimensions of the analysis inform and add detail to the assessment of infrastructure importance.

5.3 Below, we have set out two definitions of relative importance and included a brief discussion as to which types of infrastructure that fall within the two respective groups.

(i) Infrastructure Items of Critical Importance

5.4 Infrastructure items of critical importance are those that are definitely required over the plan period so as to enable anticipated development to take place. Without adequate provision of these items there is a major risk that residential and commercial growth cannot continue beyond certain thresholds.

5.5 The relevant infrastructure items include:

- **Electricity and water supply** – including capacity increases and enhancements (details on the location and extent of the enhancements required are not available due to the lack of thorough information on the baseline conditions of the network throughout the borough)

- **Sewerage** – capacity increases and improvements, across the borough and particularly in the north west and south sub-areas. Hotspots are likely to be West and South Hampstead and in parts of Kentish Town.

- **Flood mitigation** – given the flooding history in West and South Hampstead and in parts of Kentish Town, a detailed sewer flooding investigation could identify flood mitigation requirements.

- **Transport improvements** – covering schemes focused on congestion relief, providing capacity increases and improving interchange at key stations such as Euston, Camden and West Hampstead.

(ii) Significant Infrastructure Items

5.6 The items listed below are those that will certainly be required if development is to take place sustainably. However, lack of provision of these items is less likely to prevent development taking place in the short term (but which may become crucial at a later stage). Provision might be successfully made at a later stage in the development process. The requirement for some of the items is likely to arise from policy more than from other drivers, in the short term at least.

5.7 In general, these items cover:

- **Social infrastructure** – certain requirements for additional infrastructure for children (including education and play space), primary health care, sports and recreation. As population is the major driver of demand for social infrastructure, additional requirements are likely to be concentrated in those parts of the borough experiencing the strongest growth in population, particularly in the south of the borough as a result of the growth expected there. Although social infrastructure is included here as being of significant, rather than critical importance, it should be noted that there are statutory requirements that local authorities must meet for certain types of social infrastructure such as education. In these cases, infrastructure is still extremely important and likely to be prioritised by the LA even though it may not be, in strictly technical terms, critical to development taking place in the first instance.

- **Local transport improvements** – covering accessibility improvements, public realm enhancements and schemes that ensure that the onward movement of people from Camden's mainline termini and key stations, such as Euston and Tottenham Court Road, is catered for will be necessary. In addition the continued promotion of healthy travel options such as walking and cycling within Camden will be required. It will be important to implement a variety of measures to assist these

modes such as way finding, enhancements to pedestrian facilities and cycle hire and parking for cyclists. Step free access at Euston, Camden Town, West Hampstead and other stations in Camden is also required.

- **Gas** – failure to meet requirement would constitute a potential 'showstopper' for development. However consultation with National Grid suggests that the network is likely to have sufficient capacity to meet Camden's projected residential and population growth up to 2026. No detailed information was made available by National Grid in terms of potential hotspots where additional demand may result in excessive pressure on the network.

- **Sustainable energy initiatives** – lack of sustainable energy solutions is unlikely to be a showstopper in the short to medium-term, though in the longer term, wider implications for sustainable development are highly significant. Areas where further analysis may confirm the opportunity to implement decentralised energy systems include: Tottenham Court Road and Holborn growth areas in the short-term; King's Cross growth area in the medium to long term (2011 – 2016); and Euston Road (which is further supported by the close proximity to the King's Cross growth area) and West Hampstead Interchange growth areas in the long term (2016 – 2021).

- **Telecommunications improvements** – BT have confirmed that, although existing capacity would not be sufficient to cope with forecast levels of development, the rapidly advancing level of technology implies that there will be more than adequate capacity within the system in future to cope with demand in advance of any development thresholds being met. This is particularly so given the implementation of fibre optic cables across the system.

- **Flood risk works** – including maintenance of highway drainage. Additionally, flood risk investigations including preparation of a Surface Water Management plan (subject to final wording of the forthcoming Floods and Water Management Bill), the preparation of emergency management plans and inundation mapping for the reservoirs at Hampstead Heath and along the Regent's Canal, and regular reviews to the Multi-Agency Flood Plan[9].

- **Waste management facilities** – these are unlikely to be critical to enabling development and growth to take place, though under-provision has the potential to threaten the sustainability of development in the longer term. The main drivers of waste management are policies at the European, national and London levels and the financial implications for Camden of not meeting these targets. These policies are being implemented through the North London Waste Plan being jointly produced by Camden along with the six other boroughs in the North London Waste Area (NWLA). Likely requirements include additional waste management facilities to be developed in north London or outside London as it has been found that it is unfeasible to develop large waste management facilities within Camden's boundaries due to spatial constraints; and integrated waste management facilities to be delivered within new developments in Camden or the other North London Waste Authority boroughs.

5.8 The key infrastructure projects, including both those falling under the critical and significant importance categories, are summarised in **Tables 3, 4** and **5**.

[9]Camden is in the process of updating its Multi-Agency Flood Plan - a draft was finalised in April 2009. London Borough of Camden, personal communication, Planning Policy and Information, 20/04/2009.

Current Delivery Arrangements and Planned Provision Gaps

5.9 In addition to considering the relative importance of different types of infrastructure it is important to set out where this work has identified additional infrastructure requirements that are not currently accounted for in the range of existing plans and investments strategies of the respective responsible agencies (refer **Appendix C**). Below is provided a brief summary of the key issues in respect of each of the three infrastructure study areas. Similarly, **Tables 3, 4** and **5** also each include a column that briefly summarises this issue and identifies those items not accounted for in existing plans. However, for full information, please see **Tables D-1, D-2** and **D-3**.

Utilities and Physical Infrastructure

5.10 As summarised in **Appendix C** providers of utilities and physical infrastructure approach infrastructure planning in a way that does not readily lend itself to translation into this study and the requirements of PPS12[10]. The evidence that informed the preparation of this study highlighted that in many cases the need for expansion of capacity or upgrading of the existing infrastructure is recognised at the strategic level. However detailed information related to specific issues in Camden, and schemes that may address these issues, was found to be often lacking.

5.11 This is for instance the case for utilities infrastructure and some surface and foul water drainage. In most cases some degree of residential and commercial growth has been accounted for in the providers' business plans, and the resulting needs have been noted at a strategic level. However, there is a widespread lack of information on whether specific Camden based schemes have already been identified and allocated funding. A similar situation applies for emergency services. For instance, the Metropolitan Police have noted a need to restructure their estate but not developed a detailed action plan as of yet.

5.12 For major waste management requirements, the North London Waste Authority is aware of the need to plan for growth and is in the process of identifying suitable additional sites for municipal solid waste. Furthermore, the seven North London Waste Authority Boroughs are preparing a Joint Waste Plan to help deliver enough sites for both the NLWA and the needs of commercial waste operators. However, as of yet there are no specific identified or committed schemes. For a range of waste management and sustainable energy items, developer applicants or other providers (e.g. Public Private Partnerships) are responsible for the delivery of the infrastructure, whilst the Council can support the delivery by introducing enabling planning policy or as part of the planning application process. For these requirements the Council has already introduced relevant policies in its Core Strategy, but information on specific schemes and funding arrangements is not available.

Transport Infrastructure

5.13 The projected growth in resident and employee population will place pressure on the transport network. As shown in **Appendix C,** documents prepared both at the Greater London and Camden level are generally developed at a level of detail that is adequate to assess the implication of additional demand for transport infrastructure arising from projected growth up to 2026. However much less detail is available about schemes required in the north of the borough compared to the south, the latter of which is partly within the Central Activity Zone boundaries.

Social Infrastructure

5.14 A significant proportion of the infrastructure requirements have already been identified by the various agencies responsible for their provision. The main gaps identified by this work therefore are those that are beyond the current planning periods of the agencies responsible or where the existing strategies have identified a broad requirement for infrastructure but have not explicitly identified specific infrastructure schemes. These are set out in detail in **Table D-1** and include (with varying 'starting dates' owing to the different periods for which respective agencies have been able to plan up until) primary care, education and community infrastructure.

[10]Please see Section 1.2 of the Utilities and Physical Infrastructure Needs Assessment that accompanies this report.

Table 3: Summary of Key Infrastructure Requirements / Schemes

Type	Identified Schemes / Requirements	Where & when (if applicable)	Who – Agency Responsible	Is item already identified in strategy and/or fully funded?	Infrastructure Importance (1 - 2)
Early Years	Identified projections of future need for nursery places equating to: • 124 two year old places and • Approximately 200 to 250 three and four year old places	At various locations across the borough including in primary schools and at locations secured or provided by the PVI sector	LB Camden / CSF Directorate	Neither identified nor funded except for existing commitments as part of the Primary Strategy for change	2
Primary	Expansion of provision (0.5 FoE expansion)	Emmanuel School – West Hampstead / Fortune Green (North West sub area), delivery by 2013	LB Camden / CSF Directorate	Yes: Primary Capital Programme (PCP), s106, Basic Need, and Local Authority Coordinated Voluntary Aided Programme (LCVAP)	2
	New resource base for 14 children with autistic spectrum disorder and associated improvements to Kentish Town School	Kings Cross, by 2012 / 13 at earliest	LB Camden /	Not yet	2
	Expansion of provision (1 school / 2 FoE)	Kings Cross, by 2012 / 13 at earliest	LB Camden / CSF Directorate	Yes: s106 and Camden Council capital funds	2
	Estimated provision requirement to meet demand for 3 to 5 FoE	Borough-wide, from 2011/12 to 2026/27	LB Camden / CSF Directorate	Not yet	2
Secondary	Expansion of provision (1 new school / 6 FoE 11 – 16) plus a 250 Sixth Form places	Adelaide Road (UCL Academy), delivery by 2014	LB Camden / CSF Directorate	Yes: Under Building Schools for the Future (BSF) Programme and by Dept for Children, Schools and Families / Partnership for Schools / LB Camden CSF Directorate	2
	Expanded provision at Swiss Cottage Special School for 80 additional pupils	Adelaide Road (Swiss Cottage Special School), delivery by 2014			2
	Expanded provision (2 FoE 11 – 16 yr olds) plus 100 Sixth Form places	South Camden Community School, delivery by 2014			2
	Estimated provision requirement to meet demand for up to 4 FoE	Borough-wide, 2017 - 2026	LB Camden / CSF Directorate	Not yet	2
Further Education	Estimate provision requirement to meet demand for 160 places	Could be provided in Camden or elsewhere in Greater London, from 2016 to 2026	LB Camden / CSF Directorate (in liaison with neighbouring LAs)	Not yet	2

KEY

Already identified by responsible agency / provider

Requirement identified via this study

Type	Identified Schemes / Requirements	Where & when (if applicable)	Who – Agency Responsible	Is item already identified in strategy and/or fully funded?	Infrastructure Importance (1 - 2)
Adult Learning	Estimated provision requirement to meet demand for 271 FTE Adult learner places (half of demand potentially to be met by community centres, schools, etc)	Borough-wide, from 2011 to 2026	Learning and Skills Council / Skills Funding Agency	Not yet	2
Primary Health Care – GPs	Development of Integrated Health Care Centres (at up to 5 locations)	Borough wide, 2008 –18	Camden PCT	Partially, as four federated networks of polyclinics in Kentish Town, South Camden, North Camden and West Camden	2
	1 PHC Centre (at least 1,250 sqm GIA and incl. relocation of GP practice at 142 Camden Road)	King's Cross, 2011	Developer / in association with Camden PCT	Yes, provision secured via s106 agreement for Kings Cross Central	2
	1 PHC Walk-in Centre (at least 750 sqm GIA)	King's Cross, 2011	Developer / in association with Camden PCT	Yes, provision secured via s106 agreement for Kings Cross Central	2
	6 GP practices (of 3 or 4 GPs each) to provide 18.8 FTE GPs. Each to be potentially located within an integrated (primary) health care centre offering other health services	Various locations, 2006-2026	Camden PCT	Not yet (as far as known); Funding likely to be secured through s106 or CIL	2
Primary Health Care – Dentists	5 Dental Clinics (of 3 or 2 dentists each sufficient to accommodate up to 14 dentists)	Various locations, 2006-2026	Camden PCT and private sector	Not yet (as far as known); Funding likely to be secured through s106 or CIL	2
Secondary Health Care	Demand led potential requirement for: (i) 89 acute beds (ii) 18 intermediate beds (iii) 18 intermediate day spaces NB. This is a demand led estimate. It has not been confirmed by NHS, London SHA, or PCT	Need not confirmed. Demand has been modelled based on increase in population across whole of borough, 2006 – 2026	London Strategic Health Authority (SHA)	The need is not confirmed. It is not believed that any need has been identified, and it may be that it is not required at all, and hence funding may very likely not be necessary	2
Swimming Pools	1 Swimming Pool	King's Cross, 2011 - 2016	Developers of King's Cross Central/Lond –– on Borough of Camden Sports	Yes. Identified as part of the King's Cross Central outline planning permission. To be provided via s106	2

Type	Identified Schemes / Requirements	Where & when (if applicable)	Who – Agency Responsible	Is item already identified in strategy and/or fully funded?	Infrastructure Importance (1 - 2)
Sports Halls	6 Sports Halls	Various locations, 2006-2026 (See **Table D-1** for further detail)	London Borough of Camden	Yes. Identified, and to be provided, as part of the BSF programme	2
	1 Sports Hall	King's Cross, 2011-2016	Developers of King's Cross Central	Yes. Identified as part of the King's Cross Central outline planning permission. To be provided via s106	2
Child Play Spaces	28 play spaces / MUGAs (out of total identified requirement for 50)	Various locations, 2010 (See **Table D-1** for further detail)	Developers (via s106 / CIL) and LBC (via a DfCSF grant)	Yes. Need has been identified; and funding secured	2
	22 play spaces / MUGAs (out of total identified requirement for 50) Various locations, 2011- 2026	Various locations, 2011-2026	Developers/ London Borough of Camden	Yes. Need has been identified. Funding not yet secured	2
Community Space Facilities	Refurbishment and some expansion of 8 centres	Various locations, 2010	LBC and Voluntary and/or Community Sector	Yes; the need for these 8 centres has been identified. Funding arrangements vary but full funding not yet secured in most cases	2
	Additional requirement for community buildings (particularly with services for under 5s and elderly)	South sub-area, ongoing from present to 2026	LBC and Voluntary and / or Community Sector	Not yet identified in a separate strategy but likely requirement is acknowledged by LBC, funding expected to be provided via s106 / CIL	2
	Additional requirement for community buildings	North west sub-area, Likely to be from present to 2026, but particularly after 2011-16	As above	As above	2
	Potential requirement for community buildings	North east sub-area, likely to be from present to 2026	As above	As above	2
Faith Facilities	1 Mosque (NB. This is an aspiration of the local Muslim community)	Site and timeline to be identified	Muslim community (Voluntary and Community Sector)	It is an aspiration of the Muslim community. The Muslim community would be responsible for funding its provision and are currently pursuing their aspiration. No LBC/ public funding required	2

Table 4: Summary of Key Transport Infrastructure Requirements/ Schemes

Location	Type	Identified Schemes / Requirements	Where & when (if applicable)	Who – Agency Responsible	Is item already identified in strategy and/ or fully funded?	What is Delivered	Infrastructure Importance (1-2)
King's Cross St Pancras	Rail	First Capital Connect (formerly Thameslink)	2011-2015	Network Rail	Need identified. Funding identified	Track and station upgrades to 12-car operation and 24 trains per hour	1
	Rail and Underground Stations	King's Cross Station Congestion Scheme	2008-2010	TfL	Need identified. Funding identified	Phase 1 (completed) new Western ticket hall giving direct access to Circle and Metropolitan lines and to St Pancras International. Phase 2 – construction of Northern ticket hall providing direct access to the Northern, Piccadilly and Victoria line platforms.	1
	Rail and Underground Stations	Improvements to public realm at stations	2011-2016	TfL/Network Rail/LB Camden	Need identified. Funding yet to be identified	Improved accessibility	1
	Bus	Bus service enhancements	2011-2016	TfL	Need identified. King's Cross funding identified. Borough wide funding yet to be identified	Increased capacity and new links	1
King's Cross	Rail	East Coast Mainline	2014	Network Rail	Need identified. Funding to be identified	Additional 12 car services	1
	Rail	Crossrail 2	2026+	Network Rail/TfL	Need identified. Funding to be identified		2
	Walking	Reduce severance effect of roads		LB Camden/TfL	Need identified. Funding to be identified	Improved accessibility and connectivity	2

KEY

Already identified by responsible agency / provider

Requirement identified via this study

Location	Type	Identified Schemes / Requirements	Where & when (if applicable)	Who – Agency Responsible	Is item already identified in strategy and/or fully funded?	What is Delivered	Infrastructure Importance (1-2)
Tottenham Court Road	Rail	Crossrail	2017	Network Rail/TfL	Need identified. Funding identified	Provides 24 trains per hour in each direction during peak periods and a 10% increase in London's rail based public transport capacity	1
	Rail	Crossrail 2	2026+	Network Rail/TfL	Need identified. Funding to be identified		2
	Rail and Underground Stations	Tottenham Court Road Station Congestion Scheme	2010-2017	TfL	Need identified. Funding identified	Will cater for 200,000 passengers per day with Crossrail. Providing a new ticket hall escalators to the Northern line, step free access and increased space in congested areas of the station	1
	Rail and Underground Stations	Improvements to public realm at stations	2010-2017	TfL/Network Rail/LB Camden	Need identified. Funding yet to be identified	Improved accessibility	1
	West End Improvements	Tottenham Court Road Two Way Working	2010-2026	TfL	Need identified. Funding yet to be identified	Improved accessibility	1
Euston	Rail and Underground Stations	Euston Station Congestion Scheme	2016-2021	TfL	Need identified. Funding not identified	Station congestion relief – TfL studies have identified that by 2026 escalator and platform capacity would be overcapacity	1
	Rail and Underground Stations	Euston Station Interchange Scheme	2016-2021	TfL	Need identified. Funding not identified	Improved interchange and accessibility	1

Location	Type	Identified Schemes / Requirements	Where & when (if applicable)	Who – Agency Responsible	Is item already identified in strategy and/or fully funded?	What is Delivered	Infrastructure Importance (1-2)
Euston (continued)	Rail and Underground Stations	Improvements to public realm at stations	2016-2021	TfL/Network Rail/LB Camden	Need identified. Funding yet to be identified	Improved pedestrian movement and connectivity	1
	Walking	Reduce severance effect of roads		LB Camden/TfL	Need identified. Funding to be identified	Improved accessibility and connectivity	2
Euston Road and roads to the south of Euston Road	Road Network	Road link improvements	2015-2026	LB Camden/TfL	Need identified. Funding not identified	To improve traffic flows	1
Euston Underpass	Road Network	Junction Improvements	2015-2026	LB Camden/TfL	Need identified. Funding to be identified	Improved traffic flows	1
	Walking	Pedestrian environment improvements	2015-2026	LB Camden	Need identified. Funding to be identified	Improved accessibility, connectivity, capacity and safety	2
Euston Circus	West End Improvements	Euston Circus	2010-2026	LB Camden/TfL/ Developer contributions	Need not identified. Funding not identified	Improved accessibility	1
Euston Square	Rail and Underground Stations	Improvements to public realm at stations	2016-2021	TfL/Network Rail/LB Camden	Need identified. Funding yet to be identified	Improved pedestrian movement and connectivity	1
Holborn	Rail and Underground Stations	Holborn Station Congestion Scheme	2016-2021	TfL	Need identified. Funding not identified	Station congestion relief. No additional details on station specific intervention are publicly available	1
	Rail and Underground Stations	Holborn Station Interchange Scheme	2016-2021	TfL	Need identified. Funding not identified	Improved interchange and accessibility	1

Location	Type	Identified Schemes / Requirements	Where & when (if applicable)	Who – Agency Responsible	Is item already identified in strategy and/or fully funded?	What is Delivered	Infrastructure Importance (1-2)
Holborn (continued)	Rail and Underground Stations	Improvements to public realm at stations	2016-2021	TfL/Network Rail/LB Camden	Need identified. Funding yet to be identified	Improved pedestrian movement and connectivity	1
	Road Network	Junction Improvements	2015-2026	LB Camden/TfL	Need identified. Funding to be identified	Improved traffic flows	1
West Hampstead	Rail	First Capital Connect (formerly Thameslink)	2011-2015	Network Rail	Need identified. Funding identified	Track and station upgrades to 12-car operation and 24 trains per hour	1
	Rail and Underground Stations	West Hampstead Station Interchange Scheme	2016-2021	TfL	Need identified. Funding not identified	Improved interchange and accessibility	1
	Rail and Underground Stations	Improvements to public realm at stations	2016-2021	TfL/Network Rail/LB Camden	Need identified. Funding yet to be identified	Improved pedestrian movement and connectivity	1
	Public Realm	Legible London	2010-2026	TfL	Need identified. Funding yet to be identified	Improved accessibility	2
Camden Town	Rail and Underground Stations	Camden Town Interchange Scheme	2016-2020	TfL	Need identified. Funding not identified	Improved interchange and accessibility	1
	Rail and Underground Stations	Camden Town Station Congestion Scheme	2010-2021	TfL	Need identified. Funding not identified	Station Congestion Relief. No additional details on station specific intervention are publicly available	1
	Rail and Underground Stations	Improvements to public realm at stations	2016-2021	TfL/Network Rail/LB Camden	Need identified. Funding yet to be identified	Improved pedestrian movement and connectivity	1

Location	Type	Identified Schemes / Requirements	Where & when (if applicable)	Who – Agency Responsible	Is item already identified in strategy and/or fully funded?	What is Delivered	Infrastructure Importance (1-2)
Camden Town (continued)	Town Centre Projects	Camden Town Centre Project	2015-2020	TfL/Network Rail/LB Camden	Need identified. Funding yet to be identified	Improved pedestrian movement and connectivity	1
	Public Realm	Legible London	2010-2026	TfL	Need identified. Funding yet to be identified	Improved accessibility	2
	Road Network	Road link improvements	2015-2026	LB Camden/TfL	Need identified. Funding not identified	Improved traffic flows	1
	Road Network	Junction Improvements	2015-2026	LB Camden/TfL	Need identified. Funding to be identified.	Improved traffic flows	1
	Walking	Pedestrian environment improvements	2015-2026	LB Camden	Need identified. Funding to be identified	Improved accessibility, connectivity, capacity and safety	2
	Walking	Reduce severance effect of roads	2015-2026	LB Camden/TfL	Need identified. Funding to be identified	Improved accessibility, connectivity	2
Camden High Street	Walking	Pedestrian environment improvements	2015-2026	LB Camden/TfL	Need identified. Funding to be identified	Improved accessibility, connectivity	2
Camden Road	Rail and Underground Stations	Camden Road Station Interchange Scheme	2016-2021	TfL	Need identified. Funding not identified	Improved interchange and accessibility	1
	Rail and Underground Stations	Improvements to public realm at stations	2016-2021	TfL/Network Rail/LB Camden	Need identified. Funding yet to be identified	Improved pedestrian movement and connectivity	1
	Rail	First Capital Connect (formerly Thameslink)	2011 - 2015	Network Rail	Need identified. Funding identified	Track and station upgrades to 12-car operation and 24 trains per hour	1

Location	Type	Identified Schemes / Requirements	Where & when (if applicable)	Who – Agency Responsible	Is item already identified in strategy and/or fully funded?	What is Delivered	Infrastructure Importance (1-2)
Mornington Crescent	Road Network	Junction Improvements	2015-2026	LB Camden/TfL	Need identified. Funding to be identified	Improved traffic flows	1
	Road Network	Road link improvements	2015-2026	LB Camden/TfL	Need identified. Funding not identified	To improve traffic flows	1
Chalk Farm	Town Centre Projects	Chalk Farm Town Centre Project	2010	LB Camden	Need identified. Funding identified	Improved accessibility	1
Kentish Town	Rail	First Capital Connect (formerly Thameslink)	2011-2015	Network Rail	Need identified. Funding identified	Track and station upgrades to 12-car operation and 24 trains per hour	1
	Rail and Underground Stations	Improvements to public realm at stations	2016-2021	TfL/Network Rail/LB Camden	Need identified. Funding yet to be identified	Improved accessibility	1
	Town Centre Projects	Kentish Town Centre Project	2010	LB Camden	Need identified. Funding identified	Improved accessibility	1
	Road Network	Road link improvements	2015-2026	LB Camden/TfL	Need identified. Funding not identified	To improve traffic flows	1
Warren Street	Rail and Underground Stations	Station Congestion Scheme	2016-2026	TfL	Need identified. Funding not identified	Station congestion relief. No additional specific details are publicly available.	1
	Rail and Underground Stations	Station Interchange Scheme	2016-2026	TfL	Need identified. Funding not identified	Improved interchange and accessibility	1

Location	Type	Identified Schemes / Requirements	Where & when (if applicable)	Who – Agency Responsible	Is item already identified in strategy and/or fully funded?	What is Delivered	Infrastructure Importance (1-2)
Hampstead Heath	Rail and Underground Stations	Station Congestion Scheme	2016-2026	TfL	Need identified. Funding not identified	Station congestion relief. No additional details on station specific intervention are publicly available	1
	Rail and Underground Stations	Station Congestion Scheme	2016-2026	TfL	Need identified. Funding not identified	Improved interchange and accessibility	1
Gospel Oak	Rail and Underground Stations	Station Interchange Scheme	2016-2026	TfL	Need identified. Funding not identified	Improved interchange and accessibility	1
	Rail and Underground Stations	Improvements to public realm at stations	2016-2026	TfL/Network Rail/LB Camden	Need identified. Funding yet to be identified	Improved accessibility	1
Swiss Cottage	Rail and Underground Stations	Improvements to public realm at stations	2016-2026	TfL/Network Rail/LB Camden	Need identified. Funding yet to be identified	Improved accessibility	1
	Walking	Reduce severance effect of roads	2015-2026	LB Camden/TfL	Need identified. Funding to be identified	Improved accessibility and connectivity	2
Finchley Road	Rail and Underground Stations	Improvements to public realm at stations	2016-2026	TfL/Network Rail/LB Camden	Need identified. Funding yet to be identified	Improved accessibility	1
	Road Network	Road link improvements	2015-2026	LB Camden/TfL	Need identified. Funding not identified	To improve traffic flows	1
	Walking	Pedestrian environment improvements	2015-2026	LB Camden	Need identified. Funding to be identified	Improved accessibility and connectivity	2

Location	Type	Identified Schemes / Requirements	Where & when (if applicable)	Who – Agency Responsible	Is item already identified in strategy and/or fully funded?	What is Delivered	Infrastructure Importance (1-2)
Kilburn High Road	Rail and Underground Stations	Improvements to public realm at stations	2016-2026	TfL/Network Rail/LB Camden	Need identified. Funding yet to be identified	Improved accessibility	1
	Road Network	Road link improvements	2015-2026	LB Camden/TfL Need identified	Need identified. Funding not identified	To improve traffic flows	1
	Town Centre Projects	Kilburn High Road Town Centre Project	2015-2020	LB Camden	Need not identified. Funding not identified	Improved accessibility	1
St Giles	West End Improvements	St Giles Circus	2010-2026	LB Camden/TfL/ Developer contributions	Need not identified. Funding not identified	Improved accessibility	1
	Public Realm	St Giles Public Realm Improvements	2010	LB Camden	Need identified. Funding identified	Improved accessibility	2
Princes Circus	West End Improvements	Princes Circus	2010-2026	LB Camden/TfL/ Developer contributions	Need not identified. Funding not identified	Improved accessibility	1
Shaftesbury Avenue	Road Network	Junction Improvements	2015-2026	LB Camden/TfL	Need identified. Funding to be identified	Improved traffic flows	1
South sub-area	Underground	Victoria line	2012	TfL	Need identified. Funding identified	19% increase in capacity	1
	Underground	Piccadilly line	2014	TfL	Need identified. Funding identified	25% increase in capacity	1
	Underground	Metropolitan line	2016	TfL	Need identified. Funding identified	49% increase in capacity	1
	Underground	Circle and Hammersmith and City lines	2016	TfL	Need identified. Funding identified	49% increase in capacity	1
	Public Realm	Legible London	2010-2026	TfL	Need identified. Funding yet to be identified	Improved accessibility	2

Location	Type	Identified Schemes / Requirements	Where & when (if applicable)	Who – Agency Responsible	Is item already identified in strategy and/or fully funded?	What is Delivered	Infrastructure importance (1-2)
North west sub-area	Underground	Jubilee line	2009	TfL	Need identified. Funding identified	25% increase in capacity	1
	Underground	Metropolitan line	2016	TfL	Need identified. Funding identified	49% increase in capacity	1
Borough wide	Rail[11]	Crossrail	Delivery by 2017	TfL/Network Rail	Need identified. Funding identified	Capacity of 15,000 passengers per hour provided in the peaks	1
		Crossrail 2	Delivery 2026+	Network Rail/TfL	Need identified. Funding not identified	Increased rail capacity (King's Cross and Tottenham Court Road)	2
		First Capital Connect (formerly Thameslink)	Delivery 2011 to 2015	Network Rail	Need identified. Funding identified	Under Construction Track and Station upgrades to 12 car operation and 24 trains per hour on the central section	1
	Underground	Northern line	2011 Phase 1 and 2020 Phase 2	TfL	Need identified. Funding identified	Phase 1 - 20% increase in capacity Phase 2 – separation of Bank and Charing Cross lines	1
	Rail and Underground Stations	Step Free Access at Underground Stations	2015-2026	TfL	Need identified. Funding not identified	Step free access	1
	Rail and Underground Stations	Step Free Access at Rail Stations	2015-2026	TfL	Need identified. Funding not identified	Step free access	1

[11]Crossrail, Crossrail 2 and First Capital Connect are also noted earlier in this table in each of the stations that the schemes affect, so as to highlight the benefit that the scheme will contribute to each location.

Location	Type	Identified Schemes / Requirements	Where & when (if applicable)	Who – Agency Responsible	Is item already identified in strategy and/or fully funded?	What is Delivered	Infrastructure importance (1-2)
Borough wide (continued)	Bus	Bus service enhancements	2010-2026	TfL	Need identified. Funding yet to be identified	Increased capacity and new links	1
	Bus	Strategic Review of Bus Services (to compensate for Cross River Tram Scheme not being progressed further)	2011-2026	TfL	Need identified. Funding yet to be identified	Increased capacity	1
	Bus	Bus Priority	2010-2026	TfL	Need identified. Funding to be identified	Improved bus journey times	2
	Bus	Bus Stop Accessibility	2010-2026	TfL	Need identified. Funding identified to 2009. Funding to be identified thereafter	Improved accessibility	2
	Cycling	Cycling LCN+	2010-2026	TfL	Need identified. Funding identified to 2009	Improved accessibility and connectivity	2
	Cycling	Cycling Non LCN+	2010-2026	LB Camden	Need identified. Funding identified to 2009	Improved accessibility and connectivity	2
	Cycling	Connections between LCN+ and non LCN+	2010-2026	LB Camden	Need identified. Funding identified to 2009, funding to be identified thereafter	Improved accessibility and connectivity	2
	Cycling	Cycle Parking	2010-2026	2010-2026 LB Camden	Need identified. Funding to be identified	Improved accessibility	1

Location	Type	Identified Schemes / Requirements	Where & when (if applicable)	Who – Agency Responsible	Is item already identified in strategy and/or fully funded?	What is Delivered	Infrastructure Importance (1-2)
	Road Network	Improvements to taxi facilities	2015-2026	TfL/LB Camden	Need identified. Funding not identified	Improved accessibility	2
	Road Network	Improvements to coach facilities	2015-2026	TfL/LB Camden	Need identified. Funding not identified	Improved accessibility	2
	Road Network	Car Club Schemes	2010-2026	LB Camden/TfL	Need identified. Funding to be identified	Reduced car ownership levels	2
	Road Network	Electric Car Charging Points	2010-2026	LB Camden/TfL	Need identified. Funding to be identified	Increased number of clean fuel vehicles	2
	Road Network	Principal Road Renewal	2010-2026	TfL/LB Camden	Need identified. Funding identified to 2009. Funding to be identified thereafter	Improved road conditions	1
	Road Network	Local Road Safety Schemes	2010 - 2026	TfL/LB Camden	Need identified. Funding identified to 2009. Funding to be identified thereafter	To improve roads safety	1
	Air Quality	Air quality monitors and improvements	2010-2026	LB Camden	Need identified. Funding to be identified	Improved air quality	2
	Travel Demand	Travel Demand Management	2010-2026	2010-2026 LB Camden	Need identified. Funding to be identified after 2009	Reduction in the number of trips by private vehicles	2

Table 5: Summary of Key Utilities and Physical Infrastructure Requirements / Schemes

Type	Identified Schemes / Requirements	Where & when (if applicable)	Who – Agency Responsible	Is item already identified in strategy and/or fully funded?	Infrastructure importance (1-2)
Water	Upgraded or renovated pumping stations and mains	Borough wide, pending further investigation	Thames Water	Partially: overall requirements for the whole Thames Water region identified, but no details available at the Camden level	1
Energy	Primary and secondary substations	Borough wide, pending further investigation	EDF	No further details available	1
	Pipes and cabling	Borough wide, pending further investigation	EDF and NG	No details available from EDF, need identified from NG but no detail on funding	1
	Combined Heat and Power systems	King's Cross (2011-2016) Euston (2016-2021) Tottenham Court Road (2011-2016) Holborn (2016-2021) West Hampstead Interchange (2016-2021)	London Borough of Camden / LDA / PPP / PFI	Need identified across the growth areas. The King's Cross scheme is potentially partly addressed by S106 arrangements as part of the King's Cross Central development. The Euston scheme would build on existing LDA work on the feasibility for an area-wide CHP/district heating network for the Euston Road area. Also, CHP schemes already supply to UCL campuses in the area, Bloomsbury Heat and Power and Gower Street Heat and Power, and there are a large number of communal heating schemes serving local authority housing estates to the north of Euston Road. Finally, it is understood that the Council will encourage the delivery of a smaller network in the north of the borough at Gospel Oak associated with estate regeneration or at Camden Town associated with a development at Hawley Wharf.	2

KEY

Already identified by responsible agency / provider

Requirement identified via this study

[12]Whilst Thames Water's five and 25 years plans demonstrate that a capital investment plan is in place to address the renovation or expansion of the sewers system in the whole of the Thames Water region, it is unknown to what extent specific plans related to Camden have been finalised and funding committed. This applies to both pumping stations and sewer mains.

Type	Identified Schemes / Requirements	Where & when (if applicable)	Who – Agency Responsible	Is item already identified in strategy and/or fully funded?	Infrastructure importance (1-2)
Surface and Foul Water Drainage	Pumping stations	Borough wide, pending further investigation	Thames Water	Partially: overall requirements for the whole Thames Water region identified, but no details available at the Camden level[12]	1
	New and renovated sewer mains	Borough wide, pending further investigation	Thames Water	Partially: overall requirements for the whole Thames Water region identified, but no details available at the Camden level	1
	Maintenance of highway drainage	Borough wide, pending further investigation	London Borough of Camden	Need identified, funding partly available	1
	Replacement of impermeable surfaces with permeable systems	Borough wide, pending further investigation	London Borough of Camden	No further details available	1
	Implementation of SUDS	Borough wide, alongside new developments or at existing facilities	Developer applicant	No further details available	2
Waste	Additional waste management facilities and land	Within the NLWA area NLWA	NLWA	Need identified. No finding details available[13]	2
	Inclusion of integrated waste management facilities within new developments	Borough wide, alongside new developments	Developer applicant	No further details available	2
Emergency Services	New police office	King's Cross	MET	Yes; Funding available as part of the S106 arrangements for the King's Cross Central development	2
	Delivery of police shop fronts	Borough wide, pending further investigation	MET	Need identified. No further details available	2
	Modernisation and consolidation of estate and relocation of facilities if required	Borough wide, pending further investigation	MET	Need identified. No further details available	2

[13]The North London Waste Authority boroughs, including Camden, have not to date identified suitable additional sites for managing North London's waste. The North London Waste Plan Preferred Options Report will be published in October 2009 and will identify suitable additional sites for managing North London's additional waste. Please refer to Section 7.4 in the Utilities and Physical Infrastructure Study for a more detailed discussion.

Recommendations on Infrastructure Planning and Engaging Providers

5.15 This study has significantly improved the evidence base for the LDF in terms of what physical, social and green infrastructure is needed to enable the amount of development proposed in Camden, including by taking account of the type and distribution of infrastructure requirements wherever this has been identifiable. It has shown that there is, as highlighted by PPS12, a reasonable prospect of provision of the infrastructure required to support growth. There are some providers who plan for a much shorter investment horizon timeframe than the period covered by the Core Strategy. The most critical of these providers however have systems in place and they are planning for future provision in a manner that befits their individual circumstances.

5.16 We recommend carrying out a separate study looking at setting up mechanisms to improve strategic infrastructure planning and assessment. Such mechanisms might include a new unit to take on this task, or new requirements through the regulatory frameworks. The study would need to involve discussions with regulators, providers, CLG and other stakeholders so that the current planning processes and their complexities (relationship with competition rules, for example) can be properly understood and addressed.

5.17 Relevant providers should be lobbied to enter into the strategic planning process and engage with the local authorities. This point is especially applicable to the utilities providers, as these infrastructure items are of critical importance to the delivery of sustainable growth but providers and their regulatory systems are not conducive to engagement and joined up planning.

5.18 The London Borough of Camden should also progress its agenda to meet future energy demand through sustainable energy generation and move to a zero carbon energy supply. This could include building on the opportunities identified within **Section 3.7** of the Utilities and Physical Infrastructure Needs Assessment. The move towards a zero carbon energy supply could entail:

- Establishing a decentralised energy network with connectivity at local and cross-boundary levels
- Pushing forward programmes for the utilisation of organic waste streams
- Pushing forward programmes for the utilisation of non-recyclable waste streams and
- Identifying the scope for a biomass supply chain.

5.19 Realising these actions will require the establishment of new partnership management arrangements between waste operators and energy suppliers, i.e. determining the feasibility of MUSCos (Multiple Utility Service Companies), and the development of sustainability policies which create an expectation for developers to utilise low carbon fuel sources and to connect to sustainable utilities, where available and feasible.

Progressing Forward to CIL

5.20 The next steps involve using the strategic infrastructure plan to inform the development of a Community Infrastructure Levy (CIL) for Camden. This report provides a sound basis for this task. However guidance is still emerging on CIL and so further consultation with CLG and consideration of the CIL methodology and associated investment plan is required.

5.21 A fundamental element of this work will be establishing the future relationship between CIL and S106 in funding infrastructure. CLG's most recent discussion paper on the CIL (July 2009) states in paragraph 5.11 that 'CIL is designed to permit more generalised infrastructure conclusions, whereas planning obligations are intended to mitigate the direct specific impacts of a proposed development'.

5.22 Accordingly, this will be a key focus of the forthcoming development of a methodology for the application of the Community Infrastructure Levy by the London Borough of Camden to new residential and commercial development.

Appendix A -
Assumptions and Caveats to setting the Growth Trajectory

Developing the Growth Trajectory

A.1 Estimating future infrastructure needs depends critically on the establishment of a 'growth trajectory' that forecasts future residential and commercial growth. Accordingly, the first task in the development of the model was to identify the growth trajectory for residential and commercial development up to 2026 in line with Camden's Core Strategy. The key aim was to arrive at figures that would confirm the forecast for:

- Residential growth: dwellings and population figures (as both are relevant to estimating requirements for additional facilities depending on the type of infrastructure considered
- Commercial growth: the model estimates projected floorspace and jobs growth for office, retail and leisure uses.

A.2 URS, in undertaking these two stages, worked with the Planning Policy and Information team at Camden Council to refine methods of forecasting residential and commercial growth previously used by Camden and the Greater London Authority. This has ensured that the basis for estimating infrastructure demand reflects the most up to date understanding of likely future dwelling growth possible and ensures the robustness of the study findings.

A.3 Further explanation of how the residential and commercial growth trajectories were arrived at is explained below:

Residential

A.4 Accurately projecting dwelling and population growth is essential to this analysis, as both respectively are used as inputs to determine likely future demand for different types of infrastructure. URS' approach to estimating residential growth follows two stages:

- Identifying the number of dwellings by growth area and sub-area
- Identifying population growth stemming from the projected dwelling growth, again by growth area and sub-area.

A.5 The process of refining the dwelling and population forecasts involved making certain assumptions that are detailed below.

Housing Growth

A.6 Camden's housing growth projections are based on the GLA's demographic projections[14]. However, for the purposes of this study, various adjustments have been made.

A.7 The development trajectory provided by Camden Council for the study identifies the following components of housing growth:

- Allocated and emerging sites: i.e. sites-based and time-specified (for four five-year development phases leading up to 2026) information for each of the five growth areas and the three sub-areas.
- Small site allowance: i.e. a trend-based projection based on completed sites under 10 dwellings, over a time period 1 April 2001 to 1 April 2008. Outside of the five growth areas, a small site allowance of 254 dwellings per year has been apportioned to the three sub-areas of the 'rest of the borough' according to the following breakdown: south (48%); north east (34%) and north west (18%). This does not apply to the five growth areas.
- Non-self contained dwellings: i.e. an assumption of 100 bed spaces per year derived from the London Housing Capacity Study 2004. This figure does not apply to the growth areas and has been apportioned to the three sub-areas only. The apportionment is based on the geographic distribution of student housing permissions and proposals (including permissions since 2003, current planning applications and emerging student housing proposals), thereby giving the following breakdown: south (68%), north east (24%) and north west (8%).
- Vacant Dwellings: i.e. an assumption of 60 bed spaces per year. This figure has been apportioned to the three sub-areas only, according to the following breakdown: south (48%), north east (34%) and north west (18%).

A.8 The dwellings projections based on the above growth categories are subject to certain caveats that should be noted:

[14]Please note that the resultant figures will differ from those derived in the Central London Infrastructure report (URS, 2009). The results arrived at in the Camden Infrastructure Needs Assessment more accurately reflect the likely growth trajectory of Camden. The GLA demographic projections use a linked model of population and household projections that work iteratively to calculate population and households. These projections are bespoke to fit with Camden's own forecast of development, based on existing stock (2001 Census) and the development.

- While the information provided by Camden Council provides the most current and reliable estimate to use, this information is transitory and subject to change. The Mayor of London is currently drafting the new Housing Capacity and Strategic Housing Land Availability Assessment to be published in 2009 but not yet published at the time of undertaking the infrastructure study, and the new London Housing Strategy is currently in draft for consultation with the London Assembly and Functional Bodies (November 2008). Once adopted, this could alter the existing dwelling targets set by local authorities including Camden.

- Additionally, as local authorities progress preparation of their LDFs, both housing trajectories and demographic assumptions made as part of this analysis are subject to change. Thus one of the key ramifications of the figures emerging from the model is that the figures represent projections not predictions. Projections do not profess to tell us what will happen, just what would happen under various assumptions and the longer the assumptions are extrapolated, the less robust the findings associated with them.

Population Growth

A.9 Because the demand for different types of infrastructure may be driven alternatively by either dwellings or population growth it is essential that the projections for both factors be linked to one another.

A.10 The LDF team at Camden Council currently uses the GLA 2006 Round (Revised London Plan - High)[15] population projections across a range of strategies and plans. The use of these projections (forecasts) was initially rooted in the use of the projections by the GLA in the preparation of the Final Alterations to the London Plan. The update to these projections in 2007 however was not adopted by Camden, so that the latest GLA provided population estimates used by Camden can effectively be considered out of date. The housing trajectory used for this study instead has been finalised in early 2009, so that it is not necessarily related to the GLA 2006 Round population projections.

A.11 As a result, URS has been advised by Camden Council's demographic team to project population growth from the agreed housing trajectory rather than adopting the GLA 2006 Round population projections.

A.12 For the purpose of this study therefore the housing trajectory is the basis to calculate the overall population growth across the borough for the four five-year periods up to 2026. Translating the number of dwellings into population requires identifying the number of occupants of each dwelling.

A.13 This exercise should be preferably based on assumptions that are specific to Camden, and possibly even to its five growth areas and three sub-areas. Camden has conducted a new housing survey as of 2008, which includes information on adult occupancy arising from new developments in the borough, by tenure and size of the accommodation. Analysis and verification of survey results was however yet to be completed at the time of preparing the Camden Infrastructure Study, and therefore was not available for use.

A.14 In light of the difficulties of accurately determining dwelling and population growth by growth area as outlined so far, URS and the Council agreed on a set of assumptions that would allow a clear understanding of the relationship between the number of dwellings that each area of the borough is set to accommodate and the resulting population increase. It should be noted that all assumptions made have been confirmed and agreed with Camden Council.

A.15 In the absence of Camden specific information the following assumptions were relied upon:

- Tenure mix: Camden's Core Strategy suggests a target mix of 50% affordable housing, with the 60% social rented and 40% intermediate split[16]

- Size mix by tenure (number of bedrooms): The source for the dwelling-size split by tenure is London Plan Annual Monitoring Report 4 (2008) using figures from 2006/2007 LDD; units (gross) by bedroom size and tenure (table HPM10, p. 80)[17]

[15]Data Management and Analysis Group (2006), Round Demographic Projections, GLA
[16]London Borough of Camden (2008), Core Strategy – Preferred Development Policies
[17]Mayor of London (2008), London Plan Annual Monitoring Report 4

- Occupancy rate by size and by tenure (number of occupants per dwelling): The assumptions are in line with those recommended by the DMAG Update 'Child Occupancy of New Social Housing' (GLA, May 2006)[18]. The source for private housing occupancy rates is the Wandsworth New Housing Survey (2007)[19]. The source for social housing occupancy rates is the London and Sub-Regional Strategy Support Studies (SSSS) dataset (2004)[20]. The occupancy rate for intermediate housing is a non-weighted average between the two.

Commercial

A.16 Commercial development in the model includes office, retail and leisure uses. The overall approach to modelling commercial forecasts has been agreed with Camden Council and can be summarised as follows:

- Identifying (as accurately as possible given available evidence) the level of projected growth in office, retail and leisure floorspace across the borough up to 2026
- Apportioning the projected additional floorspace to Camden's five growth areas and three sub-areas
- Defining an appropriate timeline for development for each of the growth and sub-areas so as to obtain growth projections for the four five-year periods between 2006 and 2026
- Converting the resulting floorspace projections by area and time period into jobs.

A.17 Further detail in respect of how the growth trajectories for commercial floorspace and employment were arrived at are explained on the next page.

Commercial Floorspace

A.18 The following assumptions have been made while determining the projected job growth in the aforementioned land uses:

- Commercial floorspace figures emerging from the recently completed studies that constitute the evidence base of the Council's LDF documents have been relied upon. These include:
  - The Camden Retail Study[21] is the source for retail floorspace growth estimates (use class category A1), including convenience and comparison goods floorspace (as per the scenario provided for within the study that includes Brent Cross). In addition to the estimates provided by the retail study, URS were advised by the Planning Policy Division at Camden Council to include a net additional floorspace of 4,493 sqm within the King's Cross growth area with the 2006 –2001 development phase. This is floorspace that has already been delivered at St Pancras Station (part of the King's Cross growth area).
  - Office floorspace (B1) is derived from Camden Employment Land Review[22].
  - Leisure floorspace figures are derived from Experian's Consumer Expenditure (GLA 2008)[23]. For the purpose of this study leisure includes: recreational and sporting services, cultural services, games of chance, restaurants, cafes, etc.
- The figure is then apportioned to Camden's five growth areas and three sub-areas.

[18]Data Management and Analysis Group (2006),Child Occupancy of New Social Housing, GLA
[19]Wandsworth Council (2007), New Housing Survey
[20]GLA (2004), London and Sub-Regional Strategy Support Studies
[21]Roger Tym & Partners (2004), Camden Retail Study, Camden Borough Council
[22]Roger Tym & Partners (2008), Camden Employment Land Review, Camden Borough Council, pp.84-85
[23]GLA (2008), Experian's Consumer Expenditure; URS also contacted Experian to confirm the figures 08/12/2008

- In estimating the split between the 'rest of the borough' category – Camden Council suggested a percentage split of:
    - 90% for the south sub-area (the south sub-area, which includes King's Cross, Bloomsbury and Covent Garden is expected to take up a majority of the business and leisure floorspace, even outside the four growth areas that are within the sub-area).
    - 5% each for the north east and north west sub-areas.
- The overall increase in commercial floorspace is then phased in five-year intervals for each of the growth areas and sub-areas, to account for rate of development. For business and leisure phasing it is set out as follows:
    - Kings Cross – last three phases
    - Euston – last two phases
    - Tottenham Court Road and Holborn – spread over all four phases
    - West Hampstead Interchange – last two phases
    - Other – all four phases.
- For retail, commercial floorspace is set out assuming a steady annual rate over the four five-year development phases.

Employment

A.19 The commercial floorspace figures determined through the above process are used to calculate projected job growth in Camden up to 2026. Calculating the resultant growth in jobs requires a series of sophisticated assumptions to be applied to each commercial land use type. Accordingly, job densities were applied to the commercial floorspace figures to arrive at projected job growth per land use type[24]. The following job densities have been applied in the model:

- Business: 15.05 sqm per employee: The job density (15.05) is considered as an average of given office jobs and office floorspace as sourced from the Camden Employment Land Review (2008)[25]
- Retail: 19.5 sqm per employee: is an average Net Internal Area (NIA) (assumed to be 80% of GIA) of city centre and super store densities as given in English Partnerships Guidance[26]
- Leisure: 54 sqm per employee: is the average GIA of a range of leisure activities including restaurants, cultural attractions, cinemas, amusement and sports centres and clubs, as given in English Partnerships Guidance[27].

[24]'Job density' refers to the average floorspace (square metres or square feet) per employee in an occupied building (workplace) and thereby is a measurement of the intensity of use of a workplace.
[25]Roger Tym & Partners (2008), Camden Employment Land Review, Camden Borough Council
[26]English Partnerships, (2001); Employment Densities: A Full Guide
[27]English Partnerships, (2001); Employment Densities: A Full Guide

Appendix B -
Approach to the The Camden Infrastructure Model

Camden Infrastructure Model - Overview

B.1 URS have produced a bespoke Camden Infrastructure Model that is central to the approach taken to assess the infrastructure requirements arising from development. In the simplest terms, the Model takes population and jobs growth forecasts, and uses these in combination with various demand factors, to arrive at a set of forecasts of new demand for services, and in some cases infrastructure, that will arise from that growth.

B.2 It is possible to explain this using a very simple example:

- If there was a situation where residential growth meant that there was to be 100 new dwellings, and
- It is known (or assumed) that for every new dwelling there are on average 0.3 children of primary school age,
- Then this would mean that we can multiply the growth in residential development (100 new dwellings) by the demand factor for primary school places (demand for 0.3 of a place per new dwelling) to arrive at an estimate of total demand arising for primary school places;
- Which would be 30.

B.3 The above example is a very simplified example, but it demonstrates the core of the approach that is adopted within the Model. A defining characteristic of the Model that we have developed for Camden is that it is designed to adapt such an approach, in as simplest way as is possible for a given type of infrastructure, to the different methods of analysis that are appropriate for the range of infrastructure that the study is examining. This common approach is set out in **Figure B-1**.

Applying the Model to Different Types of Infrastructure

B.4 As alluded to above, the Camden Infrastructure Model attempts to use a common approach, as illustrated in **Figure B-1**, and to apply that approach to each type of infrastructure. There are however some differences in the way the approach can be applied and the results which it can yield because of the diverse nature of the different types of infrastructure which this study has considered.

B.5 With respect to the types of social infrastructure considered in this report, the Model sets out the demand arising from growth for various services (e.g. for education, for medical care, etc) over the period from 2006 to 2026. The Model subsequently, wherever possible, then translates this demand for a service or amenity into a requirement for infrastructure (e.g. classrooms or medical centres) and provides an assessment of a likely commensurate cost. The model is therefore crucial in facilitating an assessment of the infrastructure provision required for growth, while this report explains the findings and the results[28].

B.6 With respect to utilities and physical infrastructure the Model is limited to estimating the additional demand for utilities (specifically water, sewage, gas and electricity) generated by the projected residential and commercial development. However, utilities networks are quite often very complex systems, and it is not possible to simply translate forecast increases in demand for electricity, gas or water into a straightforward recommendation on a resulting infrastructure requirement. This is especially so at the strategic level where the cumulative impact of development across a much wider area than just Camden may play a key role in determining the investment in infrastructure that is needed locally to cope with growth. As such, the information generated by the model for utilities is used to help provide a context for the utilities infrastructure needs assessment and the discussions that have been held with various utilities network providers on the likely or potential requirement for new or upgraded infrastructure[29].

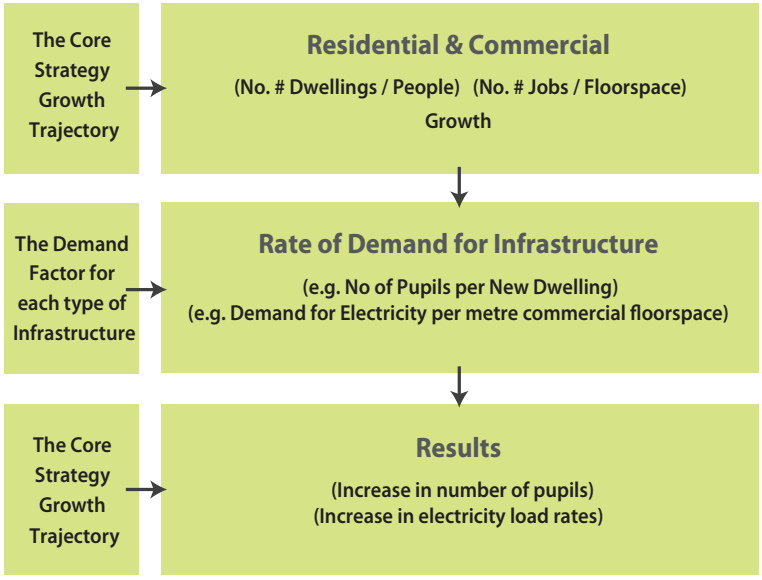
Structure of the Model

B.7 In recognition of the three-stage approach illustrated in **Figure B-1**, the Camden Infrastructure Model is structured in the following way:

- 'W' Sheets outline the workings used to analyse the residential and non-residential growth and infrastructure requirements resulting from this growth. These sheets provide the link between 'A' sheets and 'R' sheets.
- 'A' Sheets outline the assumptions utilised to estimate population growth, education, health and utilities demand respectively;
- 'R' Sheets set out the results of the analysis.

[28]See the Social Infrastructure Needs Assessment Report for further detail.
[29]See the Camden Infrastructure Study: Utilities and Physical Infrastructure Needs Assessment Report for further detail.

Figure B-1: Standard Approach to Demand and Infrastructure Forecasting used in the Camden Infrastructure Mode



Appendix C -

Strategic Planning for Infrastructure by Responsible Agencies and Authorities

Infrastructure Item	Infrastructure Provider/ Responsible Agency	Relevant Strategic Planning Process / Documents Timeframe Geographical Coverage	Complementarity of Strategic Planning Process /Document to PPS12 Guidance
Early Years and Primary Education	LBC	• Primary Capital Programme Primary Strategy for Change (2008) Extends to 2017 Covers the Camden area.	Sets out the current and future needs for early years and primary education in Camden. Identifies future needs into the next decade. As the document identifies future needs arising from projected growth up to the short to medium term only, it is not in a format that readily lends itself to translation into this study and the requirements of PPS12.
Secondary Education	LBC	• Building Schools for the Future – Strategy for Change (2008) Extends to 2017 Covers the Camden area.	Contains information on the current and future needs for secondary education in Camden. Identifies future needs up to 2017. As the document identifies future needs arising from projected growth up to 2017 only, it is not in a format that readily lends itself to translation into this study and the requirements of PPS12.
Further Education and Adult Learning	Learning and Skills Council (From 1st April 2010, responsibility for 16 to 19 year old commsioning will transfer to Local Authorities).	• LSC London Strategic Analysis (2007) Extends over one year Covers the Greater London area. • The London LSC Building Colleges for the Future has not been made available for review Extends over one year Covers the Greater London area.	No detailed information is available at the Camden level on current or planned demand and supply for FE and AL facilities. Therefore the available information is not in a format that readily lends itself to translation into this study and the requirements of PPS12.
Primary Healthcare	Camden PCT	• Camden PCT Commissioning Strategy Plan 2008-2013 (2007) Extends over five years Covers the Camden area. • Camden PCT Service and Estates Strategy 2008-2013 (2007) Extends over five years Covers the Camden area.	Both plans extend up to 2013.The Camden PCT Commissioning Strategy Plan 2008-2013 considers the implications of growth for primary healthcare up to 2013, but does not translate it into physical infrastructure requirements. Therefore the documents are not in formats that readily lend themselves to translation into this study and the requirements of PPS12.
Secondary Healthcare	London Strategic Health Authority (Camden PCT)	• NHS London Strategic Plan (2008) Extends over five years Covers the Greater London area. • Camden PCT Commissioning Strategy Plan 2008-2013 (2007) Extends over five years Covers the Camden area.	Neither plan goes beyond 2013.The Camden PCT Commissioning Strategy Plan 2008-2013 considers the implications of growth for secondary healthcare up to 2013, but does not translate it into physical infrastructure requirements. Therefore the documents are not in formats that readily lend themselves to translation into this study and the requirements of PPS12.

Infra-structure Item	Infrastructure Provider/ Responsible Agency	Relevant Strategic Planning Process / Documents Timeframe Geographical Coverage	Complementarity of Strategic Planning Process /Document to PPS12 Guidance
Libraries	LBC	• No strategic plan for libraries currently exists.	Not applicable.
Job Brokerage	LBC DWP	• No strategic plan for job brokerage currently exists.	Not applicable.
Community and Faith Facilities	LBC Variety of voluntary and community sector providers	• No strategic plan for community or faith facilities currently exists.	Not applicable.
Burials	LBC	• No strategic plan for burials exists.	Not applicable.
Transport	Transport for London Network Rail LBC	• TfL Business Plan 2009/10 – 2017/18 Extends over 10 years Covers the Greater London area • TfL Transport 2025: Transport Vision for a Growing World City Generally over 20 years Covers the Greater London area • LB Camden Local Implementation Plan Extends over 5 years Covers the Camden area • LB Camden Core Strategy Extends up to 2026 Covers the Camden area	The suite of strategic documents prepared both at the Greater London and Camden level is generally adequate to assess the implication of additional demand for transport infrastructure arising from projected growth up to 2026. However there is much less information available about the northern part of the borough compared to the southern part, which is located within central London Therefore the documents are not entirely in a format that readily lends themselves to translation into this study and the requirements of PPS12.
Electricity	EDF	• No strategic plan for electricity infrastructure is publicly available. • No Camden specific plan exists or is publicly available.	Not available and not complementary to PPS12 guidance.
Gas	National Grid	• No strategic plan for gas infrastructure is publicly available. • No Camden specific plan exists or is publicly available.	Not available and not complementary to PPS12 guidance.

Infra-structure Item	Infrastructure Provider/ Responsible Agency	Relevant Strategic Planning Process / Documents Timeframe Geographical Coverage	Complementarity of Strategic Planning Process /Document to PPS12 Guidance
Water	Thames Water	• Draft Water Resources Management Plan, 2010-2035 (2008) Extends over 25 years Covers the entire Thames Water region area. • No Camden specific plan exists or is publicly available.	The plan extends over 25 years, beyond the LDF planning period. However the plan does not provide detailed information on baseline or future demand or supply at the Camden level. Therefore the document is not in a format that readily lends itself to translation into this study and the requirements of PPS12.
Sewerage	Thames Water	• Five Year Plan from 2010 to 2015 (2008) Extends over 5 years Covers the entire Thames Water region area. • Taking Care of Water: The next 25 Years, 2010/2035 (2008) Extends over 25 years Covers the entire Thames Water region area. • No Camden specific plan exists or is publicly available.	The plans extend over five and 25 years respectively. However, neither plan provides detailed baseline or future demand or supply at the Camden level. Therefore the documents are not in a format that readily lends itself to translation into this study and the requirements of PPS12.
Flood Risk	Environment Agency LBCThames Water	• North London Strategic Flood Risk Assessment (2008) Extends beyond 2026 Covers the entire North London sub-region area.	Main flood risk to Camden is from sewer flooding. SFRA was written without knowledge of specific flooding locations within the borough. This information is recorded on Thames Waters Sewer Flooding History Database (SFHD). Therefore the North London SFRA is not detailed enough (with respect to Thames Water assets within the borough) to assess sewer network improvements required to address flood risk arising from projected growth up to 2026.
Waste	LBC (waste collection) NLWA (waste disposal)	• North London Waste Plan, Issues and Options Report (2008) Extends up to 2020 Covers the entire NLWA area	Explores the options and strategy to manage municipal solid waste across the north London sub-region up to 2020. The North London Waste Plan (NLWP) will provide a planning framework to identify sites suitable for waste facilities and will aim to ensure that the benefits are maximised and the negative aspects minimised. The Plan will be part of each borough's Local Development Framework and drawn up in conformity with national planning policy and the Mayor of London's planning strategy As the NLWP has not been finalised, and it extends up to 2020 rather than 2026, it is not fully adequate to plan for demand arising from projected growth up to 2026.

Infra-structure Item	Infrastructure Provider/ Responsible Agency	Relevant Strategic Planning Process / Documents Timeframe Geographical Coverage	Complementarity of Strategic Planning Process /Document to PPS12 Guidance
Police	Metropolitan PoliceMetropolitan Police Authority	• AssetManagementPlanCamden (2007) Extends over 5 years Covers the Camden area • Property for Policing (2007) Extends over 5 years Covers the Greater London area	The plans extend over five years. Both documents are strategic in nature and do not set out specific facility requirements for policing services in Camden. Neither document explicitly considers the projected level of commercial and residential growth in Camden. Therefore the documents are not entirely in formats that readily lend themselves to translation into this study and the requirements of PPS12 – although it should be noted that infrastructure needs are not clearly related to development growth.
Fire	London Fire BrigadeLondon Fire and Emergency Planning Authority	• Draft Asset Management Plan (Property) (2008) Extends over 5 years Covers the Greater London area	The plan extends over five years.Whilst covering the entire Greater London area, it provides detailed information on the individual facilities within each of the London boroughs. It does not explicitly consider the projected level of commercial and residential growth in Camden. The short time horizon considered by the plan means that the document is not fully adequate to assess the implication of additional demand for fire infrastructure arising from projected growth up to 2026 – although it should be noted that infrastructure needs are not clearly related to development growth.
Ambulance	London Ambulance Services NHS Trust	• Strategic Plan 2006/07-2012/13 (2007) Extends over 5 years Covers the Greater London area	The plan extends over five years. The document is strategic in nature and does not set out specific facility requirements for ambulance services in Camden. It does not explicitly consider the projected level of commercial and residential growth in Camden.Therefore the document is not fully adequate to assess the implication of additional demand for ambulance infrastructure arising from projected growth up to 2026 – although it should be noted that infrastructure needs are not clearly related to development growth.

Appendix D -
Strategic Infrastructure Plan

The Strategic Infrastructure Plan and Infrastructure Requirement Tables

Introduction

D.1 The section pulls together the outcomes of the infrastructure assessment into a strategic infrastructure plan. Findings are presented through a matrix with accompanying text, and recommendations are laid out for Camden Council as it takes the strategic infrastructure plan forward within its LDF process and to develop the CIL.

Development of the Strategic Infrastructure Plan

D.2 This Strategic Infrastructure Plan (SIP) and associated recommendations should sit alongside other research papers that constitute the evidence base in support of Camden Council's LDF and more specifically its Core Strategy Development Plan Document (DPD). The SIP is structured around 'what', 'when', 'where', 'how', and 'how much' infrastructure is needed to support the level of anticipated housing, employment and development growth forecasted in Camden. These LDF requirements are set out in Planning Policy Statement (PPS) 12 - Local Spatial Planning (2008). The requirement for sound infrastructure planning as part of the formation and review of LDFs is further explored and discussed as part of the CLG's fifth thematic study prepared for their Spatial Plans in Practice series[30]. Both sets of guidance notes have informed the basis of the SIP.

D.3 PPS12 also states that adequate and timely infrastructure provision is fundamental to the creation of sustainable communities. In recent years this principle has become central in all policy arenas and it now shapes strategy at all spatial levels. PPS12 places the need for infrastructure planning at the heart of the planning process. It states that the Core Strategy DPD should be supported by evidence of physical and social infrastructure requirements including the type, distribution, timing and responsibilities for delivery of this infrastructure. It sets out the key components of good infrastructure planning, and advocates discussions with key local partners to establish priorities.

D.4 As noted in the body of the report, an additional aim of the Camden Infrastructure Study and Plan is to inform the basis of the forthcoming Camden Community Infrastructure Levy. Further reporting will be issued at a later stage covering this work.

Strategic Infrastructure Tables

D.5 Recommended infrastructure schemes, actions and their relative importance are summarised below in tables **D-1, D-2** and **D-3** in this Appendix. The list below explains the headings set out in the table.

- **Infrastructure areas** are grouped by infrastructure type as set out in the study (see Box 1) for social, transport and utilities and physical infrastructure.

- **Infrastructure schemes and actions** include the current, forthcoming or recommended infrastructure or actions required in Camden or by the Council over the plan period. These include both schemes and actions aiming to support forecast development growth as well as that needed to alleviate existing shortfalls or gaps. Schemes include those already proposed by third parties, schemes that are underway as well as those new ones that are recommended by the consultants.

- **Infrastructure importance (1-2)** specifies to the Council how critical the consultants consider the infrastructure item is to ensuring delivery of development in the Borough including that which rectifies current infrastructure deficiencies. Items labelled as '1' are critical or definitely required over the plan period. Items labelled as '2' are significant and highly desirable but are not critical.

  There is a potential exception for certain social infrastructure items and particularly those items for which there are statutory requirements that local authorities must meet such as for providing for the provision of education infrastructure and services. In such cases, while the following table has labelled all items of social infrastructure as '2', there are some level '2' infrastructure items that are extremely important and likely to be prioritised by the LA even though they are not, in strictly technical terms, critical to development taking place in the first instance.

  N.B: The relative importance gradings given in the table are the view of the consultant and do not necessarily represent the view of or importance attributed to those requirements by the London Borough of Camden.

- **Rationale for inclusion / Risk if not included** clearly states the key reason the infrastructure item is included in the plan highlighting where necessary the risk if it is not delivered over the plan period.

[30]CLG, Infrastructure Delivery. Spatial Plans in Practice: Supporting the reform of local planning, (2008)

- **Drivers** reflect the key rationale for the required infrastructure items including:
    - Identifying where the infrastructure item will respond to policy requirements – This is particularly relevant to infrastructure items such as sustainable energy infrastructure initiatives that are not necessarily 'demanded' as such, rather they stem from EU and UK Government directives
    - Identifying where the infrastructure requirement will alleviate existing gaps or provide for the replacement of existing infrastructure
    - Identifying where the infrastructure requirement responds to greater demand placed upon the infrastructure derived from forecast growth.
- **Phasing** sets out the recommended timeframe for the delivery of the recommended scheme or action. Our timeframes cover the short (2009-2014) medium (2015-2020) and long term (2021-2026) periods. Where the information is available on committed schemes, exact delivery dates have been specified.
- **Location** presents information on where the infrastructure item should be delivered. Where infrastructure requirements are location specific they have been identified. In many cases infrastructure recommendations and actions are borough wide, e.g. Implementation of Sustainable Urban Drainage Systems (SUDS) and promotion of flood resistant architecture.
- **Responsibility and funding** identifies:
    - The **delivery agency, Governmental department or organisation** responsible for delivery of the infrastructure item. In some cases, for example for the delivery of utilities schemes, the regulator will also have a key role to play as both an authority and supervisor
    - The **responsible funding agency** - This lists the likely public sector department or agency tasked with funding the infrastructure item. In some cases the item will be delivered though a range of funding sources including private developers in the form of planning gain contributions.
    - The **role of LBC as the LPA** setting out the role that Camden Council is likely to play, which for example could entail adopting enabling planning policies, lobbying, facilitating the process or granting planning permission.
- Costs illustrate:
    - **Costs identified by the provider** where the infrastructure has been costed in the providers' plans , as ascertained through this study
    - **Costs identified by URS / HUDU model** for infrastructure items that could be meaningfully quantified, such as social infrastructure items, to which URS has applied indicative costings in agreement with Davis Langdon.
- **Current delivery arrangements** states clearly whether the infrastructure requirement identified by the consultants' team:
    - **Has been noted by the provider** (even at a strategic level)
    - **Has been specifically planned for** in the provider's documents
    - **Has funding is in place** for its delivery.

Where the provider has identified the need (even if not fully planned for it or allocated funding for its delivery), this is indicated in the table by a shaded background. An unshaded / white backgraound indicates infrastructure requirements or actions that have been identified through the course of this study.

CAMDEN STRATEGIC INFRASTRUCTURE REQUIREMENT TABLES

Table D-1: Social Infrastructure Requirements

Key

	Already identified by responsible agency/ provider
	Requirement identified via this study

Infrastructure Area	*Infrastructure Schemes and Actions*	*Infrastructure Importance (1-2)*	*Rationale for Inclusion / Risk if not Included*	*Drivers*			*Phasing*	*Location*	*Responsibility and Funding*			*Costs*		*Current Delivery Arrangements*			*Notes*
				Policy	Existing gap/ replacement/ upgrade	Forecast demand for development	When should the infrastructure items be delivered by?	Where should the infrastructure item be delivered?	Responsible Delivery Agency	Funding Arrangements	Role and responsibility of LBC as the LPA	Identified by providers incl. Status	Identified by URS / HUDU model	Is the need noted by the provider?	Is the need planned for?	Is funding in place?	
Early Years	Estimated provision requirement to meet projections of future need equating to approximately 124 two year old places, 210 three year old places and 247 four year old places.	2	To cater for new demand up to 2026	✓		✓	Progressively over the period to 2026	Various locations across the borough including in primary schools and at locations secured or provided by the PVI sector	LBC – Children, Schools and Families Directorate	No funding in place beyond that identified for previously identified requirements (via PSfC funding stream).	Planning and coordination.	-	Estimate not made	Y	N	N	The potential need is neither identified nor funded except for existing commitments as part of the Primary Strategy for Change.
Primary Schools	Expansion of provision (0.5 FoE expansion)	2		✓	✓	✓	Delivery by 2013	Emmanuel School – West Hampstead/ Fortune Green (North West sub-area)	LBC - Children, Schools and Families Directorate	Funded through Primary Capital Programme (PCP), s.106, Basic Need and Local Authority coordinated Voluntary Aided Programme (LCVAP)	Planning and coordination, including securing funding. Where relevant plan for and collect s.106 / CIL monies to aid funding	Confidential Costs available from LBC Children Schools and Families Directorate	-	Y	Y	Y	See Primary Strategy for Change for further detail
	New resource base for 14 children wit autistic spectrum disorder (ASD) and associated improvements to Kentish Town School	2			✓	✓	By Sept 2010	Kentish Town (North West sub-area)		Prudential borrowing, PCP, LCVAP			-	Y	Y	Y	

Infrastructure Area	*Infrastructure Schemes and Actions*	*Infrastructure Importance (1-2)*	*Rationale for Inclusion / Risk if not Included*	*Drivers*			*Phasing*	*Location*	*Responsibility and Funding*			*Costs*		*Current Delivery Arrangements*			*Notes*
				Policy	Existing gap/ replacement/ upgrade	Forecast demand for development	When should the infrastructure items be delivered by?	Where should the infrastructure item be delivered?	Responsible Delivery Agency	Funding Arrangements	Role and responsibility of LBC as the LPA	Identified by providers incl. Status	Identified by URS / HUDU model	Is the need noted by the provider?	Is the need planned for?	Is funding in place?	
	Expansion of provision (1 school/ 2 FoE)	2	For existing and new demand from residential development up to 2014+	✓	✓	✓	In 2012/13 at earliest	King's Cross		Development contributions via s.106 and Camden Council capital funds			-	Y	Y	Y	
	Estimated provision requirement to meet demand for 3 – 5 FoE	2	To cater for additional growth in demand	✓	✓	✓	Borough wide, subject to further detailed investigation (to be made closer to the time of provision)	Borough wide, subject to further detailed investigation (to be made closer to the time of provision)	LBC – Children, Schools and Families Directorate	Funding not yet identified. Potentially draw on various funding sources including central govt funding and s.106 / CIL funds	Plan for provision and, if required, arrange for collection of s.106 / CIL to provide a funding source		See notes in far left column.	Y	Not yet	Not yet	Costs will be heavily dependent on many, as of yet, unknown and undetermined factors. As such costs for 3 to 5 FoE could be up to £18M to £30M. The final amount would be subject to various factors effecting eventual design and delivery; please see Section 2.3.6 of the Social Infrastructure Needs Assessment Report for detail.
Secondary Schools	Expanded provision (One new school / 6 FoE 11 - 16) plus 250 Sixth Form places	2	Proposed in BSF Business Plan – To cater for existing and future need	✓	✓		By 2014	Adelaide Road (UCL Academy) (North West sub-area)	DfCSF / Partnership for School / LBC Children, Schools and Families Directorate	DfCSF / Partnership for School / LBC Schools, Children and Families Directorate (funds could potentially be recouped from s.106 / CIL)	Coordinate and plan provision via BSF programme.	Confidential Costs available from LBC Children Schools and Families Directorate	-	Y	Y	BSF	All BSF funded investments have been proposed and agreed in the BSF Outline Business Case.
	Expanded provision at Swiss Cottage Special School for 80 additional pupils.	2		✓		✓	By 2014	Adelaide Road (Swiss Cottage Special School) (North West)					-	Y	Y	BSF	This will increase provision for pupils from 150 places to 230 places.
	Expanded provision - 2 FoE (11 – 16 yr olds) plus 100 new sixth form places	2		✓		✓	By 2014	South Camden Community School (South sub-area)					-	Y	Y	BSF	

Infrastructure Area	Infrastructure Schemes and Actions	Infrastructure Importance (1-2)	Rationale for Inclusion / Risk if not Included	Drivers			Phasing	Location	Responsibility and Funding			Costs		Current Delivery Arrangements			Notes
				Policy	Existing gap/ replacement/ upgrade	Forecast demand for development	When should the infrastructure items be delivered by?	Where should the infrastructure item be delivered?	Responsible Delivery Agency	Funding Arrangements	Role and responsibility of LBC as the LPA	Identified by providers incl. Status	Identified by URS / HUDU model	Is the need noted by the provider?	Is the need planned for?	Is funding in place?	
	Estimated provision requirement to meet demand for up to 4 additional FoE	2	To cater for additional growth in demand	✓	✓	✓	ca. 2017 to 2026	Subject to further detailed investigation. NB. Demand in the south of the borough is projected to grow strongest. But provision could be made borough-wide subject to site procurement.	LBC – Children, Schools and Families Directorate	LBC – potentially drawing on various funding sources including central govt funding and s.106 / CIL funds	Plan for provision and seek funding / collect s.106 / CIL monies to aid funding		Subject to various factors effecting eventual design and delivery.	Y	Not yet	Not yet	NB. The estimate will need to be kept under review to reflect various factors including impact of BSF programme, linked to joint Camden / DSCSF place planning analysis about need in central London area beyond 2016. A very broad indicative cost is ca. £16 M to £24M+ but this will be heavily dependent on many presently unknown and undetermined factors such as site abnormals, design, future cost inflation, etc.
FE	Estimated provision requirement to meet demand for 160 places (provision not necessarily required in Camden)	2	To serve additional demand from new population growth.	✓		✓	2016 – 2026	Optional: Camden or other London borough(s)	Transferring to LB Camden on 1st April 2010 (in liaison with neighbouring LAs)	Government grants or developers (via s.106 / CIL)	Liaise with neighbouring boroughs; commission provision based on need. Possibly collect s106 / CIL to aid funding	-	£5.7 M to £7.5 M	N	N	Not identified	The FE sector in London comprises largely of sub-regional or metropolitan sized catchment zones. Provision of facilities to meet future demand could be provided in Camden or elsewhere.
Adult Learning	Estimated provision requirement to meet demand for 271 FTE Adult learner places (but assuming 50% of need to be met within community buildings and schools)	2	Local provision required for the expanding residential population	✓		✓	2011 – 2026	Borough wide (and within other London Boroughs)	Learning and Skills Council / Skills Funding Agency	Funding not yet identified.	TBC	-	£3.4 to £4.5 M	Not Known	Not Known	Not Known	The costs assume that approximately half the demand for places can be accommodated within community centres, local schools, etc. Accordingly, the suggested cost of provision is half of what it otherwise would be to accommodate demand from 271 FTE learners.

Infrastructure Area	*Infrastructure Schemes and Actions*	*Infrastructure Importance (1-2)*	*Rationale for Inclusion / Risk if not Included*	*Drivers*			*Phasing*	*Location*	*Responsibility and Funding*			*Costs*		*Current Delivery Arrangements*			*Notes*
				Policy	Existing gap/ replacement/ upgrade	Forecast demand for development	When should the infrastructure items be delivered by?	Where should the infrastructure item be delivered?	Responsible Delivery Agency	Funding Arrangements	Role and responsibility of LBC as the LPA	Identified by providers incl. Status	Identified by URS / HUDU model	Is the need noted by the provider?	Is the need planned for?	Is funding in place?	
Primary Health Care – GP Clinics	Development of Integrated Health Care Centres	2	Being undertaken as part of ongoing PCT strategy to enhance provision and changes to PHC practice including the introduction of a polyclinic system	✓	✓		2008 – 18 (Kentish Town and Belsize Priory already completed)	See notes.				NA		Y	Y	Some already provided. For the rest, it is not known.	Integrated Health Care Centres are earmarked at Kentish Town, St Pancras Hospital, UCL Hospital (Phase II), Royal Free Hampstead, and Belsize Priory.
	1 Primary Health Care Centre at Kings Cross of at least 1,250 sqm GIA (incorporating relocation of practice at 142 Camden Road)	2	Replacement and to serve new population growth	✓	✓	✓	Both PHC Centres: In 2009 to 2013, most likely in 2011	Both PHC Centres: King's Cross (South sub-area)	Both PHC Centres: Developer / in association with PCT/NHS	Both PHC Centres: Developers (via s.106)	Both PHC Centres: have already been secured through s.106 agreement as part of the King's Cross development planning consent.	Both PHC Centres - Not known; they are to be provided in kind by developer.	NA	Y	Y	Y	Both centres are to be provided as part of the King's Cross Argent Development
	1 Primary Health Care Walk-in Centre of at least 750 sqm GIA	2				✓								Y	Y	Y	
	1 GP Practice (with 3GPs, potentially as part of a IHC Centre)	2	To serve additional demand from new population growth.	✓		✓	2006-2011	South sub-area	NHS Camden	Camden PCT / Developer funding (via s.106 / CIL)	Monitor need via planning permissions; secure provision via s.106 and/or coordinate collection of s.106 / CIL monies to help fund provision	-	Core GP Practice cost: £0.9 M	It is noted that there is no existing surplus to provide for further growth It is noted that there is no existing surplus to provide for further growth	Not able to confirm	Not able to confirm	NHS Camden's Polyclinic programme will meet / provide for existing demand, and this may provide for some newly arising demand. This could therefore possibly ease pressure on existing GPs and reduce the requirements noted for new GP practices to cater for additional demand. However PCT advise that there is no surplus of GPs at present; and on so forecast infrastructure requirements reflect that advice.
	1 GP Practice (with 3GPs, potentially as part of a IHC Centre)	2		✓		✓	2011-16	South sub-area				-	Core GP Practice cost: £0.9 M		Not able to confirm	Not able to confirm	
	1 GP Practice (with 4GPs, potentially as part of a IHC Centre)	2		✓		✓	2016-26	South sub-area				-	Core GP Practice cost: £1.2 M		Not able to confirm	Not able to confirm	
	1 GP Practice (with 3GPs, potentially as part of a IHC Centre)	2		✓		✓	2006-2011	North East sub-area				-	Core GP Practice cost: £0.9 M		Not able to confirm	Not able to confirm	
	1 GP Practice (with 3GPs, potentially as part of a IHC Centre)	2		✓		✓	2011-2016	North West sub-area				-	Core GP Practice cost: £0.9 M		Not able to confirm	Not able to confirm	

Infrastructure Area	*Infrastructure Schemes and Actions*	*Infrastructure Importance (1-2)*	*Rationale for Inclusion / Risk if not Included*	*Drivers*			*Phasing*	*Location*	*Responsibility and Funding*			*Costs*		*Current Delivery Arrangements*			*Notes*
				Policy	Existing gap/ replacement/ upgrade	Forecast demand for development	When should the infrastructure items be delivered by?	Where should the infrastructure item be delivered?	Responsible Delivery Agency	Funding Arrangements	Role and responsibility of LBC as the LPA	Identified by providers incl. Status	Identified by URS / HUDU model	Is the need noted by the provider?	Is the need planned for?	Is funding in place?	
	1 GP Practice (with 3GPs, potentially as part of a IHC Centre)	2		✓		✓	2016-2026	North West or North East sub-area				-	Core GP Practice cost: £0.9 M		Not able to confirm	Not able to confirm	
Primary Health Care – Dental Surgeries	Potential need for up to 3 Dental Clinics (with 3 dentists / surgery)	2	To serve additional demand from new population growth.			✓	Demand for each arising: 2011-2016 2016-2021 2021-2026	South sub-area	Camden PCT and private sector	Funding not determined – to be kept under review, given range of factors that underpin demand for dentists.	Coordinate collection of s.106 / CIL monies to aid funding of provision	-	£1.44M / surgery £4.3 M in total	Not able to confirm	Not able to confirm	Not able to confirm	Exact requirements are difficult to pin down and will depend on the mix of private and public provision of dental services.
	Potential need for up to 1 Dentist Clinic (with 3 dentists)	2				✓	2011-2021	North East sub-area				-	£1.44M	Not able to confirm	Not able to confirm	Not able to confirm	
	Potential need for up to 1 Dentist Clinic (with 2 dentists)	2				✓	2011-2021	North West sub-area				-	£1.02M	Not able to confirm	Not able to confirm	Not able to confirm	
Secondary Health Care	Demand led potential requirement for: (i) 89 acute beds (ii) 18 intermediate beds (iii) 18 intermediate day spaces **NB. Estimate is demand-led only.** The need, in respect of existing provision, has not been confirmed by either the PCT or NHS	2	Is modelled based solely on projected additional demand arising from new population growth (without regard to the ability of existing provision to help meet demands arising from new growth)	✓		✓	NB. It is not confirmed that the infrastructure is required. Demand was modelled for growth arising in period 2006-2026	NB. It is not confirmed that the infrastructure is required. Borough wide or potentially within adjacent LAs.	NB. It is not confirmed that the infrastructure is required. London Strategic Health Authority (SHA)	NB. It is not confirmed that the infrastructure is required. London SHA / Camden PCT / Developers (via s.106 / CIL)	NB. It is not confirmed that the infrastructure is required.	-	NB. It is not confirmed that the infrastructure is required. (i) £27.16M (ii) & (iii) £12.89M	Not able to confirm	Not able to confirm	Not able to confirm	It is important to note that there are reasonable grounds to assume that the existing provision of secondary health care infrastructure will be able to meet at least some, if not a large proportion, or the new demand that is expected to arise. Accordingly, the potential requirement noted is subject to confirmation and it is advised that it should note be taken as given that it will be required.
Sports & Leisure (Swimming Pools)	1 Swimming Pool	2	Important aspect of health and well-being in addition to the entertainment value offered	✓	✓	✓	2011-2016	King's Cross	LB Camden Sports	To be provided as part of the King's Cross Central development	Coordination and overview (TBC)	Not known; to be provided in kind by developer.	-	Y	Y	Y	Planning permission was granted in 2006 for King's Cross Central developers to build a 25m long, 5 lane pool, in addition to a learner pool of 15m in length

Infrastructure Area	*Infrastructure Schemes and Actions*	*Infrastructure Importance (1-2)*	*Rationale for Inclusion / Risk if not Included*	*Drivers*			*Phasing*	*Location*	*Responsibility and Funding*			*Costs*		*Current Delivery Arrangements*			*Notes*
				Policy	Existing gap/ replacement/ upgrade	Forecast demand for development	When should the infrastructure items be delivered by?	Where should the infrastructure item be delivered?	Responsible Delivery Agency	Funding Arrangements	Role and responsibility of LBC as the LPA	Identified by providers incl. Status	Identified by URS / HUDU model	Is the need noted by the provider?	Is the need planned for?	Is funding in place?	
Sports & Leisure (Sports Halls)	6 Sports Halls (ca. 4 badminton courts per sports hall + some additional facilities)	2	Proposed in BSF Business Plan – To cater for existing and future need	✓	✓	✓	2010-2017	Various locations (see Section 4.5.3, SINA Report)	LB Camden (Culture and Environment Directorate)	BSF Programme	-	Confidential at present time.	-	Y	Y	N	It is likely that sports hall infrastructure requirement will be met through the BSF programme. If provided this would fully satisfy requirements. Funding is subject to successful completion of BSF programme
	1 Sports Hall (4 courts)	2	Agreed as part of the Section 106 agreement for the King's Cross development			✓	2011-2016	King's Cross	Private Developers	To be provided as part of the King's Cross Central development	-	Not known; to be provided in kind by developer.	-	Y	Y	Y	King's Cross s.106 provides for a 4-court sports hall (equivalent to 1,500 sqm GIA and to accommodate overlaid space for 4 badminton courts, and / or 1 basketball/ volleyball court/ 5-a-side football pitch)
Parks and Open Space	On-site provision of public open space to be provided in kind to be provided at a standards of 9sqm / new resident and 0.74 sqm / new worker (=19sqm comm. floorspace) (including space for provision of child play space, MUGAs, allotments and outdoor play space)	2	To serve additional demand from new population growth.	✓		✓	2006-2026	To be provided borough-wide (as a guide provision will mostly be required on site on schemes over 60 dwellings or 30,000 sqm of floorspace).	Developers (as required by the planning decision making process)	NA. To be provided in-kind by developers on their development sites.	Plan for provision, oversee delivery of provision and collect s106 / CIL monies to fund provision and enhancements	-	NA	Y	Y – through DC policy.	NA	To be provided on sites over 60 dwellings or on schemes over 3ha in size, in accordance with Camden's *Preferred Development Policies.*
	Financial contributions in lieu of provision (calculated with reference to provision standards) to enhance quality of, and access to, existing POS	2		✓		✓		On identified sites, as per *Study Update* findings.	LBC (to coordinate funding)	Developers (via s106 / CIL) and potentially LBC		-	NA	Y	NA	NA	

Infrastructure Area	*Infrastructure Schemes and Actions*	*Infrastructure Importance (1-2)*	*Rationale for Inclusion / Risk if not Included*	*Drivers*			*Phasing*	*Location*	*Responsibility and Funding*			*Costs*		*Current Delivery Arrangements*			*Notes*
				Policy	Existing gap/ replacement/ upgrade	Forecast demand for development	When should the infrastructure items be delivered by?	Where should the infrastructure item be delivered?	Responsible Delivery Agency	Funding Arrangements	Role and responsibility of LBC as the LPA	Identified by providers incl. Status	Identified by URS / HUDU model	Is the need noted by the provider?	Is the need planned for?	Is funding in place?	
Child Play Spaces and MUGAs	28 play spaces / MUGAs (out of total identified requirement for 50)	2	To provide an achievable provision of play space for existing and future children	✓	✓	✓	By 2010	In areas currently deficient in access	LBC and Developers	Planned for and Developers (via s106 / CIL) and LBC (via a DfCSF grant)	Plan for provision and collect s106 / CIL monies to aid funding	£2.6 M		Y	Y	Y	Of the identified need for 50 places, 28 play areas are planned for and funded.
	22 play spaces / MUGAs (out of total identified requirement for 50)	2	To serve additional demand from new population growth net of current investment plans	✓		✓	2011 - 2026	Proximate to areas of deficiency and significant new development	LBC	Funding not identified. Potentially provision from developers (via s.106 / CIL) and LBC	Plan for provision and collect s106 / CIL monies to aid funding		ca. £2.0 M (TBC – DL)	Y	In part	Not yet	Of the identified need for 50 places, 22 play areas remain to be funded.
Community Buildings	Refurbishment and some expansion of 8 centres	2	To serve existing (and potentially latent) demand		✓	✓	By 2012	Various Locations	LBC and Voluntary and Community Sector	Developers (via s106 /CIL), LBC, VCS grants / fundraising	Help in planning for provision and collect s106 / CIL monies to aid funding; support placing funding bids	Y	NA	Part	Part	Part	Identified through surveys administered as part of the research for this study.
	Requirement for community buildings and multi-purpose space provision in south sub-area	2	To serve both existing need and additional demand from new population growth.			✓	On-going from present to 2026	South sub-area	LBC, Voluntary and Community Sector and Developers	Undetermined – potential provision from development (via s106 /CIL), LBC and sector-specific available grant funding	Plan for provision and arrange developer contributions (direct provision or monies in-lieu of provision via s106 / CIL); support to VCS in placing funding bids	NA	NA	Yes – Provider is aware of need.	On-going	Not yet	Quantifying demand is especially difficult. Further review will be beneficial after the completion of LBC's *Asset Review* in mid-2010.
	Requirement for community buildings in NW sub-area (particularly with services for under 5s and elderly)	2	To serve additional demand from new population growth.			✓	Likely to be over period from present to 2026, but particularly after 2011-16	North West sub-area				NA	NA		On-going	Not yet	
	Potential requirement for community buildings provision in NE sub-area	2	To serve additional demand from new population growth.			✓	Likely to be over period from present to 2026	North East sub-area				NA	NA		On-going	Not yet	
Faith Facilities	Observed potential for a mosque to serve the borough (which is currently an aspiration of the Muslim community)	2	To serve both existing need and need from new population growth in the Muslim community that is likely to drive demand.		✓	✓	Unknown	Site yet to be identified	Voluntary and Community Sector (Camden's Muslim Community)	Voluntary and Community Sector (Camden's Muslim Community)	Providing non-financial support and advice	NA	NA	Y	On-going (by local Muslim Comm.)	Majority of funding not yet in place	A mosque is an aspiration of the Muslim community. Planning for the mosque is conceptual at this stage and will be an entirely community led initiative. Council is not paying for any of part of it.

Table D-2: Transport Infrastructure Requirements

Key

	Already identified by responsible agency/ provider
	Requirement identified via this study

Location	*Infrastructure Area*	*Infrastructure Schemes and Actions*	*Infrastructure Importance (1-2)*	*Rationale for Inclusion / Risk if not Included*	*Drivers*			*Phasing*	*Responsibility and Funding*			*Costs*		*Current Delivery Arrangements*			*Notes*
Where should the infrastructure item be delivered?					Policy	Existing gap/ replacement/ upgrade	Forecast demand for development	When should the infrastructure items be delivered by?	Responsible Delivery Agency	Responsible Funding Agency	Role and responsibility of LBC as the LPA	Identified by providers incl. Status	Identified by URS / HUDU model	Is the need noted by the provider?	Is the need planned for?	Is funding in place?	
King's Cross St Pancras	**Rail**	First Capital Connect (formerly Thameslink)	1	To provide additional capacity		✓	✓	2011 to 2015 (S)	Network Rail	Network Rail	Facilitator	£5.5b	-	Y	Y	Y	Under Construction Track and Station upgrades to 12 car operation and 24 trains per hour on the central section
	Rail and Underground Stations	King's Cross Station Congestion Scheme	1	To alleviate station congestion		✓	✓	2008-2010 (S)	TfL	TfL	Facilitator	Not identified	-	Y	Y	Y	Under Construction. Phase 1 (completed) new Western ticket hall giving direct access to Circle and Metropolitan lines and to St Pancras International, which has increased capacity and improved accessibility. Phase 2 – construction of Northern ticket hall to the west of King's Cross mainline station providing direct access to the Northern, Piccadilly and Victoria line platforms.
	Rail and Underground Stations	Improvements to public realm at stations	1	To facilitate pedestrian movement and connectivity		✓	✓	2011-2016 (S-M)	TfL/ Network Rail/ LB Camden	TfL/ Network Rail/ LB Camden/ Developer contributions	Facilitator	Not identified	-	Y	N	N	

Location	Infrastructure Area	Infrastructure Schemes and Actions	Infrastructure Importance (1-2)	Rationale for Inclusion / Risk if not Included	Drivers			Phasing	Responsibility and Funding			Costs		Current Delivery Arrangements			Notes
Where should the infrastructure item be delivered?					Policy	Existing gap/ replacement/ upgrade	Forecast demand for development	When should the infrastructure items be delivered by?	Responsible Delivery Agency	Responsible Funding Agency	Role and responsibility of LBC as the LPA	Identified by providers incl. Status	Identified by URS / HUDU model	Is the need noted by the provider?	Is the need planned for?	Is funding in place?	
	Bus	Bus service enhancement	1	To provide additional capacity and links		✓	✓	2011-2016 (S-M)	TfL	TfL/ Developer contributions	Facilitator	Not identified	-	Y	N	Y – King's Cross N – rest of Borough	
King's Cross	**Rail**	East Coast Mainline	1	To provide additional capacity		✓	✓	2014 (S)	Network Rail	Network Rail	Facilitator	£51m	-	Y	Y	Y	Committed Additional 12 car services on outer suburban commuter services New station concourse at King's Cross station.
	Rail	Crossrail 2	2	To provide additional capacity		✓	✓	2026+ (L)	Network Rail/TfL	Network Rail/ TfL/ Businesses/ Developer contributions	Facilitator	Undetermined	-	Y	N	N	Line safeguarded/subject to powers and funding.
	Walking	Reduce Severance effect of Roads	2	To improve accessibility and connectivity		✓	✓	2015-2026 (M-L)	LB Camden	LB Camden/ Developer contributions	Planning authority/ Facilitator	Unknown	-	Y	N	N	
Tottenham Court Road	**Rail**	Crossrail	1	To alleviate pressure on the underground system and provide a faster east to west rail link connecting Heathrow in the west with the Thames Gateway in the east		✓	✓	2017 (M)	TfL/Network Rail	TfL/ Network Rail/ Businesses/ Developers	Facilitator	£17b	-	Y	Y	Y	Committed Scheme Crossrail Levy Provides 24 trains per hour in each direction during peak periods. Provides a 10% increase in London's rail based public transport capacity.
	Rail	Crossrail 2	2	To provide additional capacity		✓	✓	2026+ (L)	Network Rail/TfL	Network Rail/ TfL/ Businesses/ Developer contributions	Facilitator	Undetermined	-	Y	N	N	Line safeguarded/subject to powers and funding.

Location	Infrastructure Area	Infrastructure Schemes and Actions	Infrastructure Importance (1-2)	Rationale for Inclusion / Risk if not Included	Drivers			Phasing	Responsibility and Funding			Costs		Current Delivery Arrangements			Notes
Where should the infrastructure item be delivered?					Policy	Existing gap/ replacement/ upgrade	Forecast demand for development	When should the infrastructure items be delivered by?	Responsible Delivery Agency	Responsible Funding Agency	Role and responsibility of LBC as the LPA	Identified by providers incl. Status	Identified by URS / HUDU model	Is the need noted by the provider?	Is the need planned for?	Is funding in place?	
	Rail and Underground Stations	Tottenham Court Road Station Congestion Scheme	1	To alleviate station congestion		✓	✓	2010-2017 (S-M)	TfL	TfL	Facilitator	Not identified	-	Y	Y	Y	Committed. Will cater for 200,000 passengers per day with Crossrail. Providing a new ticket hall (six times the six times the size of the current one), escalators to the Northern line, step free access and increased space in congested areas of the station.
	Rail and Underground Stations	Improvements to public realm at stations	1	To facilitate pedestrian movement and connectivity		✓	✓	2010-2017 (S-M)	TfL/Network Rail/LB Camden	TfL/ Network Rail/ LB Camden/ Developer contributions	Facilitator	Not identified	-	Y	N	N	
	West End Improvements	Tottenham Court Road Two Way Working	1	To improve accessibility		✓	✓	2010-2026 (S-L)	TfL	LB Camden/ TfL/ Developer contributions	Facilitator	Not identified	-	Y	N	N	
Euston	**Rail and Underground Stations**	Euston Station Congestion Scheme	1	To alleviate station congestion		✓	✓	2016-2021 (M)	TfL	TfL	Facilitator	Not identified	-	Y	N	N	Subject to scheme design and funding. TfL studies have identified that by 2026 escalator and platform capacity would be overcapacity.
	Rail and Underground Stations	Euston Station Interchange Scheme	1	To improve interchange and accessibility		✓	✓	2016-2021 (M)	TfL	TfL	Facilitator	Not identified	-	Y	N	N	Subject to scheme design and funding
	Rail and Underground Stations	Improvements to public realm at stations	1	To facilitate pedestrian movement and connectivity		✓	✓	2016-2021 (M)	TfL/Network Rail/LB Camden	TfL/ Network Rail/ LB Camden/ Developer contributions	Facilitator	Not identified	-	Y	N	N	

Location	Infrastructure Area	Infrastructure Schemes and Actions	Infrastructure Importance (1-2)	Rationale for Inclusion / Risk if not Included	Drivers			Phasing	Responsibility and Funding			Costs		Current Delivery Arrangements			Notes
Where should the infrastructure item be delivered?					Policy	Existing gap/ replacement/ upgrade	Forecast demand for development	When should the infrastructure items be delivered by?	Responsible Delivery Agency	Responsible Funding Agency	Role and responsibility of LBC as the LPA	Identified by providers incl. Status	Identified by URS / HUDU model	Is the need noted by the provider?	Is the need planned for?	Is funding in place?	
	Walking	Reduce Severance effect of Roads	2	To improve accessibility and connectivity		✓	✓	2015-2026 (M-L)	LB Camden	LB Camden/ Developer contributions	Planning authority/ Facilitator	Unknown	-	Y	N	N	
Euston Road and roads south of Euston Road	**Road Network**	Road link improvements	1	To improve traffic flows		✓	✓	2015-2026 (M-L)	LB Camden/TfL	LB Camden/ TfL/ Developer contributions	Planning authority/ Facilitator	Unknown	-	Y	N	N	
Euston Underpass	**Road Network**	Junction Improvements	1	To improve traffic flows		✓	✓	2015-2026 (M-L)	LB Camden/TfL	LB Camden/ TfL/ Developer contributions	Planning authority/ Facilitator	Unknown	-	Y	N	N	
	Walking	Pedestrian environment improvements	2	To improve accessibility, connectivity, capacity and safety		✓	✓	2015-2026 (M-L)	LB Camden	LB Camden/ Developer contributions	Planning authority/ Facilitator	Unknown	-	Y	N	N	
Euston Circus	**West End Improvements**	Euston Circus	1	To improve accessibility		✓	✓	2010-2026 (S-L)	TfL	LB Camden/ TfL/ Developer contributions	Facilitator	Not identified	-	Y	N	N	
Euston Square	**Rail and Underground Stations**	Improvements to public realm at stations	1	To facilitate pedestrian movement and connectivity		✓	✓	2016-2021 (M)	TfL/Network Rail/LB Camden	TfL/ Network Rail/ LB Camden/ Developer contributions	Facilitator	Not identified	-	Y	N	N	
Holborn	**Rail and Underground Stations**	Holborn Station Congestion Scheme	1	To alleviate station congestion		✓	✓	2016-2021 (M)	TfL	TfL	Facilitator	Not identified	-	Y	N	N	Subject to scheme design and funding. No additional details on station specific intervention are publicly available.
	Rail and Underground Stations	Holborn Station Interchange Scheme	1	To improve interchange and accessibility		✓	✓	2016-2021 (M)	TfL	TfL	Facilitator	Not identified	-	Y	N	N	Subject to scheme design and funding

Location	Infrastructure Area	Infrastructure Schemes and Actions	Infrastructure Importance (1-2)	Rationale for Inclusion / Risk if not Included	Drivers			Phasing	Responsibility and Funding			Costs		Current Delivery Arrangements			Notes
Where should the infrastructure item be delivered?					Policy	Existing gap/ replacement/ upgrade	Forecast demand for development	When should the infrastructure items be delivered by?	Responsible Delivery Agency	Responsible Funding Agency	Role and responsibility of LBC as the LPA	Identified by providers incl. Status	Identified by URS / HUDU model	Is the need noted by the provider?	Is the need planned for?	Is funding in place?	
	Rail and Underground Stations	Improvements to public realm at stations	1	To facilitate pedestrian movement and connectivity		✓	✓	2016-2021 (M)	TfL/Network Rail/LB Camden	TfL/ Network Rail/ LB Camden/ Developer contributions	Facilitator	Not identified	-	Y	N	N	
	Road Network	Junction Improvements	1	To improve traffic flows		✓	✓	2015-2026 (M-L)	LB Camden/TfL	LB Camden/ TfL/ Developer contributions	Planning authority/ Facilitator	Unknown	-	Y	N	N	
West Hampstead	**Rail**	First Capital Connect (formerly Thameslink)	1	To provide additional capacity		✓	✓	2011 to 2015 (S)	Network Rail	Network Rail	Facilitator	£5.5b	-	Y	Y	Y	Under Construction Track and Station upgrades to 12 car operation and 24 trains per hour on the central section
	Rail and Underground Stations	West Hampstead Station Interchange Scheme	1	To improve interchange and accessibility		✓	✓	2016-2021 (M)	TfL	TfL	Facilitator	Not identified	-	Y	N	N	Subject to scheme design and funding
	Rail and Underground Stations	Improvements to public realm at stations	1	To facilitate pedestrian movement and connectivity		✓	✓	2016-2021 (M)	TfL/Network Rail/LB Camden	TfL/ Network Rail/ LB Camden/ Developer contributions	Facilitator	Not identified	-	Y	N	N	
	Public Realm	Legible London	2	To improve accessibility		✓	✓	2010-2016 (S-M)	TfL	TfL/ Developer contributions	Facilitator	Unknown	-	Y	N	N	
Camden Town	**Rail and Underground Stations**	Camden Town/Camden Road Stations Interchange Scheme	1	To improve interchange and accessibility		✓	✓	2016-2021 (M)	TfL	TfL	Facilitator	Not identified	-	Y	N	N	Subject to scheme design and funding

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Where should the infrastructure item be delivered?					Policy	Existing gap/ replacement/ upgrade	Forecast demand for development	When should the infrastructure items be delivered by?	Responsible Delivery Agency	Responsible Funding Agency	Role and responsibility of LBC as the LPA	Identified by providers incl. Status	Identified by URS / HUDU model	Is the need noted by the provider?	Is the need planned for?	Is funding in place?	
	Rail and Underground Stations	Camden Town Station Congestion Scheme	1	To alleviate station congestion		✓	✓	2016-2020 (M)	TfL	TfL	Facilitator	Not identified	-	Y	N	N	Subject to scheme design and funding. No additional details on station specific intervention are publicly available.
	Rail and Underground Stations	Improvements to public realm at stations	1	To facilitate pedestrian movement and connectivity		✓	✓	2016-2021 (M),)	TfL/Network Rail/LB Camden	TfL/ Network Rail/ LB Camden/ Developer contributions	Facilitator	Not identified	-	Y	N	N	
	Town Centre Projects	Camden Town Centre Project	1	To improve accessibility		✓	✓	2015-2020 (M)	LB Camden	LB Camden/ Developer contributions	Client/ Planning authority	Not identified	-	N	N	N	
	Public Realm	Legible London	2	To improve accessibility		✓	✓	2010-2016 (S-M)	TfL	TfL/Developer contributions	Facilitator	Unknown	-	Y	N	N	
	Road Network	Road link improvements	1	To improve traffic flows		✓	✓	2015-2026 (M-L)	LB Camden/TfL	LB Camden/ TfL/ Developer contributions	Planning authority/ Facilitator	Unknown	-	Y	N	N	
	Road Network	Junction Improvements	1	To improve traffic flows		✓	✓	2015-2026 (M-L)	LB Camden/TfL	LB Camden/ TfL/ Developer contributions	Planning authority/ Facilitator	Unknown	-	Y	N	N	
	Walking	Pedestrian environment improvements	2	To improve accessibility, connectivity, capacity and safety		✓	✓	2015-2026 (M-L)	LB Camden	LB Camden/ Developer contributions	Planning authority/ Facilitator	Unknown	-	Y	N	N	
	Walking	Reduce Severance effect of Roads	2	To improve accessibility and connectivity		✓	✓	2015-2026 (M-L)	LB Camden	LB Camden/ Developer contributions	Planning authority/ Facilitator	Unknown	-	Y	N	N	
Camden High Street	**Walking**	Pedestrian environment improvements	2	To improve accessibility, connectivity, capacity and safety		✓	✓	2015-2026 (M-L)	LB Camden	LB Camden/ Developer contributions	Planning authority/ Facilitator	Unknown	-	Y	N	N	

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Where should the infrastructure item be delivered?					Policy	Existing gap/ replacement/ upgrade	Forecast demand for development	When should the infrastructure items be delivered by?	Responsible Delivery Agency	Responsible Funding Agency	Role and responsibility of LBC as the LPA	Identified by providers incl. Status	Identified by URS / HUDU model	Is the need noted by the provider?	Is the need planned for?	Is funding in place?	
Camden Road	**Rail and Underground Stations**	Camden Town/Camden Road Stations Interchange Scheme	1	To improve interchange and accessibility		✓	✓	2016-2021 (M)	TfL	TfL	Facilitator	Not identified	-	Y	N	N	Subject to scheme design and funding
	Rail and Underground Stations	Improvements to public realm at stations	1	To facilitate pedestrian movement and connectivity		✓	✓	2016-2021 (M)	TfL/Network Rail/LB Camden	TfL/ Network Rail/ LB Camden/ Developer contributions	Facilitator	Not identified	-	Y	N	N	
	Rail	First Capital Connect (formerly Thameslink)	1	To provide additional capacity		✓	✓	2011 to 2015 (S)	Network Rail	Network Rail	Facilitator	£5.5b	-	Y	Y	Y	Under Construction Track and Station upgrades to 12 car operation and 24 trains per hour on the central section
Mornington Crescent	**Road Network**	Junction Improvements	1	To improve traffic flows		✓	✓	2015-2026 (M-L)	LB Camden/TfL	LB Camden/ TfL/ Developer contributions	Planning authority/ Facilitator	Unknown	-	Y	N	N	
	Road Network	Road link improvements	1	To improve traffic flows		✓	✓	2015-2026 (M-L)	LB Camden/TfL	LB Camden/TfL/ developer contributions	Planning authority/ Facilitator	Unknown	-	Y	N	N	
Chalk Farm	**Town Centre Projects**	Chalk Farm Town Centre Project	1	To improve accessibility		✓	✓	2010 (S)	LB Camden	LB Camden/ Developer contributions	Client/ Planning authority	£1,100,00[1]	-	Y	Y	Y	
Kentish Town	**Rail**	First Capital Connect (formerly Thameslink)	1	To provide additional capacity		✓	✓	2011 to 2015 (S)	Network Rail	Network Rail	Facilitator	£5.5b	-	Y	Y	Y	Under Construction Track and Station upgrades to 12 car operation and 24 trains per hour on the central section

Location	Infrastructure Area	Infrastructure Schemes and Actions	Infrastructure Importance (1-2)	Rationale for Inclusion / Risk if not Included	Drivers			Phasing	Responsibility and Funding			Costs		Current Delivery Arrangements			Notes
Where should the infrastructure item be delivered?					Policy	Existing gap/ replacement/ upgrade	Forecast demand for development	When should the infrastructure items be delivered by?	Responsible Delivery Agency	Responsible Funding Agency	Role and responsibility of LBC as the LPA	Identified by providers incl. Status	Identified by URS / HUDU model	Is the need noted by the provider?	Is the need planned for?	Is funding in place?	
	Rail and Underground Stations	Improvements to public realm at stations	1	To facilitate pedestrian movement and connectivity		✓	✓	2016-2021 (M)	TfL/Network Rail/LB Camden	TfL/ Network Rail/ LB Camden/ Developer contributions	Facilitator	Not identified	-	Y	N	N	
	Town Centre Projects	Kentish Town Centre Project	1	To improve accessibility		✓	✓	2010 (S)	LB Camden	LB Camden/ Developer contributions	Client/ Planning authority	£907,000[1]	-	Y	Y	Y	
	Road Network	Road link improvements	1	To improve traffic flows		✓	✓	2015-2026 (M-L)	LB Camden/TfL	LB Camden/ TfL/ Developer contributions	Planning authority/ Facilitator	Unknown	-	Y	N	N	
Warren Street	**Rail and Underground Stations**	Station Congestion Schemes	1	To alleviate station congestion		✓	✓	2016-2026 (M-L)	TfL	TfL	Facilitator	Not identified	-	Y	N	N	Subject to scheme design and funding. No additional details on station specific intervention are publicly available.
	Rail and Underground Stations	Station Interchange Schemes	1	To improve interchange and accessibility		✓	✓	2016-2026 (M-L)	TfL	TfL	Facilitator	Not identified	-	Y	N	N	Subject to scheme design and funding
Hampstead Heath	**Rail and Underground Stations**	Station Congestion Schemes	1	To alleviate station congestion		✓	✓	2016-2026 (M-L)	TfL	TfL	Facilitator	Not identified	-	Y	N	N	Subject to scheme design and funding. No additional details on station specific intervention are publicly available.
	Rail and Underground Stations	Station Interchange Schemes	1	To improve interchange and accessibility		✓	✓	2016-2026 (M-L)	TfL	TfL	Facilitator	Not identified	-	Y	N	N	Subject to scheme design and funding
Gospel Oak	**Rail and Underground Stations**	Station Interchange Schemes	1	To improve interchange and accessibility		✓	✓	2016-2026 (M-L)	TfL	TfL	Facilitator	Not identified	-	Y	N	N	Subject to scheme design and funding

Location	Infrastructure Area	Infrastructure Schemes and Actions	Infrastructure Importance (1-2)	Rationale for Inclusion / Risk if not Included	Drivers			Phasing	Responsibility and Funding			Costs		Current Delivery Arrangements			Notes
Where should the infrastructure item be delivered?					Policy	Existing gap/ replacement/ upgrade	Forecast demand for development	When should the infrastructure items be delivered by?	Responsible Delivery Agency	Responsible Funding Agency	Role and responsibility of LBC as the LPA	Identified by providers incl. Status	Identified by URS / HUDU model	Is the need noted by the provider?	Is the need planned for?	Is funding in place?	
	Rail and Underground Stations	Improvements to public realm at stations	1	To facilitate pedestrian movement and connectivity		✓	✓	2016-2026 (M-L)	TfL/Network Rail/LB Camden	TfL/ Network Rail/ LB Camden/ Developer contributions	Facilitator	Not identified	-	Y	N	N	
Swiss Cottage	**Rail and Underground Stations**	Improvements to public realm at stations	1	To facilitate pedestrian movement and connectivity		✓	✓	2016-2026 (M-L)	TfL/Network Rail/LB Camden	TfL/ Network Rail/LB Camden/ Developer contributions	Facilitator	Not identified	-	Y	N	N	
	Walking	Reduce Severance effect of Roads	2	To improve accessibility and connectivity		✓	✓	2015-2026 (M-L)	LB Camden	LB Camden/ Developer contributions	Planning authority/ Facilitator	Unknown	-	Y	N	N	
Finchley Road	**Rail and Underground Stations**	Improvements to public realm at stations	1	To facilitate pedestrian movement and connectivity		✓	✓	2016-2026 (M-L)	TfL/Network Rail/LB Camden	TfL/ Network Rail/LB Camden/ Developer contributions	Facilitator	Not identified	-	Y	N	N	
	Road Network	Road link improvements	1	To improve traffic flows		✓	✓	2015-2026 (M-L)	LB Camden/TfL	LB Camden/ TfL/ Developer contributions	Planning authority/ Facilitator	Unknown	-	Y	N	N	
	Walking	Pedestrian environment improvements	2	To improve accessibility, connectivity, capacity and safety		✓	✓	2015-2026 (M-L)	LB Camden	LB Camden/ Developer contributions	Planning authority/ Facilitator	Unknown	-	Y	N	N	
Kilburn High Road	**Rail and Underground Stations**	Improvements to public realm at stations	1	To facilitate pedestrian movement and connectivity		✓	✓	2016-2026 (M-L)	TfL/Network Rail/LB Camden	TfL/ Network Rail/ LB Camden/ Developer contributions	Facilitator	Not identified	-	Y	N	N	
	Road Network	Road link improvements	1	To improve traffic flows		✓	✓	2015-2026 (M-L)	LB Camden/TfL	LB Camden/ TfL/ Developer contributions	Planning authority/ Facilitator	Unknown	-	Y	N	N	

Location	Infrastructure Area	Infrastructure Schemes and Actions	Infrastructure Importance (1-2)	Rationale for Inclusion / Risk if not Included	Drivers			Phasing	Responsibility and Funding			Costs		Current Delivery Arrangements			Notes
Where should the infrastructure item be delivered?					Policy	Existing gap/ replacement/ upgrade	Forecast demand for development	When should the infrastructure items be delivered by?	Responsible Delivery Agency	Responsible Funding Agency	Role and responsibility of LBC as the LPA	Identified by providers incl. Status	Identified by URS / HUDU model	Is the need noted by the provider?	Is the need planned for?	Is funding in place?	
	Town Centre Projects	Kilburn High Road Town Centre Project	1	To improve accessibility		✓	✓	2015-2020 (M)	LB Camden	LB Camden/ Developer contributions	Client/ Planning authority	Not identified	-	N	N	N	
St Giles	**West End Improvements**	St Giles Circus	1	To improve accessibility		✓	✓	2010-2026 (S-L)	TfL	LB Camden/ TfL/ Developer contributions	Facilitator	Not identified	-	Y	N	N	
	Public Realm	St Giles Public Realm Improvements	2	To improve accessibility		✓	✓	2010 (S)	LB Camden	Developer contributions	Planning authority	Unknown	-	Y	Y	Y	
Princes Circus	**West End Improvements**	Princes Circus	1	To improve accessibility		✓	✓	2010-2026 (S-L)	TfL	LB Camden/ TfL/ Developer contributions	Facilitator	Not identified	-	Y	N	N	
Shaftesbury Avenue	**Road Network**	Junction Improvements	1	To improve traffic flows		✓	✓	2015-2026 (M-L)	LB Camden/TfL	LB Camden/ TfL/ Developer contributions	Planning authority/ Facilitator	Unknown	-	Y	N	N	
South Sub-area	**Underground**	Victoria line	1	To provide additional capacity. Services are currently operating at, close or above full capacity particularly during peak hours.		✓	✓	2012 (S)	TfL	TfL	Facilitator	Costs of specific line upgrades yet to be determined but overall programme is currently estimated to be £30b	-	Y	Y	Y	Committed Higher frequency and larger trains (19% increase in capacity)
	Underground	Piccadilly line	1	To provide additional capacity. Services are currently operating at, close or above full capacity particularly during peak hours.		✓	✓	2014 (S)	TfL	TfL	Facilitator	Costs of specific line upgrades yet to be determined but overall programme is currently estimated to be £30b	-	Y	Y	Y	Committed New signalling system and trains (25% increase in capacity)

Location	Infrastructure Area	Infrastructure Schemes and Actions	Infrastructure Importance (1-2)	Rationale for Inclusion / Risk if not Included	Drivers			Phasing	Responsibility and Funding			Costs		Current Delivery Arrangements			Notes
Where should the infrastructure item be delivered?					Policy	Existing gap/ replacement/ upgrade	Forecast demand for development	When should the infrastructure items be delivered by?	Responsible Delivery Agency	Responsible Funding Agency	Role and responsibility of LBC as the LPA	Identified by providers incl. Status	Identified by URS / HUDU model	Is the need noted by the provider?	Is the need planned for?	Is funding in place?	
	Underground	Metropolitan line	1	To provide additional capacity. Services are currently operating at, close or above full capacity particularly during peak hours.		✓	✓	2016 (M)	TfL	TfL	Facilitator	Costs of specific line upgrades yet to be determined but overall programme is currently estimated to be £30b	-	Y	Y	Y	Committed New train stock and higher frequency services (49% increase in capacity)
	Underground	Circle and Hammersmith and City lines	1	To provide additional capacity. Services are currently operating at, close or above full capacity particularly during peak hours.		✓	✓	2016 (M)	TfL	TfL	Facilitator	Costs of specific line upgrades yet to be determined but overall programme is currently estimated to be £30b	-	Y	Y	Y	Committed New train stock, longer trains and higher frequency with merged T-cup service (49% increase in capacity)
	Public Realm	Legible London	2	To improve accessibility		✓	✓	2010-2016 (S-M)	TfL	TfL/ Developer contributions	Facilitator	Unknown	-	Y	N	N	
North West Sub-area	**Underground**	Jubilee line	1	To provide additional capacity. Services are currently operating at, close or above full capacity particularly during peak hours.		✓	✓	2009 (S)	TfL	TfL	Facilitator	Costs of specific line upgrades yet to be determined but overall programme is currently estimated to be £30b	-	Y	Y	Y	Under construction New signalling system to allow 30 trains per hour in peak (25% increase in capacity)

Location	Infrastructure Area	Infrastructure Schemes and Actions	Infrastructure Importance (1-2)	Rationale for Inclusion / Risk if not Included	Drivers			Phasing	Responsibility and Funding			Costs		Current Delivery Arrangements			Notes
Where should the infrastructure item be delivered?					Policy	Existing gap/ replacement/ upgrade	Forecast demand for development	When should the infrastructure items be delivered by?	Responsible Delivery Agency	Responsible Funding Agency	Role and responsibility of LBC as the LPA	Identified by providers incl. Status	Identified by URS / HUDU model	Is the need noted by the provider?	Is the need planned for?	Is funding in place?	
	Underground	Metropolitan line	1	To provide additional capacity. Services are currently operating at, close or above full capacity particularly during peak hours.		✓	✓	2016 (M)	TfL	TfL	Facilitator	Costs of specific line upgrades yet to be determined but overall programme is currently estimated to be £30b	-	Y	Y	Y	Committed New train stock and higher frequency services (49% increase in capacity)
Borough Wide	**Rail**[31]	Crossrail	1	To alleviate pressure on the underground system and provide a faster east to west rail link connecting Heathrow in the west with the Thames Gateway in the east		✓	✓	Delivery by 2017 (M)	TfL/Network Rail	TfL/ Network Rail/ Businesses/ Developers	Facilitator	£17b	-	Y	Y	Y	Committed Scheme Crossrail Levy Capacity of 15,000 passengers per hour provided in the peaks
		Crossrail 2	2	To provide additional capacity		✓	✓	Delivery 2026+ (L)	Network Rail/TfL	Network Rail/ TfL/ Businesses/ Developer contributions	Facilitator	Undetermined	-	Y	N	N	Line safeguarded/subject to powers and funding.
		First Capital Connect (formerly Thameslink)	1	To provide additional capacity		✓	✓	Delivery 2011 to 2015 (S)	Network Rail	Network Rail	Facilitator	£5.5b	-	Y	Y	Y	Under Construction Track and Station upgrades to 12 car operation and 24 trains per hour on the central section

[31] Crossrail, Crossrail 2 and First Capital Connect are also noted earlier in this table in each of the stations that the schemes affect, so as to highlight the benefit that the scheme will contribute to each location.

Location	Infrastructure Area	Infrastructure Schemes and Actions	Infrastructure Importance (1-2)	Rationale for Inclusion / Risk if not Included	Drivers			Phasing	Responsibility and Funding			Costs		Current Delivery Arrangements			Notes
Where should the infrastructure item be delivered?					Policy	Existing gap/ replacement/ upgrade	Forecast demand for development	When should the infrastructure items be delivered by?	Responsible Delivery Agency	Responsible Funding Agency	Role and responsibility of LBC as the LPA	Identified by providers incl. Status	Identified by URS / HUDU model	Is the need noted by the provider?	Is the need planned for?	Is funding in place?	
	Underground	Northern line	1	To provide additional capacity. Services are currently operating at, close or above full capacity particularly during peak hours.		✓	✓	2012 (S) for Phase 1 signalling and 2020 (M) for Phase 2 separation of Bank and Charing Cross lines	TfL	TfL	Facilitator	Costs of specific line upgrades yet to be determined but overall programme is currently estimated to be £30b	-	Y	Y	Y	Committed Phase 1 signalling to improve speeds and frequency (20% additional capacity) Phase 2 separation of Bank and Charing Cross lines at Kennington
	Rail and Underground Stations	Step Free Access at LUL Stations	1	To improve accessibility		✓	✓	2015-2026 (M-L)	TfL	TfL	Facilitator	Not identified	-	Y	N	N	
	Rail and Underground Stations	Step Free Access at Rail Station	1	To improve accessibility		✓	✓	2015-2026 (M-L)	TfL	TfL	Facilitator	Not identified	-	Y	N	N	
	Bus	Bus service enhancement	1	To provide additional capacity and links		✓	✓	2010 – 2026 (S-L)	TfL	TfL/ Developer contributions	Facilitator	Not identified	-	Y	N	Y – King's Cross N – rest of Borough	
	Bus	Strategic review of bus services (to compensate for Cross River Tram Scheme not being progressed further)	1	To provide additional capacity		✓	✓	2011-2026 (S-L)	TfL	TfL/ Developer contributions	Facilitator	Yes	-	Y	N	N	
	Bus	Bus Priority	2	To improve bus journey times		✓	✓	2010-2026 (S-L)	TfL	TfL	Planning approval	Not identified	-	Y	N	N	
	Bus	Bus Stop Accessibility	2	To improve accessibility		✓	✓	2010-2026 (S-L)	TfL	TfL	Planning approval	£144,000	-	Y	Y	Y – to 2009 N – 2009-2026	

Location	Infrastructure Area	Infrastructure Schemes and Actions	Infrastructure Importance (1-2)	Rationale for Inclusion / Risk if not Included	Drivers			Phasing	Responsibility and Funding			Costs		Current Delivery Arrangements			Notes
Where should the infrastructure item be delivered?					Policy	Existing gap/ replacement/ upgrade	Forecast demand for development	When should the infrastructure items be delivered by?	Responsible Delivery Agency	Responsible Funding Agency	Role and responsibility of LBC as the LPA	Identified by providers incl. Status	Identified by URS / HUDU model	Is the need noted by the provider?	Is the need planned for?	Is funding in place?	
	Cycling	Cycling LCN+	2	To improve cycle facilities		✓	✓	2010-2026 (S-L)	TfL/LB Camden	TfL/ LB Camden/ Developer contributions	Planning approval	£1,789,000	-	Y	Y	Y – to 2009 N – thereafter	
	Cycling	Cycling Non LCN+	2	To improve cycle facilities		✓	✓	2010-2026 (S-L)	TfL/LB Camden	TfL/LB Camden/ Developer contributions	Planning authority/ Facilitator	£341,000	-	Y	Y	Y – to 2009 N – thereafter	
	Cycling	Connections between LCN+ and non LCN+	2	To improve connectivity of cycle networks		✓	✓	2010-2026 (S-L)	LB Camden	LB Camden/ Developer contributions	Planning authority/ Facilitator	Unknown	-	Y	N	N	
	Cycling	Cycle Parking	1	To increase provision of cycle parking		✓	✓	2010-2026 (S-L)	LB Camden	LB Camden/ Developer contributions	Planning authority/ Facilitator	Unknown	-	Y	N	N	
	Road Network	Improvements to taxi facilities	2	To improve accessibility		✓	✓	2015-2026 (M-L)	TfL/LB Camden	LB Camden/ TfL/ Developer contributions	Planning authority	Unknown	-	Y	N	N	
	Road Network	Improvements to coach facilities	2	To improve accessibility		✓	✓	2015-2026 (M-L)	TfL/LB Camden	LB Camden/ TfL/ Developer contributions	Planning authority	Unknown	-	Y	N	N	
	Road Network	Car Club Schemes	2	To reduce the need for car ownership		✓	✓	2010-2026 (S-L)	TfL/LB Camden	LB Camden/ TfL/ Developer contributions	Planning authority	Unknown	-	Y	N	N	
	Road Network	Electric Car Charging Points	2	Sustainable transport		✓	✓	2010-2026 (S-L)	TfL/LB Camden	LB Camden/ TfL/ Developer contributions	Planning authority	Unknown	-	Y	N	N	
	Road Network	Principal Road Renewal	1	To improve road conditions		✓	✓	2010-2026 (S-L)	TfL/LB Camden	LB Camden/ TfL	Client	£1,302,000	-	Y	Y	Y – to 2009 N - thereafter	

Location	Infrastructure Area	Infrastructure Schemes and Actions	Infrastructure Importance (1-2)	Rationale for Inclusion / Risk if not Included	Drivers			Phasing	Responsibility and Funding			Costs		Current Delivery Arrangements			Notes
Where should the infrastructure item be delivered?					Policy	Existing gap/ replacement/ upgrade	Forecast demand for development	When should the infrastructure items be delivered by?	Responsible Delivery Agency	Responsible Funding Agency	Role and responsibility of LBC as the LPA	Identified by providers incl. Status	Identified by URS / HUDU model	Is the need noted by the provider?	Is the need planned for?	Is funding in place?	
	Road Network	Local Road Safety Schemes	1	To improve safety		✓	✓	2010-2026 (S-L)	LB Camden	LB Camden/ TfL	Client	£785,000	-	Y	Y	Y – to 2009 N - thereafter	
	Air Quality	Air quality monitors and improvements	2	To improve the quality of air		✓	✓	2010-2026 (S-L)	LB Camden	LB Camden/ TfL/ Developer contributions	Facilitator	Not identified	-	Y	Y	N	
	Travel Demand	Travel Demand Management	2	To reduce the need to travel by private vehicles		✓	✓	2010-2026 (S-L)	LB Camden	LB Camden/ Developer contributions	Client/ Planning authority	£1,187,000	-	Y	Y	Y – to 2009- N - thereafter	

Table D-3: Utilities and Physical Infrastructure Requirements

Key

	Already identified by responsible agency/ provider
	Requirement identified via this study

Infrastructure Area	*Infrastructure Schemes and Actions*	*Infrastructure Importance (1-2)*	*Rationale for Inclusion / Risk if not Included*	*Drivers*			*Phasing*	*Location*	*Responsibility and Funding*			*Costs*		*Current Delivery Arrangements*			*Notes*
				Policy	Existing gap/ replacement/ upgrade	Forecast demand for development	When should the infrastructure items be delivered by?	Where should the infrastructure item be delivered?	Responsible Delivery Agency	Responsible Funding Agency	Role and responsibility of LBC as the LPA	Identified by providers incl. status	Identified by URS / HUDU model	Is the need noted by the provider?	Is the need planned for?	Is funding in place?	
Water	Provision of additional 9,931,350 l/day and related local and strategic infrastructure.	1	Thames Water have identified a likely future deficit in supply of water in the London water resource zone to 2034, and strategic plans to address this are being formulated. However no clear, immediate plan for the Camden area evident.		✓	✓	M – L	Borough wide and outside the borough boundaries	Regulator / Utility provider	Utility provider	Lobbying, / stakeholder consultation / assist with planning	Not available	Not available	Y	Not known	Not known	TW already planned for a new desalination plant at Beckton and new reservoir in Oxfordshire. Based on the limited information available, additional required infrastructure is expected to include upgraded or renovated pumping stations and mains.
Electricity, Gas, Telecoms	LBC to lobby utility providers and regulatory bodies to devise a strategic longer term planning approach to provision of required utilities.	1	Existing strategies of utilities companies are for short-term reactive works only. These works will not ensure the new demand for utilities stemming from additional growth is met.			✓	S – M – L	Borough wide	Regulator / Utility provider	Utility provider	Lobbying, / stakeholder consultation / assist with planning	Not available	Not available	N	Not known	Not known	
Electricity	Provision of additional 77,152 KVA to 2026 and related local and strategic	1	Fundamental to the delivery of commercial and residential growth.			✓	S – M – L	Borough wide	Regulator / Utility provider	Utility provider	Lobbying, / stakeholder consultation / assist with	Not available	Not available	Not known	Not known	Not known	Based on the limited information available, additional required infrastructure is expected to include new primary and secondary substations.

Infrastructure Area	*Infrastructure Schemes and Actions*	*Infrastructure Importance (1-2)*	*Rationale for Inclusion / Risk if not Included*	*Drivers*			*Phasing*	*Location*	*Responsibility and Funding*			*Costs*		*Current Delivery Arrangements*			*Notes*
				Policy	Existing gap/ replacement/ upgrade	Forecast demand for development	When should the infrastructure items be delivered by?	Where should the infrastructure item be delivered?	Responsible Delivery Agency	Responsible Funding Agency	Role and responsibility of LBC as the LPA	Identified by providers incl. status	Identified by URS / HUDU model	Is the need noted by the provider?	Is the need planned for?	Is funding in place?	
	infrastructure.										planning						
Gas	Provision of additional 14,273 m3/hr and related local infrastructure.	2	Fundamental to the delivery of commercial and residential growth.			✓	S – M – L	Borough wide	Regulator / Utility provider	Utility provider	Lobbying, / stakeholder consultation / assist with planning	Not available	Not available	Y	Y	Not known	Based on the limited information available, additional required infrastructure is expected to be limited to extension in mains to the development and potential on-site works.
Sustainable Energy – Working Measures	Establishing programme to utilise organic and non-recyclable waste streams	2	Low carbon fuel and energy supply / Non delivery of sustainable energy infrastructure		✓		M	Borough wide with cross-boundary programme recommended	LPA / LDA	LDA / MUSCo	Land provision from currently owned stock	N/A	N/A	N	N	Not known	
	Identify scope for a biomass supply chain	2	Low carbon fuel and energy supply / Non delivery of sustainable energy infrastructure		✓		M	Borough wide with cross-boundary programme recommended	LPA / LDA	LDA / ESCo	–	N/A	N/A	N	N	Not known	
	Establishment of new partnership management arrangements between waste operators and energy suppliers	2	Low carbon fuel and energy supply / Non delivery of sustainable energy infrastructure		✓		M	Borough wide with cross-boundary programme recommended	LPA / LDA	LDA / MUSCo	Discuss and liaise with other LPA's falling within the NLWP to progress the development of a local low carbon fuel and energy supply	N/A	N/A	N	N	Not known	

Infrastructure Area	*Infrastructure Schemes and Actions*	*Infrastructure Importance (1-2)*	*Rationale for Inclusion / Risk if not Included*	*Drivers*			*Phasing*	*Location*	*Responsibility and Funding*			*Costs*		*Current Delivery Arrangements*			*Notes*
				Policy	Existing gap/ replacement/ upgrade	Forecast demand for development	When should the infrastructure items be delivered by?	Where should the infrastructure item be delivered?	Responsible Delivery Agency	Responsible Funding Agency	Role and responsibility of LBC as the LPA	Identified by providers incl. status	Identified by URS / HUDU model	Is the need noted by the provider?	Is the need planned for?	Is funding in place?	
	Development of sustainability policies demonstrating expectations for developers to utilise low carbon fuel sources and to connect to sustainable utilities, where feasible	1	Ensure financial viability of delivering sustainable energy infrastructure / Non delivery of sustainable energy infrastructure	✓	✓	✓	S	Borough wide	LPA	N/A	Implementation of policy	N/A	N/A	Y	Y	Not known	
Decentralised Energy Infrastructure	King's Cross Growth Area	2	Opportunity to implement decentralised energy infrastructure due to baseline and projected energy demand profile / Loss of opportunity to meet baseline and projected energy demand	✓	✓	✓	M	King's Cross GA with potential connection to Euston GA	LPA / LDA / PPP / PFI	LDA / ESCo (PFI or PPP)	Land provision from currently owned stock / Expectation on developers to connect	N/A	N/A	Y	Y	Not known	This is potentially partly addressed by s106 arrangements as part of the King's Cross Central development.
	Euston Road Growth Area	2		✓	✓	✓	L	Euston GA with support from the King's Cross GA						Y	Y	Not known	This would build on existing LDA work on the feasibility for an area-wide CHP/district heating network for the Euston Road area. Also, CHP schemes already supply to UCL campuses in the area, Bloomsbury Heat ant Power and Gower Street Heat and Power, and there are a large number of communal heating schemes serving local authority housing estates to the north of Euston Road. Finally, the North East Quadrant development at Regents Place has had approval for CHP to provide energy to the site and to investigate the possibility of exporting heat to the rest of that estate and several Council housing buildings if feasible.

Infrastructure Area	Infrastructure Schemes and Actions	Infrastructure Importance (1-2)	Rationale for Inclusion / Risk if not Included	Drivers			Phasing	Location	Responsibility and Funding			Costs		Current Delivery Arrangements			Notes
				Policy	Existing gap/ replacement/ upgrade	Forecast demand for development	When should the infrastructure items be delivered by?	Where should the infrastructure item be delivered?	Responsible Delivery Agency	Responsible Funding Agency	Role and responsibility of LBC as the LPA	Identified by providers incl. status	Identified by URS / HUDU model	Is the need noted by the provider?	Is the need planned for?	Is funding in place?	
	Tottenham Court Road	2		✓	✓	✓	S	TCRd GA with potential connection to Euston GA						Y	Y	Not known	
	Holborn Growth Area	2		✓	✓	✓	S	Holborn GA						Y	Y	Not known	
	West Hampstead Interchange	2		✓	✓	✓	M-L	West Hampstead Interchange GA						Y	Y	Not known	It is also understood that the Council will encourage the delivery of a smaller network in the north of the borough, at Gospel Oak associated with estate regeneration or at Camden Town associated with a development at Hawley Wharf.
Sewerage - Sewers	New and renovated sewers	1	The sewerage system is currently operating at full capacity. The system will not be able to cope with additional forecast development. Investment is also required to reduce sewer flooding. This includes a requirement for increased cycles of cleaning and prompt repairs where blockages are known.		✓	✓	S – M - L	Improvements should be borough wide. Problem hotspots the north west sub-area	Thames Water (in association with the Regulator)	Thames Water	Lobbying, assist with planning, in-kind resources where possible, technical expertise. Collect planning gain contributions to fund improvements.	(To 2020) Costs identified are across the Thames Water Region at £4,376m	(To 2020) £74m	Y	Not known	Not known	Whilst Thames Water's five and 25 years plans show that a capital investment plan is in place to address the renovation or expansion of the sewers system in the whole of the Thames Water region, the extent to which specific plans related to Camden have been finalised and funding committed is not clear. This applies to both pumping stations and sewer mains. Thames Water undertook improvements to sewers in West Hampstead (Holmdale Road, Pandora Road, Solent Road and Sumatra Road) that was completed in 2008. The Thames Tideway Tunnel when developed will help alleviate sewer flooding in

Infrastructure Area	*Infrastructure Schemes and Actions*	*Infrastructure Importance (1-2)*	*Rationale for Inclusion / Risk if not Included*	*Drivers*			*Phasing*	*Location*	*Responsibility and Funding*			*Costs*		*Current Delivery Arrangements*			*Notes*
				Policy	Existing gap/ replacement/ upgrade	Forecast demand for development	When should the infrastructure items be delivered by?	Where should the infrastructure item be delivered?	Responsible Delivery Agency	Responsible Funding Agency	Role and responsibility of LBC as the LPA	Identified by providers incl. status	Identified by URS / HUDU model	Is the need noted by the provider?	Is the need planned for?	Is funding in place?	
																	the southern reach of the borough. The areas targeted include north of Euston Road, South Hampstead and Kentish Town, as well as parts of West Hampstead not already alleviated by the works completed in 2008.
Sewerage – Pumping Stations	New and refurbished pumping stations required	1	The sewerage system if currently operating at full capacity. The system will not be able to cope with additional forecast development.		✓	✓	S- M	Improvements should be borough wide.	Thames Water (in association with the Regulator)	Thames Water	Lobbying, assist with planning, in-kind resources where possible, technical expertise. Collect planning gain contributions to fund improvements.	(To 2020) Costs identified are across the Thames Water Region at £243m	(To 2020) £4m	Y	Not known	Not known	
Surface and Foul Water Drainage (Drainage maintenance and surface renewal / upgrades)	Maintenance of highway drainage, particularly reparation of damaged gullies. Replace impermeable surfaces with permeable systems to reduce the quantity of surface water runoff and hence mitigate flooding.	1	Help reduce the risk of surface water flooding		✓	✓	S – M - L	Through-out the borough	LPA	LPA	Funding and commissioning the work	£3,1m		Y	Not known	Partly	Cost is estimated on the basis that the current budget of £200,000 only allows for the reparation of 6.4% of the non-running gullies

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				Policy	Existing gap/ replacement/ upgrade	Forecast demand for development	When should the infrastructure items be delivered by?	Where should the infrastructure item be delivered?	Responsible Delivery Agency	Responsible Funding Agency	Role and responsibility of LBC as the LPA	Identified by providers incl. status	Identified by URS / HUDU model	Is the need noted by the provider?	Is the need planned for?	Is funding in place?	
Foul and Surface Water Drainage (Flood risk related SUDS measures)	Implementation of Sustainable Urban Drainage Systems (SUDS) and promotion of flood resistant architecture	2	Help alleviate sewer flowing	✓		✓	S – M - L	Improvements should be borough wide.	LPA	LPA (if it is the landowner) / Developer applicant	Implement through Development Control policies / Funding if it is the landowner	Not available	Not available	Y	Not known	Not known	
Waste	Use of additional waste management facilities and land	2	Need to accommodate future waste needs	✓	✓	✓	M-L	Ideally within Camden, but due to spatial constraints - outside the borough, either in north London or outside London	NLWA	LBC, via NLWA apportionment together with other north London boroughs & funding request for PFI credits together with other funding options to be explored by LBC	Supply of relevant technical information to NLWA and contributing to the preparation of the North London Waste Plan together with the other six North London boroughs.	Not available	Not available	Y	N	Not known	The North London Waste Plan Preferred Options Report will be published in October 2009 and will identify suitable additional sites for managing North London's additional waste.
	Inclusion of integrated waste management facilities within new developments	2	Need to accommodate future waste needs	✓	✓	✓	S-M-L	Within the London Borough of Camden	Private companies e.g. developer of a housing estate	Private company e.g. developer of a housing estate	LBC may require the inclusion of waste management facilities as part of planning conditions	Not available	Not available	Not known	Not known	Not known	The provider would be a private company e.g. a developer

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				Policy	Existing gap/ replacement/ upgrade	Forecast demand for development	When should the infrastructure items be delivered by?	Where should the infrastructure item be delivered?	Responsible Delivery Agency	Responsible Funding Agency	Role and responsibility of LBC as the LPA	Identified by providers incl. status	Identified by URS / HUDU model	Is the need noted by the provider?	Is the need planned for?	Is funding in place?	
Flood Risk	Sewer flooding investigation	1	To ensure full understanding of the strategic impact of new development on the sewer system and therefore on the risk of sewer flooding		✓	✓	S – M - L	Throughout the borough, particularly in the north west and south sub-areas.	LPA in association with Thames Water (and potentially the adjoining boroughs)	LPA	Commissioning the study to Thames Water		£50,000 (indicative only)	Not known	Not known	Not known	
	Preparation of a Surface Water Management plan	1	Help the Council consider all potential sources of flood risk and identify remedial measures	✓		✓	S – M - L	Throughout the borough	LPA	LPA	Preparation and funding	Not available	Not available	Not known	Not known	Not known	
	Preparation of emergency management plans and associated inundation mapping for the reservoirs at Hampstead Heath	2	Help understand the flood risk deriving from the reservoirs and identify mitigation/remedial measures	✓	✓	✓	S – M - L	North west and north east sub-areas	Corporation of London	Corporation of London	Fully liaising with London Corporation throughout the process of creating these plans.	Not available	Not available	Not known	Not known	Not known	The emerging *Flood and Water Management Bill*, once published, will provide details on whose responsibility it will be to prepare inundation maps for large and small reservoirs.
	Analysis of flood risk derived by Regents Canal to the surrounding areas	2	Help understand the flood risk deriving from the Canal and identify mitigation/remedial measures		✓	✓	S – M - L	Southern edge of north west and north east sub-areas, and northern edge of south sub-area	British Waterways in coordination with LPA	British Waterways	Assist British Waterways to undertake the study	Not available	Not available	Not known	Not known	Not known	

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Police	Delivery of new police control/IT room and public help desk	2	Address the safety and security needs of the King's Cross Central area.		✓	✓	S-M	King's Cross	Metropolitan Police	Developer	Securing s109 funding	Not available	Not available	Y	Y	Y	Provision of not less than 150 sqm NIA facility. The scheme is part of the King's Cross Central development.
	Delivery of police shop fronts	2	Deliver the police 'citizen focused' approach, by locating small front office type facilities in accessible locations, including shopping frontages and main community facilities as appropriate.		✓	✓	S-M-L	Borough wide	Metropolitan Police	Metropolitan Police / Developer	Develop enabling land use planning policy			Y	Not known	N	
	Modernisation and consolidation of estate and relocation of facilities if required	2	Enable the delivery of the MET estate strategy, whose objectives include achieving optimum service delivery by ensuring processes and functions sit more closely together.		✓	✓	M-L	Borough wide	Metropolitan Police	Metropolitan Police (capital receipts)	Assist the MET in implementing estate strategy	Not available	Not available	Y	Not known	N	Whilst the current economic climate may be an impediment to redevelopment in the short term, the strategy would still be pursued in the medium to long term. The modernisation and consolidation of the estate would include the delivery of: New Safer Neighbourhood Bases New Custody Centre/Patrol Base.