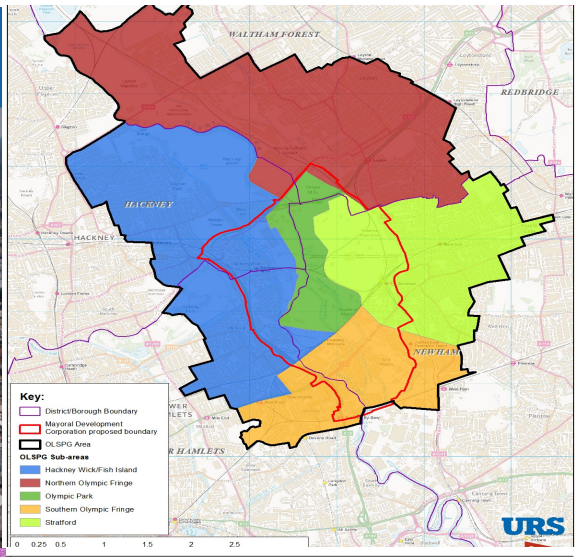
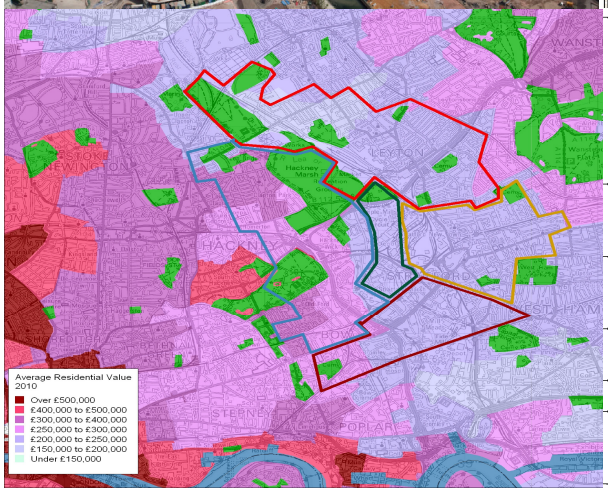
Olympics Legacy Supplementary Planning Guidance: Infrastructure Delivery Study

Final Report





Hypothetical estimate of average capital values (£/ sq m)

5 years		10 years		20 years	
Flats	Houses	Flats	Houses	Flats	Houses
4,810	5,590	5,180	6,020	5,550	6,450
4,680	4,810	5,040	5,180	5,400	5,550
5,590	5,590	6,020	6,020	6,450	6,450
4,680	4,420	5,040	4,760	5,400	5,100
4,810	5,590	5,180	6,020	5,550	6,450

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and

Savills Commercial Ltd

46407008 GLA OLSPG

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LIMITATION

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GLOSSARY

Acronym/Abbreviation	Definition
AoC	Areas of change
BSF	Building Schools for the Future
CIL	Community Infrastructure Levy
DCMS	Department of Culture, Media and Sport
DMAG	Data Management and Analysis Group
EIA	Environmental Impact Assessment
FoE	Forms of Entry
FTE	Full time equivalent
GLA	Greater London Authority
GLL	Greenwich Leisure Limited
GP	General Practitioner
HUDU	Healthy Urban Development Unit
IIA	Inner Impact Area (in relation to the LCS)
IDP	Infrastructure Delivery Plan
kVA	Kilo Volt Amperes
LA	Local Authority
LB	London Borough
LCS	Legacy Communities Scheme
LDF	Local Development Framework
LEA	Local Education Authority
LIFT	Local Improvement Finance Trust
LLV	Lower Lea Valley
LMF	Legacy Masterplan Framework
LPN	London Power Networks
LTGDC	London Thames Gateway Development Corporation
LVRPA	Lee Valley Regional Park Authority
MSW	Municipal Solid Waste

Acronym/Abbreviation	Definition
NHS	National Health Service
OAC	Olympic Aquatic Centre
OAPF	Opportunity Area Planning Framework
ODA	Olympic Development Authority
OLSPG	Olympic Legacy Supplementary Planning Guidance
OPLC	Olympic Park Legacy Company
PCP	Primary Capital Programme
PCT	Primary Care Trust
PDT	Planning Decisions Team
PDZ	Planning Development Zone
PPS	Planning Policy Statement
SHLAA	Strategic Housing Land Availability Assessment
SHA	Strategic Health Authority
SIA	Strategic Infrastructure Assessment
SM	State Maintained
SOP	School Organization Plan
SPD	Supplementary Planning Document
SUDS	Sustainable urban drainage systems
TfL	Transport for London
VA	Voluntary Aided
WRZ	Water Resource Zone
WTE	Whole Time Equivalent

1. INTRODUCTION

Context to the Study

1.1. URS Infrastructure & Environment UK Limited (URS) and Savills Commercial Limited (Savills) have been commissioned by the Greater London authority (GLA) to provide development and viability advice in relation to strategic infrastructure required to support the plans for growth in housing and commercial space in and around the Olympic Park. The outcomes from study will support the evidence based for the Olympic Legacy Supplementary Planning Guidance (OLSPG).

1.2. The OLSPG interprets and applies London Plan 2011 policy and sets out the Mayor's strategic priorities for the Olympic Park and its surrounding areas. The OLSPG sets out the long term vision over the next 20 years to transform the area to become a sustainable community to be 'one of the best places in London to live and work'.

1.3. The OLSPG area comprises five sub-areas:

- Hackney Wick and Fish Island
- Northern Olympic Fringe
- the Olympic Park
- Southern Olympic Fringe and
- Stratford,

1.4. These areas are shown in **Figure 1.1**.

1.5. Across the OLSPG area, a significant scale of residential and employment floorspace growth is anticipated. The indicative scale of growth, as set out in the Draft OLSPG Consultation Document (August 2011) is for approximately 29,000 dwellings and 1.4 million sq m of new and improved commercial floorspace.

1.6. Each sub-area proposes a different scale of growth and has a different socio-economic context and existing profile of infrastructure requirements, which is to be taken into account to support these development proposals. Our scope of work has therefore included a review of latest available strategic infrastructure assessments and consultation with borough officers to ensure that readily available information is taken in to account in drawing up a picture of existing provision and planned/committed provision and that this is factored into our assessment of need.

1.7. For the purposes of this study the definition of infrastructure covers: social infrastructure, covering education (nursery, primary and secondary), heath (primary care), sports and leisure (sports halls); open and play space; libraries and community space; transport (rail, road, bus and cycling); and utilities (electricity, gas, water, sewerage, waste management and flood defence).

Aims of the Study

1.8. The overarching aims are to:

- Develop a shared evidence base of infrastructure requirements for the OLSPG area, which can be used by delivery partners, including the Olympic Development Authority (ODA) Planning Decisions Team (PDT), London Thames Gateway Development Corporation (LTGDC), GLA, the Olympic boroughs and, once established, the Mayoral Development Corporation (MDC)
- Provide a high level viability assessment for the potential development of Section 106 (S106) and/or Community Infrastructure Levy/ies (CIL) to support the financial delivery of strategic infrastructure across the OLSPG area; and
- Carry out analysis of infrastructure requirements, delivery actions and viability assessments across the OLSPG area as a whole and the five OLSPG sub-areas which it comprises.

Approach

1.9. To meet these study aims a number of tasks have been undertaken:

- Review of relevant policy and strategy impacting on the OLSPG area
- Review of public sector funding in supporting the provision of strategic infrastructure
- Review of existing strategic infrastructure assessments relevant to the OLSPG area, and delivery and investment plans of key agencies and infrastructure providers
- Testing and validation of the GLA OLSPG modelling, which derive estimates of strategic infrastructure requirements
- Preparation of a high level viability assessment to determine how development proposals could finance and deliver the required strategic infrastructure over lifetime of the plan; and
- Analysis and commentary on the OLSPG's recommended actions and interventions.

1.10. This study draws heavily upon existing research on infrastructure requirements across the OLSPG area and through a workshop and follow up discussions with key stakeholders has verified and updated this information.

1.11. There has been a significant amount of relevant work already undertaken. Each of the four boroughs across which the OLSPG area falls – Hackney, Newham, Tower Hamlets and Waltham Forest - has previously produced strategic infrastructure assessment, though these assessments all pre-date the OLSPG development proposals. The latest available investment plans of utility providers have also been reviewed. This desk-based research provides a useful perspective on existing capacity and planned/committed investment. However, all published SIAs and utility investment plans pre-date the OLSPG development

plans.[1] A consultation workshop with borough officers and TfL and other key stakeholders was held and a mechanism set up to allow stakeholders to feedback views on infrastructure capacity and planned/committed provision.

1.12. The OLSPG identifies, at a high level, some of the infrastructure requirements for the area. The provision requirements to meet the population and employment growth of the OLSPG has been modelled by URS and validated.

1.13. This study draws upon a parallel study being undertaken URS for the ODA, which reviews strategic infrastructure needs and development viability for the Olympic Park sub-area of the OSLPG in particular. Key documents which inform that study include the Legacy Communities Scheme (LCS) Environmental Impact Statement, which identifies resultant strategic infrastructure requirements across 15 Planning Development Zones (PDZ) of the Olympic Park and the immediate geography of the surrounding sub-areas.

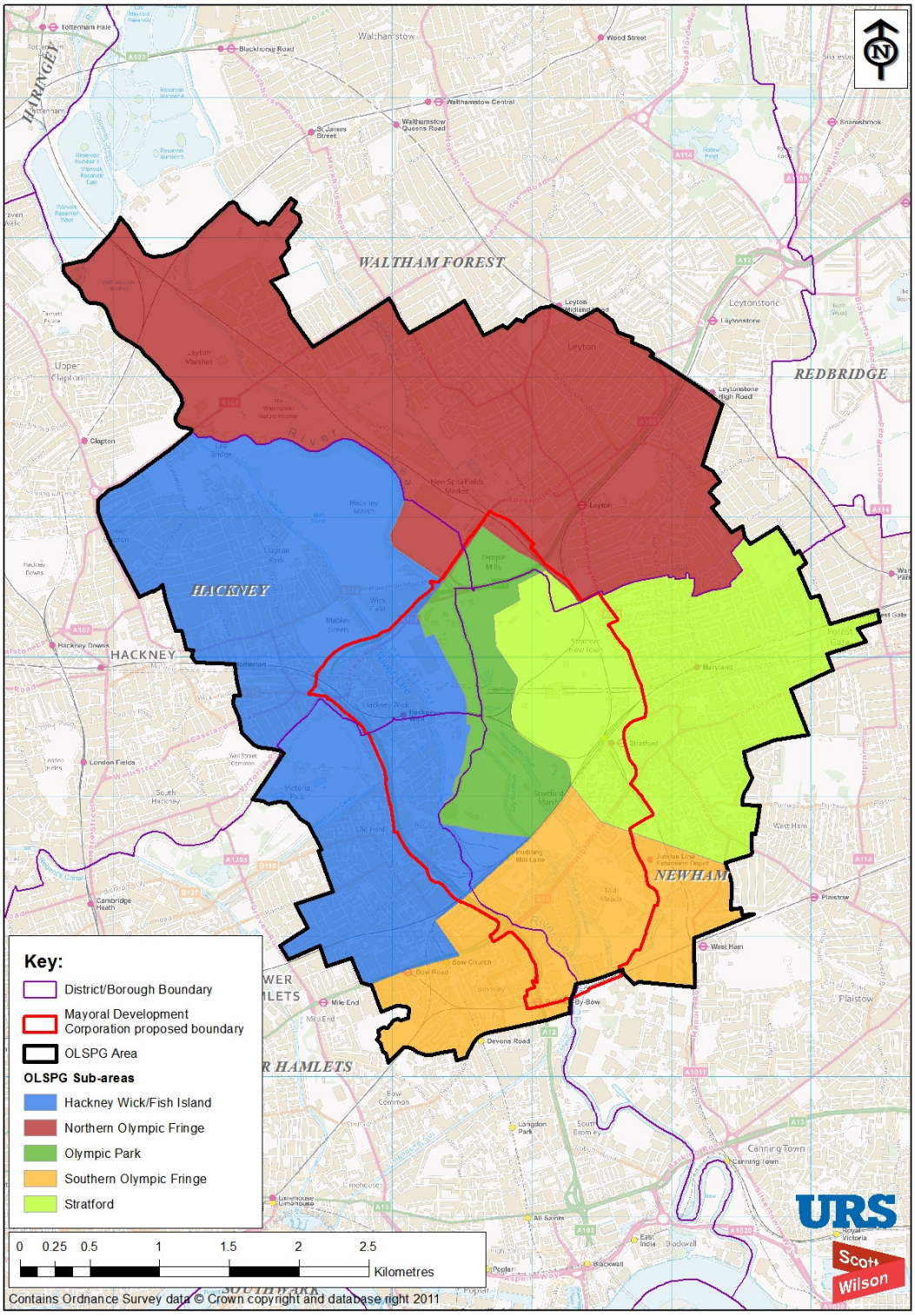
Report Structure

1.14. Following this introduction the report is structured as follows:

- Section 2 presents a summary of the planned scale of growth
- Section 3 assesses the social infrastructure required to support the resident population living within the OLSPG area and gives an estimate of net capital costs
- Section 4 assesses those transport interventions required to support the growth capacity estimates of the OLSPG and estimated capital costs
- Section 5 assesses the requirement for electricity, gas, water, sewerage, waste management and flood risk provision across the OLSPG area, and the estimated associated costs where known
- Section 6 sets out a high level viability assessment of the potential for the anticipated development to cover the anticipated gap in funding via planning obligations contributions (either S106 and/or Community Infrastructure Levies); and
- Section 7 provides a summary of requirements via an infrastructure schedule.

[1] At the time of writing LB Tower Hamlets was updating their SIA and has been able to provide more up to date information.

Figure 1.1 Geography of the OLSPG Area and the Five Sub-Areas



Source: URS

2. SCALE OF ANTICIPATED GROWTH

Introduction

2.1. This section summarises the OLSPG development proposals in terms of residential dwellings and commercial floorspace, and provides estimates of the likely population and employment arising.

Accommodation Schedules

2.2. The OLSPG draft consultation sets an estimate of 29,000 dwellings to be delivered across the OLSPG area. The projection has been derived by estimating the number of dwellings which could be delivered at a number of strategic development locations across the OLSPG area:

- Areas of change (AoC) are sites within the OLSPG area which have been identified from discussions with boroughs, the London Thames Gateway Development Corporation (LTGDC) and the Olympic Delivery Authority (ODA); and
- At sites identified in emerging and published development plan documents, Strategic Housing Land Availability Assessments (SHLAAs) and masterplans.

2.3. Dwelling numbers are estimated by applying density and size ratios (i.e. number of bedrooms per dwelling). It is assumed that the proportion of dwellings by sub-area is: 60% market (private owner occupied), 24% intermediate and 16% social rented. The application of these densities, size and tenure ratios results in a projected capacity of the OLSPG as set out in **Table 2.1**, and **Table 2.2**, which underpin the estimates of resident population and social infrastructure provision requirements.

Table 2.1 Projected Capacity of Dwellings by Tenure

	OLSPG Area	*OLSPG Sub-Areas*					
		Hackney Wick/ Fish Island	*Northern Olympic Fringe*	*Olympic Park*	*Southern Olympic Fringe*	*Stratford*	*Total %*
Market	17,496	3,515	1,930	1,847	5,763	4,441	60
Intermediate	4,665	937	515	493	1,537	1,184	16
Social Rent	6,998	1,406	772	739	2,305	1,777	24
Total	29,159	5,858	3,217	3,078	9,604	7,402	100
Proportion	-	20.1%	11.0%	10.6%	32.9%	25.4%	-

Source: GLA OLSPG Model

Table 2.2 Projected Capacity of Dwellings by Size

		OLSPG Sub-Areas					
	OLSPG Area	*Hackney Wick/ Fish Island*	*Northern Olympic Fringe*	*Olympic Park*	*Southern Olympic Fringe*	*Stratford*	*Total %*
1 Bed	9,202	1,707	900	1,256	2,988	2,352	32%
2 Bed	9,694	1,970	918	1,091	3,261	2,453	33%
3 Bed	6,817	1,444	793	638	2,200	1,742	23%
4+ Bed	3,447	737	606	93	1,156	855	12%
Total	29,159	5,858	3,217	3,078	9,604	7,402	100%

Source: GLA OLSPG Model

2.4. Population and child yields differ by type of dwelling, not only in terms of size of unit (by bedroom number) but also by whether a dwelling is a flat or house; flats having lower population yields. An indicative breakdown of dwelling type by flat or house across the OLSPG can be provided by the LCS Environmental Statement: Chapter 15 Socio-Economic Assessment (Table 15.6.9 page 71), which details the proposed LCS unit mix by tenure and typology. Using this information Table 2.3 presents the potential breakdown of dwellings in the OLSPG by tenure and type.

Table 2.3 Potential Breakdown of Dwellings by Type and Tenure

Tenure	*Type*	*1 Bed*	*2 Bed*	*3 Bed*	*4+ Bed*	*Total*
Market	***Flat***	100.0%	100.0%	83.9%	22.3%	100.0%
	House	0.0%	0.0%	16.1%	77.7%	0.0%
Intermediate	***Flat***	100.0%	100.0%	28.9%	100.0%	100.0%
	House	0.0%	0.0%	71.1%	0.0%	0.0%
Social Rent	***Flat***	100.0%	100.0%	87.9%	63.3%	100.0%
	House	0.0%	0.0%	12.1%	36.7%	0.0%

Source: GLA OLSPG Model

2.5. Applying the proportions in Table 2.3 to Table 2.2 provides the potential number of dwellings as set out in. the next table.

Table 2.4 Potential Number of Dwellings by Size and Type

Sub-Area/ Tenure	*Type*	*1 Bed*	*2 Bed*	*3 Bed*	*4+ Bed*	*Total*
OLSPG		9,202	9,694	6,817	3,447	29,159
Market	***Flat***	5,521	5,817	3,430	462	15,229
	House	1,472	1,551	315	551	3,890
Intermediate	***Flat***	2,208	2,327	1,438	524	6,497
	House	-	-	660	1,606	2,267
Social Rented	***Flat***	-	-	776	-	776
	House	-	-	198	304	501
Hackney Wick Fish Island		1,707	1,970	1,444	737	5,858
Market	***Flat***	1,024	1,182	727	99	3,031
	House	273	315	67	118	773
Intermediate	***Flat***	410	473	305	112	1,299
	House	-	-	140	343	483
Social Rented	***Flat***	-	-	164	-	164
	House	-	-	42	65	107
Northern Olympic Fringe		900	918	793	606	3,217
Market	***Flat***	540	551	399	81	1,571
	House	144	147	37	97	424
Intermediate	***Flat***	216	220	167	92	696
	House	-	-	77	282	359
Social Rented	***Flat***	-	-	90	-	90
	House	-	-	23	53	76
Olympic Park		1,256	1,091	638	93	3,078
Market	***Flat***	753	655	321	13	1,742
	House	201	175	29	15	420
Intermediate	***Flat***	301	262	135	14	712
	House	-	-	62	44	105
Social Rented	***Flat***	-	-	73	-	73
	House	-	-	18	8	27
Southern Olympic Fringe		2,988	3,261	2,200	1,156	9,604
Market	***Flat***	1,793	1,957	1,107	155	5,011
	House	478	522	102	185	1,286
Intermediate	***Flat***	717	783	464	176	2,139
	House	-	-	213	539	752
Social Rented	***Flat***	-	-	250	-	250
	House	-	-	64	102	166
Stratford		2,352	2,453	1,742	855	7,402
Market	***Flat***	1,411	1,472	877	115	3,874
	House	376	393	80	137	986
Intermediate	***Flat***	564	589	368	130	1,651
	House	-	-	169	398	567
Social Rented	***Flat***	-	-	198	-	198
	House	-	-	51	75	126

Source: URS calculations based on the GLA OLSPG Model

Resident Population

2.6. The gross additional residential population has been estimated by applying population yields. The Wandsworth New Housing Survey 2004 provides information on the characteristics of households living in new build properties, from a range of property sizes and tenure types, which are in part an expression of different socio-economic household characteristics. In 2007 the sites originally surveyed in 1997 and 2004 were re-surveyed with the aim of measuring how the composition and characteristics of these households has changed over time, particularly in relation to age profile and child yield. The 2004 data however has a higher number of responses and is more complete in data coverage than the 2007 survey. The 2004 dataset is identified by the GLA Data Management and Analysis Group (DMAG) as being 'particularly relevant to inner London, especially for private flatted developments' and is of direct relevance to the estimation of child yield, which is a subset of total population.

2.7. The Wandsworth New Housing Survey of 2004 has therefore been applied to estimate population arising from development, with the following additional assumptions:

- Yields for intermediate dwellings are taken to be the same as market dwellings[2]; and
- For four bed market flats the yield for all units is taken as the Wandsworth 2004 survey recorded is 0.00.

2.8. The population yields applied are summarised below in Table 2.3.

Table 2.5 Population Yields

		Population Yield		
Size of Dwelling	***Type***	***Market***	***Intermediate***	***Social Rented***
1 Bed	***Flat***	1.40	1.40	1.38
	House	1.50	1.50	1.38
2 Bed	***Flat***	1.81	1.81	2.38
	House	1.74	1.74	2.38
3 Bed	***Flat***	2.20	2.20	2.38
	House	2.34	2.34	4.08
4+ Bed	***Flat***	3.27	3.27	4.08
	House	3.27	3.27	4.06

Source: Wandsworth New Houding Survey 2004; Intermediate yields as per market yields

2.9. Applying the population yields set out above to Table 2.4 it is estimated that approximately 59,500 people could reside across the OLSPG, as shown in **Table 2.4**.

[2] The Wandsworth New Housing Survey 2004 identifies intermediate housing yields, however these are calculated based on a low number of responses. On this basis it is considered better to apply market population yields as a proxy. This assumption is considered to be appropriate by GLA DMAG.

Table 2.6 Potential Residential Population of the OLSPG

		OLSPG Sub-Areas					
	OLSPG Area	*Hackney Wick/ Fish Island*	*Northern Olympic Fringe*	*Olympic Park*	*Southern Olympic Fringe*	*Stratford*	*Total %*
Private	34,116	6,946	4,000	3,275	11,254	8,642	57.4%
Intermediate	9,179	1,869	1,076	881	3,027	2,325	15.4%
Social	16,169	3,304	1,905	1,525	5,342	4,093	27.2%
Total	59,464	12,120	6,980	5,680	19,624	15,060	100.0%

Source: URS calculations applying Wandsworth New Houding Survey 2004

Child Yield

2.10. Child yield, as shown in Table 2.7, has been estimated following the DMAG published guidance:

- DMAG published a briefing on child yield in August 2005[3]. The brief contains a survey of new build flats and houses in London Borough of Wandsworth which calculates the child yield for new developments, which are judged to be applicable to other new build, high density, inner London developments when calculating child yield.
- A subsequent DMAG Briefing in May 2006[4] contained child yield rates for social housing derived from the London and Sub-Regional Strategy Support Studies (SSSS) dataset, developed from survey of Council tenants. The briefing also links the SSSS dataset to a survey of new social housing properties in Oxfordshire to indicate how child yields vary by age in social housing. These yields were applied to social rented dwellings.

2.11. The DMAG guidance does not provide separate child yields for intermediate units. However when assessing child occupancy for play space, the Mayor of London's Supplementary Planning Guidance, 'Providing for children and young people's play and informal recreation', indicates that intermediate unit child yields are the same as private units. This approach was confirmed in discussion with GLA DMAG.

2.12. It is acknowledged that there are different approaches to the estimation of child yield and some local authorities have developed their own yield formulae based on surveys, for instance the London Borough of Tower Hamlets. DMAG guidance however provides a widely accepted and standard approach to estimating population and child yield, and allows comparisons between sub-areas to be made.

[3] DMAG Briefing 2005/25 August 2005, Child Yield

[4] DMAG Update 2006/11 May 2006

2.13. Child yields for this study have included those aged between 0 and 15 years of age, as per standard DMAG guidelines[5].

Table 2.7 Child Yields (0 to <16 Years Old)

Size	*Type*	*Market*	*Intermediate*	*Social Rented*
1 Bed	***Flat***	0.01	0.01	0.20
	House	0.19	0.19	0.20
2 Bed	***Flat***	0.11	0.11	0.95
	House	0.10	0.10	0.95
3 Bed	***Flat***	0.31	0.31	1.83
	House	0.48	0.48	1.83
4+ Bed	***Flat***	0.98	0.98	2.92
	House	1.04	1.04	2.92

Source: DMAG gudiance applying Wandsworth New Houding Survey data (2004) as set out in the DMAG 2005/05 guidance, page 8. Social housing yields are from SSSS (Sub-regional Support Studies) survey with Oxfordshire New housing Survey (2005) age distribution (DMAG briefing 2006).

2.14. Applying these child yields up to 13,371 children aged under 16 years could reside across the OLSPG area, as shown in **Table 2.8**.

2.15. The number of young people (aged over 16 and under 18 years) can also be calculated. For market and intermediate dwellings, by assuming an equal distribution of population per year within the 16 - 20 years old census data, the proportion of 16 - 18 years in relation to 0 -16 years olds (estimated via the child yield formulae) can be used to approximate the number of 16 to 18 year olds. For social units, the Oxfordshire New Housing Survey 2005 provides yields for 16 - 20 years old from which, assuming an equal distribution of population per year, an estimate of 16-18 year olds can be calculated. In total it is estimated that 2,296 young people will live in the OLSPG.

Table 2.8 Potential Number of Children in the OLSPG

		OLSPG Sub-Areas					
Age	*OLSPG Area*	*Hackney Wick/ Fish Island*	*Northern Olympic Fringe*	*Olympic Park*	*Southern Olympic Fringe*	*Stratford*	*Total % 0- 16yrs*
0 to < 5	6,556	1,361	820	550	2,169	1,656	49%
>5 to <11	4,191	886	576	289	1,384	1,056	31%
>11 to <16	2,623	556	382	159	867	659	20%
Total 0 to <16	13,371	886	576	289	1,384	1,056	31%
Total 16 to <18	2,296	485	323	150	759	578	-

Source: URS calculations

[5] It should also be noted that, as part of the Spending Review and the White Paper, 'The Importance of Teaching', the Government confirmed its commitment to raising the participation age to 18 by 2015. However, this is not limited to full-time education, as options include also apprenticeships or part time education.

Commercial Floorspace

2.16. The OLSPG draft consultation sets out an estimate of approximately 1.4 million sq m of new and improved commercial floorspace to be delivered across the OLSPG area.

2.17. The OLSPG draft consultation document or the GLA modelling does not provide an indicative breakdown of different use classes. The OLSPG does not provide an indicative split of land use. Direct employment arising on site has been estimated using an average ratio of 25 sq m GEA per employee is applied to determine the likely number of Full Time Equivalent direct employment the GEA commercial floorspace could generate.

2.18. The anticipated provision and gross direct operational employment is set out in **Table 2.9**. Direct employment will also give rise to indirect and induced economic multipliers which will primarily lead to further employment opportunities within the OLSPG area and across the region.

Table 2.9 New and Improved Commercial Floorspace and Gross Employment

	OLSPG Area	*OLSPG Sub-Areas*				
		Hackney Wick/ Fish Island	*Northern Olympic Fringe*	*Olympic Park*	*Southern Olympic Fringe*	*Stratford*
Floorspace	1,354,686	172,652	19,139	42,336	205,840	914,720
Proportion	-	12.7%	1.4%	3.1%	15.2%	67.5%
Direct Jobs (FTE)	54,187	6,906	766	1,693	8,234	36,589

Source: URS calculations

3. SOCIAL INFRASTRUCTURE

Introduction

3.1. This section estimates the net requirement for social infrastructure and community uses within the OLSPG area. Taking each social infrastructure theme in turn, this section:

- Considers relevant policy and plans, in particular how current policy and plans may impact upon provision requirements
- Estimates the future demand arising from the OLSPG area's anticipated growth
- Identifies any known capacity in existing infrastructure provision, capacity in planned/committed developments and any funding committed6;
- Estimates the net demand and net cost associated arising;
- Provides guidance on the location of new infrastructure in each of the OLSPG sub-areas; and
- Summarises the findings of each section.

3.2. Social infrastructure items assessed are:

- Education: early years, primary, secondary
- Heath: primary health care, including general practitioners (GPs) and dentists
- Sports and leisure: covering sports halls and swimming pools
- Open space and play space; and
- Libraries and community space.

3.3. At the borough level individual strategic infrastructure assessments (SIAs) have been undertaken over the past few years. SIAs include:

- Hackney Infrastructure Assessment (2009)
- Newham Community Infrastructure Assessment – Baseline and Future Needs Reports (2010)
- Tower Hamlets Infrastructure Delivery Plan (2009); and

[6] The information provided on current capacity and planned/committed projects has been sourced from the borough level infrastructure assessments and from consultation with the four boroughs to verify and update this information.

- Waltham Forest Social and Utilities Infrastructure Assessments (2009).

3.4. There are a number of points to consider when drawing information from SIAs:

- The borough level assessments were undertaken between 2009 and 2010, and contain information which has since been updated. In particular, the Spending Review in 2010 has been followed by the announcement of large reductions to Council budgets, affecting all of the four OLSPG area boroughs, in addition to the halting of a number of funding and delivery programmes which were planned to deliver infrastructure across these areas. Details on specific programmes have been provided, including any information on new programmes brought forward.

- The methodologies applied by boroughs in assessing strategic infrastructure requirements for their SIA will differ. For instance, there is no consistency between SIAs on: population/child yields; social infrastructure catchment areas; profiling existing capacity; or benchmarks used to estimate future infrastructure requirements.

- The four boroughs each contain a proportion of the OLSPG sub-areas. Therefore, the area of concern for OLSPG infrastructure maps to a part of each borough, whereas typically the SIAs present information on capacity and planned infrastructure at the borough-wide level and do not necessarily break this down in to sub-areas. In some cases, such as the Waltham Forest Infrastructure Assessment for example, the borough is assessed for some infrastructure items at a local level, with the borough divided into sub-areas. However, these do not match closely to the OLSPG boundary.

3.5. The information on capacity and planned investment has been taken directly from the borough level SIAs and supporting documents where relevant. These capacity and planned investments have not been verified; however the four boroughs have been consulted and where the latest available information incorporated where possible.

3.6. Information has also been drawn from the Legacy Communities Scheme (LCS). This information post-dates that provided by the borough SIAs and provides a more up-to-date picture of planned provision and relevant evidence information the LCS development.

3.7. The LCS is an OPLC development and defines a different geography to the OLSPG and its sub-areas. However, the initial OLSPG study boundary was based on the LCS Inner Impact Area (IIA) boundary, which was developed by EDAW for the London Development Agency.[7] The LCS development has assessed capacity across the IIA and this information has informed this study where relevant. The planned investment into social infrastructure, however, is assessed across the LCS site only, which covers 15 Planning Development

[7] The IIA boundary is derived on a 20 minute walk from the edge of the main Olympic and Paralympic site at Stratford. Following discussions with the four OLSPG Boroughs, Transport for London, the Olympic Delivery Authority's planning decisions team and the London Thames Gateway Development Corporation, this boundary was adjusted to better align with emerging Fringe Masterplan and Development Plan documents and borough ward boundaries..

Zones. Where relevant analysis has aligned the LCS assessment of capacity and planned investment with that outlined in the borough level SIAs.

3.8. The LCS, which is currently at planning stage, has a number of supporting documents which have provided this study with additional information on capacity and planned provision in the OLSPG area. The current information available on planned provision for the LCS is drawn directly from the projected growth generated by the development. As the plans have not yet reached final approval, it is also possible that they will change. These include:

- The LCS Housing and Social Infrastructure Strategy (September 2011)
- The LCS Green Infrastructure Strategy (September 2011)
- The LCS Environmental Impact Assessment (EIA); and
- The LCS Cost Plan, AECOM LCS Accommodation Schedule & DJD, Residential Working Assumptions, which provides details of the costs of infrastructure proposed.

3.9. Our high level assessment of the potential location of infrastructure provision is guided by a number of factors including:

- The potential locations as set out in the draft OLSPG and LCS planning application
- An appreciation of the potential catchment areas of social infrastructure. Catchment areas vary according to the type of infrastructure being assessed; and
- Population density - the location of anticipated residential growth within the OLSPG area, that is the location of the AoCs and the LCS Planning Development Zones.

3.10. More detailed analysis is required to determine the specific locations of infrastructure to meet demand arising. Analysis would typically include consideration of: population density, accessibility, existing provision, the form of provision (whether demand is sufficient to require a stand-alone item or be better provided by refurbished or extending existing provision, and site specific factors (suitability; proximity to other types of land use market viability).

Education: Early Years/Nursery

Policy Review

3.11. Early years education typically refers to children under five years of age and includes provision through council maintained nursery schools, children centres or primary schools with nursery classes. All three and four year olds are entitled to 15 hours of free nursery education for 38 weeks of the year. This is applied until they reach compulsory school age (the term following their fifth birthday). Attendance at an educational establishment for children under five years is not compulsory.

3.12. Guidance published in the Audit Commission report 'Trading Places' (2002) looked at reducing surplus places in primary and secondary schools. The report recommended that, as it was impractical to aim to match the numbers of pupils and places exactly, plans should be for a level of spare capacity in some schools, assuming that there will be overcrowding in others. On this basis a 5% surplus capacity on top of the demand generated i.e. 105% for primary school places is planned for. This approach has been applied to early years provision as well.

3.13. Free early education places are available at a range of early years settings including nursery schools and classes, children's centres, day nurseries, play groups and pre-schools and childminders[8]. The catchment area for early years education is typically within a distance of 800m.

3.14. Recent policy changes have resulted in an extension of provision of early years education to provide for 15% of the most disadvantaged two year olds. The policy is being implemented through a pilot scheme with the private and independent sector expected to cater for the majority of new demand.

3.15. Some of the newly created Academies (publicly-funded independent schools)[9] will cater for early years provision. The funding for Academies will be provided by central government, and in some cases will be supplemented by a sponsor, which can be a number of organisation including businesses, universities and other schools.

3.16. From April 2011 funding for early years education has been provided through the Early Years Single Funding Formula, which is based mainly on participation. However, ongoing cuts to funding for both national and local programmes of delivery is likely to impact on the availability of investment to take current plans through to completion. Consultation with the boroughs has revealed that, in light of ongoing funding cuts, it may be unviable to plan for new free standing nursery schools (i.e. those not attached to a primary school) without planning obligations funds.

[8] www.direct.gov.uk/en/Parents/Preschooldevelopmentandlearning/NurseriesPlaygroupsReceptionClasses/DG_10016103

[9] See www.education.gov.uk/schools/leadership/typesofschools/academies/whatisanacademy/a0061252/about-academies

Gross Demand Arising

3.17. Building upon work carried out by the GLA the demand for early years provision across the OLSPG area has been estimated using the following assumptions:

- There is no statutory requirement for nursery provision for 0, 1 and 2 year olds[10]
- 40% of all 0-4 year olds are children aged 3-4 years old across all four boroughs[11]
- A participation rate of 100% for all 3 -4 year olds[12]
- 100% of children from social rented, intermediate and privately rented dwellings assumed to generate new demand for 3-4 year olds
- Leakage rate to the private sector of 6.6% for all households[13]
- 5% surplus capacity on top of the demand generated[14]
- 26 pupils per class[15]; and
- A full time equivalent (FTE) nursery place being 15 hours per week, i.e. a classroom of 26 therefore provides enough places for 52 places pupils.

3.18. Applying these assumptions results in a gross demand across the OLSGP of 2,572 early years places which equates to 1,286 FTE places assuming an attendance of 15 hours per week. Results are shown in **Table 3.1** below.

[10] Children Act (2006) local authorities have a duty to provide provision of nursery places for 3 to 4 years old

[11] Census 2001 data: average across all four boroughs

[12] Iit is assumed all 3-4 years olds will require a nursery place, though research for LB Camden found 85% for 3yr olds and 100% for 4 year olds require nursery provision.

[13]Average across the four boroughs (Newham, Waltham Forest, Tower Hamlets and Hackney) of the proportion of pupils attending independent school, calculated from DfE School Census data January 2011

[14] Audit Commission report 'Trading Places' (2002)

[15] 'Early Years Foundation Stage Statutory Practice Guidance' (May 2008) states that 'except in the case of reception classes in maintained schools, the size of a group or class should not normally exceed 26'.

Table 3.1 Gross Early Years Pupil Places (FTE)

	OLSPG Area	*OLSPG Sub-Areas*				
		Hackney Wick Fish Island	*Northern Olympic Fringe*	*Olympic Park*	*Southern Olympic Fringe*	*Stratford*
FTE places	1,286	267	161	108	425.5	325
Classrooms	50	10	6	4	16	12

Source: URS calculations

Existing Capacity

3.19. A summary of relevant information from the SIAs is as follows:

- In 2009, Hackney had two dedicated nursery schools, and each of the borough's 53 primary schools has a nursery classes attached. The Hackney Infrastructure Assessment did not provide any information on capacity in early years provision.
- LB Newham: In 2010, Newham had 12 active children's centres and another eight in development[16]. The borough had low levels of childcare for all age groups compared to outer London figures. The assessment found that there was a surplus of 63 places and large vacancy rates at the time of the analysis.
- LB Tower Hamlets: No information available in the SIA.
- LB Waltham Forest: Provision of early years places in 2009 amounted to 43 nursery classes (3,469 places). The SIA estimated a 14.1% surplus in early years education (316 places) at the time of the assessment.
- The current LCS site does not have good access to primary school facilities, with the majority located over 15 minutes walk away from the site. There is currently some spare capacity across these schools, however there is little accessible capacity and not sufficient to meet the demands arising from the new development.

3.20. Discussions with boroughs found that there is little spare capacity and any capacity is anticipated to be taken up over the next year or so.

Committed and Planned Provision

3.21. The SIAs set out the following information:

- There is no information set out in the Hackney SIA.
- In LB Newham the Chobham Academy is currently under construction, located in the Athlete's Village. It is due to open in September 2013 and will provide two FoE early

[16] LB Newham (2010) Newham Community Infrastructure Study, p.35

years places. The Academy is not funded through the Building Schools for the Future programme[17].

- There is no information set out in the Tower Hamlets SIA.
- There is no information set out in the Waltham Forest SIA.
- The LCS planning application proposes nine nurseries across the site, each providing 50 full time equivalent places. 1,718 sq m of nursery space is proposed which is above the estimated demand arising from the LCS population for nursery space (calculated to be 1,201 sq m).[18] The location of these has yet to be identified and will depend upon the location of new housing provision across the LCS.

3.22. Discussions with boroughs found reduced levels of planned investment (compared to that described in the SIAs) and, where planned investment was anticipated to create additional capacity, that space capacity was expected to be minimal.

Net Provision Requirements: Demand Arising Less Existing Capacity

3.23. It is assumed that latest information from the boroughs is correct and that there is minimal spare capacity in existing nurseries, and that additional capacity is provided at the Chobham Academy for the equivalent of two classes. The LCS proposed development is not committed and is subject to change, therefore infrastructure plans to meet demand have been included as planned but not committed.

Cost of Net Provision Requirements

3.24. The costs are based on £14,578 per FTE[19]. It should be noted that this cost does not include for site procurement, land costs or any temporary accommodation that might be required. This ratio gives a total cost for provision of early years FTE places of £18.0 million.

3.25. A break down of total costs by sub-area is given in **Table 3.2**. This assumes that costs will be apportioned by the number of demand in each sub-area. There will however be a grouping of services by minimum size of facility which is a refinement to carry out at a later stage.

[17] LB Newham (2010) Newham Community Infrastructure Study p.iii

[18] The LCS' infrastructure plans have not yet been approved and are therefore open to revision

[19] Based on information from Teachernet. The cost does not include site procurement, land costs or any temporary accommodation that might be required.

Table 3.2 Net Early Years Estimate Costs

	OLSPG Area	*OLSPG Sub-Areas*				
		Hackney Wick Fish Island	*Northern Olympic Fringe*	*Olympic Park*	*Southern Olympic Fringe*	*Stratford*
Cost (£m)	18.0	3.9	2.4	1.6	6.2	4.0

Source: URS calculations

Location of the New Infrastructure

3.26. The OLSPG suggests a need for eight new facilities, integrated with the new housing. Potential locations for provision are identified as:

- Four fall within the Olympic Park sub-area
- Two in the Stratford sub-area
- One in the Hackney Wick Fish Island sub-area; and
- One in the Southern Olympic Fringe sub-area.

3.27. The catchment area for early years education is typically 800m. Given this small catchment, the geography of proposed provision does not match the gross demand arising by sub-area (Table 3.1). A more appropriate alignment with demand arising would see comparatively more provision in Southern Olympic Fringe, Stratford and Hackney Wick/Fish Island sub-areas over the Olympic Park.

3.28. There are a number of ways and models of provision in which demand could be met. These include the creation of new provision and the extension or restructuring of existing provision, and co-location with primary schools. Further analysis would be necessary to identify exact locations for development taking into account these factors and others described above under 'Policy Review'.

Education: Primary Education

Policy Review

3.29. Primary education caters for pupils aged four to ten years old. Local authorities have a statutory requirement to ensure an adequate supply of school places. The School Standards and Framework Act 1998[20] required each Local Education Authority (LEA) to produce a School Organisation Plan (SOP) that would provide a framework for decisions about school place planning. However, this requirement was lifted with the passing of the Children's Act in 2004[21].

[20] DCSF, (1998); School Standards and Framework Act, HMSO, London.

[21] DCSF, (2004); Children's Act, HMSO, London.

3.30. As per guidance published in the Audit Commission report 'Trading Places' (2002) referenced above in paragraph 3.12, a 5% surplus capacity on top of the demand generated i.e. 105% should be planned for.

3.31. Cuts to funding for both national and local programmes of delivery is likely to impact on the availability of investment to take current plans through to completion. The discontinuation of the Primary Capital Programme (PCP), a funding programme running parallel to Building Schools for the Future (BSF), designed to help bring forward the construction and improvement of primary schools, has had some implications for planned investment in the study area.

3.32. Some of the newly created academies (publicly-funded independent schools)[22] will cater for primary education provision. The funding for academies is provided by central government, and in some cases will be supplemented by a sponsor, which can be a number of organisation including businesses, universities and other schools.

3.33. Free schools are also being introduced as an alternative form of provision. These schools will also be funded directly by central government, which will remove decision making from the local authority. However, it should be noted that the duty remains with the LA to ensure that the capacity exists to provide for all children in the borough.

3.34. The primary school capacity of an area is typically derived via travel catchments. The London Sustainable Development Commission records that the average length of the home to school trip for primary schools in London is 1.1 mile, equating to 1.8 kilometres (compared to a National Average of 1.4 miles or 2.4 km)[23].

Gross Demand Arising

3.35. Building upon work carried out by the GLA demand for primary school provision across the OLSPG area has been modelled using the following assumptions:

- 100% of children from social rented, intermediate and private dwellings assumed to generate new demand
- 5% surplus capacity on top of the demand generated
- Leakage to the private sector assumed at 6.6% of total pupil demand[24]
- Net leakage arising from cross-borough movement of pupils assumed at 0%

[22] See www.education.gov.uk/schools/leadership/typesofschools/academies/whatisanacademy/a0061252/about-academies

[23] London Sustainable Development Commission (2004) Report on London's Quality of Life Indicators

[24] Average across the four boroughs (Newham, Waltham Forest, Tower Hamlets and Hackney) of the proportion of pupils attending independent school, calculated from DfE School Census data January 2011

- 30 pupils per class and 210 per Form of Entry (FoE)[25] (and two or three FoE per school).

3.36. A breakdown of primary school demand arising from growth in the OLSPG area is presented in **Table 3.3** below. Applying these assumptions results in a gross demand across the OLSGP of 4,110 primary school places, which equates to 116.0 classes or 16.6 FoE.

Table 3.3 Gross Primary School Pupil Places

	OLSPG Area	*OLSPG Sub-Areas*				
		Hackney Wick Fish Island	*Northern Olympic Fringe*	*Olympic Park*	*Southern Olympic Fringe*	*Stratford*
Pupils	4,110	868	565	284	1,357	1,036
Classes	137	28.9	18.8	9.5	45.2	34.5
FoE	19.5	4.1	2.7	1.4	6.5	4.9

Source: URS calculations
Note: Figures may not sum due to rounding.

Existing Capacity

3.37. Consultation with LB Hackney revealed that there is currently a surplus in capacity, although this varies across age groups and also geographically across the borough. Due to a mis-match in the location of surplus and the areas of high demand, Hackney has experienced pressure on services and in 2010 had to open temporary classrooms. There has been some expansion of provision recently, for example, the addition of extra forms of entry to Gainsborough Primary School which is located within the OLSPG boundary. However, the current spare capacity at this school is expected to be filled in two to three years time, which is typical across the borough.

3.38. In LB Newham there were 29,958 primary places provided across the borough in 66 schools. In 2007 there were 26,949 pupils, therefore creating a surplus of 3,009 places or 10%, which equates to over 14 forms of entry. This is above the 5% surplus advised by the Audit Commission. However, these figures are for 2007 (referenced in the 2010 Infrastructure Assessment) and recent discussions with the borough suggest there is now less spare capacity within the borough.

3.39. LB Tower Hamlets has a surplus of 6.27 forms of entry, which equates to 1,317 pupil places (based on the standard used of 210 pupil places per forms of entry in primary education provision). However, this assessment is based on 2009 data. Recent consultation with the borough suggests that there is now no spare capacity and a deficit in provision in some areas.

[25] School Standards and Framework Act, 2008

3.40. Provision of primary education in LB Waltham Forest includes 43 established maintained primary schools and six infants and junior schools. There is an estimated deficit in primary education, though no additional information on the size of the deficit was available.

3.41. The current LCS site does not have good access to primary school facilities, with the majority located over 15 minutes walk away from the site. There is currently some spare capacity across these schools, however there is little accessible capacity and not sufficient to meet the demands arising from for the new development.

3.42. Discussions with boroughs found that there is little spare capacity and any capacity is anticipated to be taken up over the next year or so.

Committed and Planned Provision

3.43. The OPLC have planned to providing one three forms of entry primary school in the Hackney area of the OLSPG area. Further details are not yet available as discussions on area use and size are ongoing. Current plans for an expansion of provision in LB Hackney are for an additional 140 places in 2010 and for 45 in 2012. Currently options are being explored for additional increases of a further 30 places in 2012, in addition to 30 additional places in 2013 and 90 in 2014-15. It should be noted that education in LB Hackney is run by an independent body, the Learning Trust, although responsibility for education will return to the Council on 1st August 2012 when the Learning Trust terminates

3.44. In LB Newham there are plans to provide 11 new primary school forms of entry through a number of projects. These include three new FoE at the new Chobham Academy, which is not funded through the BSF programme. There will also be an additional two new primary schools within the Olympic Park area (providing four forms of entry in total), an additional two forms of entry at Carpenters School (currently two FE) to serve the wider neighbourhood and two new forms of entry in the Sugarhouse Lane/Three Mills area.

3.45. LB Tower Hamlets have set out plans to add to existing primary school infrastructure in the borough through a combination of extensions to existing provision and the creation of new provision. There are plans for a new school in Fish Island, though the exact location will be identified in the Fish Island AAP, OLSPG and LCS Planning Applications. This will provide for projected growth in the area, providing two to three new forms of entry. The costs of this project have not been confirmed, though a standard cost of £5 to £7 million has been estimated. This is likely to be provided through a combination of funding sources, including Section 106, CIL and the Primary Capital Programme. The second project for the borough will be a new school in Bromley-by Bow, located on a site identified in the Tower Hamlets DPD and Master Plan. This will provide two to three FoE to accommodate future growth, at an estimated cost of between £5 to £7 million.

3.46. In LB Waltham Forest, primary provision is expected to be expanded by nine forms of entry up to 2012 in order to meet demand. The funding for this was expected to be provided through PCP, though the discontinuation of this programme may affect this going forward. The funding for primary school provision in Waltham Forest has been affected by the discontinuation of the BSF programme, though the impact of this on specific projects is not yet clear.

3.47. The OPLC have set out plans for the LCS to provide two primary schools, each with 3 forms of entry. It should be noted that the LCS infrastructure plans have not yet been approved and are therefore open to revision.

3.48. Discussions with boroughs found reduced levels of planned investment (compared to that described in the SIAs) and, where planned investment was anticipated to create additional capacity, that space capacity was expected to be insufficient to accommodate additional demand from new development.

Net Provision Requirements: Demand Arising Less Existing Capacity

3.49. It is assumed that latest information from the boroughs is correct and that there is minimal spare capacity. Boroughs and the OPLC have a number of plans for expanding provision, however these proposals are subject to change. Only the new Chobham Academy providing three new FoE which is currently being built will delivered new capacity for residents of the OLPSG area.

Cost of Net Provision Requirements

3.50. Assuming £14,578 construction cost per pupil[26] (based on evidence gathered via previous infrastructure studies) the net cost for primary provision education across the OLSPG area would be £50.7 million including LCS requirements.

3.51. A break down of total costs by sub-area is given in **Table 3.4** below. This assumes that costs will be apportioned by the number of children in each area. There will though be a grouping of services by minimum size of facility which is a refinement to carry out at a later stage.

Table 3.4 Net Primary Schools Estimate Costs (£ million)

	OLSPG Area	*OLSPG Sub-Areas*				
		Hackney Wick Fish Island	*Northern Olympic Fringe*	*Olympic Park*	*Southern Olympic Fringe*	*Stratford*
Cost (£m)	50.7	12.7	8.2	4.1	19.8	5.9

Source: URS calculations
Note: Figures may not sum due to rounding

[26] Based on information from Teachernet.. The cost does not include site procurement, land costs or any temporary accommodation that might be required.

Location of the New Infrastructure

3.52. An expression of the geography of demand arising is set out in **Table 3.3**. This suggests that provision should be highest in the Southern Olympic Fringe where demand is highest.

3.53. Although the sites for new and expanded provision have not yet been confirmed, the draft OLSPG reports sites identified in LCS planning application for two new primary schools within the Hackney Wick Fish Island sub-area, located on the border with the Olympic Park sub-area.

3.54. The catchment area for primary schools is typically 800m. Further analysis would be required in order to identify exact sites for development, as described **in paragraph** Error! Reference source not found..

Education: Secondary Education

Policy Review

3.55. Secondary education caters for pupils aged 11 to 16 years old and for students aged 16 – 19. Places are provided for by the state maintained (SM), voluntary aided (VA), private and independent sectors. Secondary education is governed by the same legislation as primary education. Local authorities have a statutory requirement to ensure an adequate supply of secondary school places.

3.56. As per guidance published in the Audit Commission report 'Trading Places' (2002) referenced in **paragraph 3.12**, a 5% surplus capacity on top of the demand generated i.e. 105% for secondary school places is planned for.

3.57. The discontinuation of the Building Schools for the Future (BSF) programme, an investment programme designed to help bring forward the construction and improvement of secondary schools through public-private partnerships, has had some implications for planned investment in the OLSPG area.

3.58. It is likely that the introduction of academies[27] and free schools will affect the structure of provision in the OLSPG area going forward.

3.59. Some of the newly created academies (publicly-funded independent schools) will cater for secondary education provision. The funding for academies will be provided by central government, and in some cases will be supplemented by a sponsor, which can be a number of organisation including businesses, universities and other schools. The Education Bill 2011, which is currently under review in the House of Lords, is seeking to expand the academies programme to allow 16-19 and alternative provision academies.

3.60. Free schools are also being introduced as an alternative form of provision. These schools will also be funded directly by central government. The annual revenue funding for free schools

[27] See www.education.gov.uk/schools/leadership/typesofschools/academies/whatisanacademy/a0061252/about-academies

will be based on the average funding received by maintained schools in the same local authority. However, eligible free schools will also receive additional start-up funding and pre-opening costs will be met where necessary.

Gross Demand Arising

3.61. Building upon work carried out by the GLA, the demand for secondary school provision across the OLSPG area has been estimated using the following assumptions:

- 100% of children from social rented, intermediate and private dwellings assumed to generate new demand
- Leakage rate to the private sector of 6.6%[28]
- Net leakage arising from cross-borough movement of pupils is assumed at 0%
- 30 pupils per class, 150 pupils per FoE[29]
- Minimum of six FoE per school; and
- 5% surplus capacity on top of the demand generated[30].

3.62. Applying these assumptions results in a gross demand across the OLSGP of 2,572 secondary school places or approximately 86 classes. A breakdown of secondary school demand arising from growth in the OLSPG area is shown in **Table 3.5 Gross**.

Table 3.5 Gross Secondary School Demand

	OLSPG Area	*OLSPG Sub-Areas*				
		Hackney Wick Fish Island	*Northern Olympic Fringe*	*Olympic Park*	*Southern Olympic Fringe*	*Stratford*
Pupils	2,572	545	374	155	851	647
Classes	85.7	18.2	12.5	5.2	28.4	21.6
FoE	17.1	3.6	2.5	1.0	5.7	4.3

Source: URS calculations
Note: The GLA model's actual estimates are based on a 150 FoE, which is different to the 180-190 stated pupils per FoE stated in the model; figures may not sum due to rounding

[28] Average across the four boroughs (Newham, Waltham Forest, Tower Hamlets and Hackney) of the proportion of pupils attending independent school, calculated from DfE School Census data January 2011

[29] There is no statutory provision maximum for secondary school class sizes. In discussion with DfE.

[30] Audit Commission report 'Trading Places' (2002)

Existing Capacity

3.63. There are 11 secondary schools in LB Hackney in addition to a number of specialist schools catering for children aged 11-16. Recent information fed back through consultation with the borough suggests that there is now little or no spare capacity, with an estimated 3% surplus, which falls below the recommended 5% advised by the Audit Commission.

3.64. LB Newham has 15 secondary schools in the borough with 19,350 places. There are 17,571 pupils on the school roll, leaving an estimated 1,779 surplus places. This equates to a surplus of 9.2%, which is above the 5% surplus advised by the Audit Commission. However, recent consultation with the borough suggests that there is now no spare capacity and a deficit in provision in some areas. Their understanding is that there is currently a need for between six and seven additional forms of entry within the borough.

3.65. In LB Tower Hamlets there is an estimated surplus of 6.07 forms of entry secondary education provision, which equates to around 910 pupil places, using a standard of 150 pupils per form of entry. There was no information provided on the number of schools or places currently provided in the borough in total. However, this assessment is based on 2009 data. Recent consultation with the borough suggests that there is now no spare capacity and a deficit in provision in some areas.

3.66. There were 16 secondary schools in LB Waltham Forest in 2008, with a total estimated surplus of 8.6%, which is above the 5% surplus advised by the Audit Commission. Recent information from the borough suggests that there is now little or now spare capacity.

3.67. The current LCS site does not have good access to secondary school facilities. There is currently some spare capacity across these schools, however there is little accessible capacity and not sufficient to meet the demands arising from for the new development.

3.68. Discussions with boroughs found that there now is little spare capacity and that space capacity is anticipated to be taken up over the next year or so.

Committed and Planned Provision

3.69. In LB Hackney, funding has been confirmed for a new four form of entry secondary school on a former Cardinal Pole School site, which is expected to open in 2014. Cardinal Pole Catholic School is a project to relocate a split campus secondary school, though it will not provide for any additional capacity. The project is due to be completed in 2012. Funding was provided through BSF, which has been unaffected by recent changes to the programme.

3.70. In LB Newham the new Cobham Academy will provide six FoE of additional secondary provision. The OLSPG also notes potential for new secondary schools on Rick Roberts Way.

3.71. In LB Tower Hamlets plans have been set out to accommodate future growth through the provision of one new 8 FoE secondary school, located on one of three site options at Fish Island, Aisla Street or Westferry. This equates to around 1,200 pupil places, using a standard of 150 pupils per form of entry secondary school by 2017 at an estimated cost of between £27 and £37 million. Funding is likely to be provided through the BSF programme, which though now discontinued, has not affected programmes which were past financial close.

Consultation with the borough highlighted that this funding is, at present, not committed. The options for location are set out in the borough's LDF documents. The borough has also identified plans for a second project at Bow Locks secondary school. This will provide replacement provision for 4 FoE (to replace the closure of Bow Boys School) and new provision for a further 4 FoE, to accommodate growth in the area. The £38 million of funding required to complete this project will be provided by BSF capital expenditure as part of Wave 5 of the programme. This funding has been committed, though the project has yet to receive planning approval.

3.72. In LB Waltham Forest the BSF programme was being employed to deliver six FoE by 2014/15 and one new 8 FoE secondary school by 2018/19.

3.73. The OPLC have set out plans for the LCS site to provide one secondary school with six FoE. This is above the level of provision required by the demand arising from the LCS development, which was calculated to be 4.8 FoE. It should be noted that the LCS infrastructure plans have not yet been approved and are therefore open to revision.

3.74. Consultation with boroughs found reduced levels of planned investment (compared to that described in the SIAs) and, where planned investment was anticipated to create additional capacity, that space capacity was expected to be minimal.

Net Provision Requirements: Demand Arising Less Existing Capacity

3.75. It is assumed that latest information from the boroughs is correct and that there is minimal spare capacity. The Chobham Academy currently being built, which will provide six FoE, or 900 places, will cater for demand from OLSPG residents and is therefore discounted from gross demand.

Cost of Net Provision Requirements

3.76. Assuming £27,864 construction cost per pupil[31] the net cost for secondary years provision across the OLSPG area would be £46.6 million. These schools will serve more than one sub-area each and so costs per sub-area are not break-down by sub-area.

Location of the New Infrastructure

3.77. Demand arising for secondary school provision in **Table 3.5 Gross**. There are minimum space requirements for secondary schools[32] and a catchment of 2.4 miles (3.8km) means that provision is pooled. Schools will therefore serve more than one sub-area.

3.78. The OLSPG however does identify three potential locations for sites:

[31] Based on information from Teachernet.. The cost does not include site procurement, land costs or any temporary accommodation that might be required.

[32] Building Bulletin 99 (2nd Edition) Briefing Framework for Secondary School Projects - Area Guidelines for Schools uses a formula of 1,850 sq m plus 6.7 sq m per pupil.

- One falls within the Southern Olympic Fringe sub-area (site located at Rick Robert's Way) (also identified in the LCS planning application)
- One in the Stratford sub-area (the new Cobham Academy), which would provide off-site provision for the LCS population; and
- One in the Hackney Wick Fish Island sub-area (the remodelled Cardinal Pole School), again providing potential off-site provision for the LCS.

Health Care

Policy Review

3.79. For the purpose of this report, primary care is defined as incorporating general practitioner (GP) services and dental practitioners. GP capacity is assessed at a borough-wide scale.

3.80. The Primary Care Trusts (PCTs) responsible for commissioning healthcare on behalf of local residents in the OLSPG area are as follows: Newham PCT; City and Hackney PCT; Tower Hamlets PCT; and NHS Waltham Forest (PCT). As of April 2011, City and Hackney, Newham and Tower Hamlets PCTs have been working together as NHS East London and the City and Waltham Forest PCT has joined NHS outer north east London. However, by 2013 PCTs will be disbanded and expenditure decisions will be made via GPs acting in collaboration with a NHS Commissioning Board.

3.81. Health policy at a national, sub-regional and local level emphasises reducing health inequalities, improving access to services and making health providers more accountable to the patients they serve. Healthier lifestyles are promoted as a means to reducing reliance on healthcare services. The key policies driving healthcare development across the OLSPG area include:

- The Government's White Paper 'Healthy Lives Healthy People: Our Strategy for Health in England', 2010. This outlines key principles and strategies focused around localism and the empowerment of individuals, putting local communities at the heart of public health provision.
- 'Equity and Excellence: Liberating the NHS', NHS, 2010. A key policy is the abolition of strategic health authorities (SHAs) and PCTs, shifting power to GP commissioning consortia acting in collaboration with a new NHS Commissioning Board, in order to remove the perceived debilitating bureaucracy and lack of transparency of the current system.
- 'The London Health Inequalities Strategy', GLA, 2010. This strategy outlines the social determinants of health, including income levels, and sets out a framework to tackle the resulting health inequalities.

3.82. There is a drive to increasingly deliver health services in community-based settings, with the development of integrated primary care facilities and health hubs, rather than a reliance on hospitals. It is hoped that by adopting an integrated approach to health provision, with the involvement of community and voluntary services (as well as a variety of health facilities in

one setting), delivery of healthcare in communities will be more efficient and adopt a joined up, integrated approach to facilities planning and delivery. PCTs are therefore pulling back from any long-term commitments and options are being explored as the future uses of their estates and assets.

3.83. As an example of a move towards more community-based, integrated health care, Newham PCT is proposing to create four healthcare 'PolySystems'. These PolySystems are to comprise a number of hubs located within the community each providing additional GPs practices and specialist services, which would typically be provided at hospitals.

3.84. NHS Local Improvement Finance Trust (NHS LIFT) is a public private partnership vehicle for developing frontline primary and community care facilities. The NHS Plan stated that NHS LIFT and public capital would lever around £1 billion into reinvigorating primary care estates. However, the drive to reform local and sub-regional health care will have an impact on the type of opportunities brought forward by this programme in the future.

3.85. The Coalition Government have committed to increase funding for the NHS in real terms every year until 2015, though this will equate to an increase of 0.4% pa. Capital spending will be cut by 17% and a commitment has been made to reducing NHS management costs by more than 45% by 2015.

Gross Demand Arising

3.86. The development of new homes and communities will also lead to increased demand for health facilities. The Healthy Urban Development Unit's (HUDU) model is one method used to calculate the healthcare requirements generated by new development. The HUDU model is uses the numbers of anticipated new dwellings and resulting population increase as a result of a development to calculate the amount of hospital beds or floor space required for that population in terms of acute elective, acute non-elective, intermediate care, mental health and primary care. The HUDU model also takes account of the evolving nature of healthcare provision, including integrated primary and community care services. This includes the introduction of polysystems of health care, such as that proposed by Newham PCT as referenced in the Newham Community Infrastructure Assessment.

3.87. The assessment only looks at the demand for GPs provision using HUDU model's ration of 1 GP per 1,800 people. This is based on guidance from the Royal College of GPs.

3.88. A breakdown by sub area of the forecast demand for full time equivalent GPs created by new development across the OLSPG sub-areas is shown in Table 3.6 below. These are based on the housing growth assumptions as before. New development across the sub-area will meet or contribute to meeting this demand created.

Table 3.6 Gross Primary Health Care: General Practitioners (GPs) and Dentists

	OLSPG Area	*OLSPG Sub-Areas*				
		Hackney Wick Fish Island	*Northern Olympic Fringe*	*Olympic Park*	*Southern Olympic Fringe*	*Stratford*
GPs	33	7	4	3	11	8
Dentists	30	6	3	3	10	8

Source: URS calculations
Note: Figures may not sum due to rounding

Existing Capacity

3.89. The LB Hackney SIA found that Hackney and City PCT area had 47 GP surgeries and 183 GPs, giving an average of 1,479 patents per GP which equates to a surplus of approximately 32.6 GPs based on a standard of one GP per 1,800 patients. Consultation with the borough suggested that the GP practice serving the borough within the OLSPG area (Trowbridge practice) has spare capacity which could absorb another 600 registered patients, but that this would be taken up by existing population growth by 2015. There are currently 43 NHS dental practices in the City and Hackney PCT with a total of 143 dentists. The current ratio of dentists to residents is 1:893, which is below the level recommended in the HUDU model (1:2,000).

3.90. In LB Newham there were 66 GP surgeries with 164 GPs in 2010 serving 316,000 registered patients. This gives a ratio of 1,926 patients per GP, which shows a deficit in supply of GPs. LB Newham also has 31 dental practices, though no information has been provided on the number of dentists this equates to, thus no quantum of capacity can be estimated.

3.91. In LB Tower Hamlets provision in 2009 showed a surplus in supply, with an average 1, 587 patients per GP. However, consultation with the borough revealed that the GP registered population is significantly higher than the population used in the modelling of capacity, and that the health needs of the population are also acute. Analysis has indicated a requirement for 8-9 GPs within the North East of the borough, covering Fish Island, Bow, Bromley-by-Bow and Mile End. No information has been provided on the capacity of dentist provision in the borough.

3.92. In 2009 there were a total of 47 GP practices in LB Waltham Forest, with a total of 136 full time equivalent GPs, which equates to 2,004 patients per GP. This suggests a deficit in provision. However, the NHS Waltham Forest Primary Care Strategy 2007-2012 notes that using a measure of the number of GPs against the resident population (rather than the number of registered patients) provision in the borough is high relative to other boroughs. There are also 34 dental practices in LB Waltham Forest, providing a total 100 dentists. This equates to around one dentist per 2,223 residents. This is below the standard of one dentist per 2,000 head of population.

3.93. The LCS Housing and Social Infrastructure Strategy shows that there are a total of 13 existing GP surgeries and 9 dentist practices serving the Inner Impact Area. These facilities provide a total of around 30 GPs and an unknown number of dentists. There are no facilities

located in the LCS and access to those which are located in the Inner Impact Area (IIA) is poor.

3.94. Recent discussions with boroughs carried out as part of the research in to this report suggest that in most or all cases the situation has changed since the SIAs were carried out.

Committed and Planned Provision

3.95. In LB Hackney primary health care plans centre on the rationalisation on PCT premises from 46 to 30, primarily funded through the East London Local Improvement Finance Trust Company (LIFT). LB Hackney also plans to ensure that each of the four new Primary Care Resource Centres will have 3 community dentistry chairs. In some cases this will rationalise service, in other cases it will be creating additional capacity, with 7 additional dentists being provided by 2025. However, recent funding changes in healthcare have led to the withdrawal of the primary care centre model of provision, and it is unlikely that these plans for any increases in such provision will be taken forward.

3.96. Newham PCT has proposed the introduction of four 'PolySystems' or networks of healthcare facilities which will reconfigure healthcare provision for residents and offer additional GP practices to residents. Consultation with the boroughs has revealed that the plans for the Newham PolySystems are currently under review due to the revised funding available following the Spending Review 2010. One PCT hubs has been delivered at Vicarage Lane in Stratford which opened in 2009. A further PCT hub is planned at the Olympic Park for which funding has been committed (this is captured in the LCS plans). No information has been provided on the planned investment into the provision of dental practices in LB Newham.

3.97. Consultation found that LB Tower Hamlet proposes a new health facility in Fish Island. This is intended to accommodate future growth in the borough, although the increased capacity provided has not yet been confirmed. The indicative costs and funding for this facility have also not yet been confirmed, However site options have been identified in the Fish Island AAP. No information has been provided on the planned investment into the provision of dental practices in LB Newham.

3.98. In LB Waltham Forest plans have been set out for the refurbishment and/ or replacement of primary care health facilities at Tallack Road. There are also plans for a new health centre at South Grove as part of the regeneration of Walthamstow Town Centre. The 2009 SIA for the borough stated that there were no panned investments into dental care practices by the PCT.

3.99. The OPLC have set out plans for the LCS area to provide two NHS Walk-in-Centres, equating to an additional two GPs and two dentists, and a new Primary Care Centre which will prove an additional six GPs and six dentists to serve the development, equating to eight new GPs in total. The level of provision calculated to arise from demand was 7.5 GPs. It should be noted that the LCS infrastructure plans have not yet been approved and are therefore open to revision.

3.100. Consultation with boroughs carried out as part of this research highlighted that the outlook for funding and committed investment has changed considerably since the SIAs were carried

out. There are now reduced levels of planned investment and what investment is expected is mainly to upgrade existing capacity.

Net Provision Requirements: Demand Arising Less Existing Capacity

3.101. We assume that latest information from the boroughs is correct and that generally there is minimal spare capacity. Information on LB Hackney does suggest a surplus of GP provision. However this surplus is probably concentrated elsewhere in the borough rather than available to serve the OLPSG area. As the borough and LCS' proposals are subject to change, net requirements are as outlined in Table 3.6 above.

Cost of Net Provision Requirements

3.102. The HUDU model estimates a financial contribution by calculating the cost per sq m for each additional primary care space required[33]. It suggests a benchmark of 165 sq m per primary care space, at a cost of £2,380 per sq m. The space requirement is set at a higher level than traditional standards in order to reflect the changing role of Primary Care in providing a wider range of services to the community. The costs estimate is based on calculations for the construction of a Primary Healthcare Centre to accommodate 6 GPs and includes fees, non-work costs, equipment costs and fees[34]. Using the HUDU model assumptions, the costs of meeting the provision requirements in the OLSPG area are £12.9million.

3.103. If it is decided appropriate then there will also be additional costs associated with other health infrastructure as defined and calculated in the HUDU model.

Location of the New Infrastructure

3.104. Demand arising by sub-area is set out in Table 3.6. This provides an indication of where provision could be located. The LCS identifies locations for new and expanded primary health care provision as follows:

- One new primary care centre, located in the Hackney Wick Fish Island sub-area, which will provide an additional six GPs and six dentists;
- One new primary care centre, located in the Stratford sub-area, which will provide an additional two GPs and two dentists; and
- One new primary care centre, located in the Southern Olympic Fringe sub-area, which will provide an additional two GPs and two dentists.

[33] The calculation includes provision for: patients' reception spaces; consulting / examination /treatment spaces; office accommodation; staff facilities; and, Utility space and stores. Through consultation on the HUDU model, it has been recommended that the space requirement be doubled to 165 m2. This increase in space is required to reflect the changing role of Primary Care in providing a wider range of health services closer to the community. Primary care space therefore caters for services additional to GPs, including dental care services.

[34] HUDU Planning Contribution Model Guidance Notes, NHS London 2007

3.105. There are a number of models of delivery which could be used in order to provide this increased infrastructure, including the creation of new provision and the extension or restructuring of existing provision to accommodate increased demand. In relation to primary health care, as set out in the policy review for this section, remodelling of facilities is being undertaken not just to cater for increased demands, but to facilitate a shift in provision to become more integrated and community based.

3.106. The catchment area for primary health care is typically within a distance of 800m, which is a typical walking distance. The consideration of catchment areas in making locational decisions is discussed further in the 'Policy Review' section above.

Sports and Leisure

Policy Review

3.107. For the purpose of this section, leisure facilities include swimming pools and indoor sports halls. Only publicly accessible sports halls and swimming pools within the boroughs area are taken into account, in line with Sport England guidance. Commercially operated and private use facilities are excluded from our assessment of existing capacity and planned provision.

3.108. The Sport England standard for provision of sports halls is 0.29 per 1,000 population and for swimming pools is 10.23 sq m of water per 1,000 population.

3.109. Planning for sports and leisure at the national level is driven by PPG17, which sets out the policies relating to open space, sport and recreation that should be taken into account by local planning authorities in the preparation of local development plans.

3.110. In addition to this, Sport England has provided guidance relating the standards of provision of leisure space.

3.111. At the metropolitan level, the London Plan 2011 sets out the aim for leisure provision, to improve access to leisure facilities and open space and use the planning system to secure new provision.

3.112. The funding cuts announced for central and local government are likely to have impacted on the amount and type of funding available for investment into leisure facilities. We are currently consulting with the boroughs to identify what the implications of these changes will be for borough investment plans.

Gross Demand Arising

3.113. Building upon work carried out by the GLA we have modelled demand for sports and leisure provision across the OLSPG area using the following assumptions:

- 0.0112 sq m of water per person and that a pool measures 217 sq m (six 25 sq m lanes) (water per person based on an average of the four boroughs from the Sport England Facility Calculator)

- 0.00031 sq m of sports hall court space per person (also based on the Sport England Facility Calculator for the average of the four boroughs)

3.114. A breakdown by sub area of the forecast demand for swimming pools and sports halls created by new development across the OLSPG sub-areas is given in **Table 3.7** below. These are based on the housing growth assumptions as before. New development across the sub-area will meet or contribute to meeting this demand created.

Table 3.7 Gross Demand for Sports Halls and Swimming Pools

	OLSPG Area	*OLSPG Sub-Areas*				
		Hackney Wick Fish Island	*Northern Olympic Fringe*	*Olympic Park*	*Southern Olympic Fringe*	*Stratford*
Sports halls	4.8	1.0	0.6	0.5	1.6	1.2
Swim pools (sq m)	660	135	77	63	218	167
Swim pools lanes	12.5	3.7	2.1	1.7	6.0	4.6
Swim pools	3.0	0.6	0.36	0.29	1.0	0.8

Source: URS calculations
Note: Figures may not sum due to rounding

Existing Capacity

3.115. In LB Hackney a baseline study concluded that there were 10 leisure facilities in the borough, of which five are operated jointly by the Council and Greenwich Leisure Limited (GLL). Consultation with the borough indicated that there was a deficit in the supply of both swimming pools and sports halls in the borough. Provision in the OLSPG area of Hackney is particularly sparse, which is also an area of high demand.

3.116. LB Newham's SIA finds that there is a surplus of supply in the provision of sports halls and swimming pools in the borough, though some areas have under provision.

3.117. LB Tower Hamlets has four public swimming pools and four sports halls. The SIA found that there was a deficit of between one and two swimming pools, based on the Sport England standard for provision.

3.118. LB Waltham Forest has a deficit in provision for both sports halls and swimming pools, though at present the data is not available to allow us to quantify this capacity.

3.119. There was no information provided on capacity for sports and leisure within the LCS area. However, existing provision within the Inner Impact Area includes three leisure-specific facilities. These are the Hackney Marshes, which provide an athletics track and football/ rugby pitches, the Catchall Leisure Centre in Waltham Forest, which provides a swimming pool and one sports hall in addition to the Score Centre, also in Waltham Forest, which provides five indoor tennis courts. This assessment does not include the future provision from the Games venues once converted to legacy uses which will be available to residents.

3.120. Recent discussions with boroughs carried out as part of the research in to this report suggest that in most or all cases the situation has changed since the SIAs were carried out.

Committed and Planned Provision

3.121. The commitment to the sporting legacy of the Games will be supported through the provision of new and enhanced sports and leisure infrastructure. This will include some of the retained Games venues, which will link to sports and leisure facilities provided by the Lee Valley Regional Park Authority (LVRPA). The sporting and leisure venues which will form part of the Gamed legacy for this area will also help to increase provision across the four boroughs which overlap the OLSPG area. However, the extent to which the Games legacy venues will contribute to provision of publicly accessible leisure space remains unclear as options for post-Games uses are still being explored.

3.122. LB Hackney has plans for the refurbishment and expansion to three leisure centres and the Healthy Living Centre, and has been exploring options for the creation of either five large or 19 small fitness centres and the provision of two additional swimming pools. We do not have information on locations of these centres and whether they will serve the OLSPG area. We have assumed that they will not provide for OLSPG demand.

3.123. LB Newham is currently exploring options for investment in sports and leisure. The first option is to continue running four leisure centres over the next 20 years at a cost of £49.7 million. The second option is to reduce provision (through the closure of Atherton and Balaam leisure centres) and invest in the Olympic Aquatic Centre (OAC) at a total cost of £29.3 million. The third is replacement provision (new pools at Canning Town and Green Street) and invest in OAC, at a cost of £33.4 million. At present, it is unclear whether a decision has been made on this. Consultation revealed that Atherton Leisure Centre has been closed, with plans for refurbishment currently under discussion.

3.124. LB Tower Hamlets has confirmed that the investment planned for the borough's sports and leisure provision which falls within the OLSPG boundary includes one new sports hall at Bow Locks School.

3.125. LB Waltham Forest has identified a number of planned investments, including the replacement of Cathall Leisure Centre, resulting in four new badminton courts. Plans also include the replacement of Kelmscott Leisure Centre, with one new pool added.

3.126. The LCS will be served by both new development of sports and leisure space and the Games venues once converted to legacy uses. This will include:

- 3,606 m² flexible leisure space;
- a Multi-Use Sports Arena (including 4 sports hall courts);
- VeloPark, BMX and Mountain Biking facility;
- The Olympic Aquatics Centre; and

- 32,778 m² (3.3ha) flexible recreation space including formal and informal space. It should be noted that the LCS infrastructure plans have not yet been approved and are therefore open to revision.

3.127. Consultation with boroughs carried out as part of this research highlighted that the outlook for funding and committed investment has changed considerably since the SIAs were carried out. There are now reduced levels of planned investment and what investment is expected is mainly to upgrade existing capacity.

Net Provision Requirements: Demand Arising Less Existing Capacity

3.128. Given uncertainties over post Games plans for legacy infrastructure it is not possible at this stage to estimate net sports halls and swimming pools requirements. It is hoped that the Games legacy infrastructure will meet much of the needs arising from the OLSPG area growth.

Cost of Net Provision Requirements

3.129. Given uncertainties over post Games plans for legacy infrastructure it is not possible at this stage to estimate costs of net sports halls and swimming pools requirements. However, if costs were based solely on gross demand arising, then applying the cost for sports halls would be £3.0 million[35].

Location of the New Infrastructure

3.130. The distribution of demand by sub-area is set out in **Table 3.7.** Further work should be undertaken to identify suitable locations for swimming facilities taking into account the Games venues which, once converted post Games, will increase the amount of sports and leisure space accessible to local residents. The Olympic Aquatic Centre has the potential to significantly increase the provision of swimming facilities this part of London and it is judged that a large proportion of the OLSPG's population will be within 800m of the Olympic Park (walking distance).

Open Space

Policy Review

3.131. The key policy drivers for open space at the national level have been identified in the previous section on sports and leisure.

3.132. Public open space is defined in the London Plan 2008 as public parks, commons, heaths and woodlands and other open spaces with established and unrestricted public access and capable of being classified according to the open space hierarchy which meets recreational and non-recreational needs. The London Plan 2011 sets out guidance on the need to provide sufficient quality open spaces for communities in Policy 7.18. Protecting local open space

[35] Sports England Facilities costs - 2nd Quarter 2011; and assuming courts an average cost of £1823 per sq m, based on an average cost of £1.805m for a sports hall measuring 990 sq m.

and addressing local deficiency, which supports the provision of new open space in addition to addressing deficiency.

3.133. Standards of public open space provision vary. Each local authority sets the standard for provision in their Open Space Strategies. For the four boroughs in the OLSPG area, these standards vary considerably, as set out below:

- LB Hackney –1.2ha per 1,000 population (referenced as the Tower Hamlets standard in the Hackney SIA)[36]
- LB Newham – 1.1ha per 1000 new residents[37]
- LB Tower Hamlets - minimum 1.2ha per 1,000 population[38]
- LB Waltham Forest - 1.6ha per 1,000 population[39.]

Gross Demand Arising

3.134. The GLA assumptions underlying the projected need for additional open space across the OLSPG area are as follows:

- 12.0 sq m of open space provision per person (playing pitches), which equates to 1.2ha per 1,000 population and includes various types of open space including:
  - informal open, at approximately 0.4ha per 1,000 population) and
  - allotment space, at approximately 0.25ha per 1,000 population.

3.135. The provision requirement of 1.2ha per 1,000 people matches other space standards applied by borough councils in London. It is not clear why categories of pitches, allotments and information space are used and how the split of space is derived. Based on these assumptions, the projected population growth in each OLSPG sub area points to a requirement for amounts of additional open space in each sub-area as shown in **Table 3.8**. Based on the requirement set out in the table below for 71.4ha of open space across the OLSPG area, including 23.8ha of informal space and 14.9ha of allotment space[40].

[36] Hackney Infrastructure Assessment 2009

[37] Open space and outdoor recreation, 2006

[38] An Open Spaces Strategy for the LB of Tower Hamlets 2006-2016

[39] Waltham Forest Open space strategy, 2010

[40] Based on the assumption of a requirement for 0.2ha of allotment space per 1,000 residents (Waltham Forest UDP 2008)

Table 3.8 Gross Open Space Demand (Hectares)

	OLSPG Area	*OLSPG Sub-Areas*				
		Hackney Wick Fish Island	*Northern Olympic Fringe*	*Olympic Park*	*Southern Olympic Fringe*	*Stratford*
Open Space	71.4	14.5	8.4	6.8	23.5	18.1
- Informal	23.8	4.8	2.8	2.3	7.8	6.0
- Allotments	14.9	3.0	1.7	1.4	4.9	3.8

Source: URS calculations
Note: Figures may not sum due to rounding

Existing Capacity

3.136. Existing open space in the OL SPG area includes Victoria Park to the west of the OLSPG area, Three Mills Green in the south and Walthamstow Wetlands which extends from Hackney Marshes in the north and links to the Queen Elizabeth Olympic Park. These are connected by the various waterways which run across the OLSPG area.

3.137. LB Hackney's assessment of open space capacity has included both public and private spaces across the borough. This shows the borough to have a surplus of open space, at 2.3ha of open space per 1,000 people. The borough's current provision is above LB Tower Hamlets Open Space Strategy standard of 1.2ha per 1,000 people. However, other boroughs have not included private open space in their assessment, which makes this figure difficult to compare. In terms of public park space the borough has 1.49ha per 1,000 population, which is above the 0.6ha standard for public park space set out in other guidance[41]. Hackney's open space provision is expected to be higher than other boroughs due to the Hackney Marshes, which provide a large area of public open space including sports pitches. The amount of open space provided by the Marshes will be temporarily reduced during the Games.

3.138. In LB Newham there is 194ha of public park and garden space in the borough. The borough's Open Space Strategy has identified a deficit in provision, at 1.1ha per 1,000 population.

3.139. Analysis reveals there is 0.98ha of publicly accessible open space per 1,000 residents in LB Tower Hamlets, which is lower than the Council's monitoring target of 1.2ha per 1,000 residents. Trends indicate that if no additional open space can be provided in the borough this ratio will drop to 0.72ha per 1,000 residents by 2025.

3.140. LB Waltham Forest's Open Space Strategy has identified a surplus of provision in the borough, with 2.85ha per 1,000 population. This is higher than the standard target of 1.2ha per 1,000 population.

3.141. There is not information available on open space capacity across the LCS site. However, an assessment has been conducted which shows the provision of open space across the Inner

[41] Costing the Infrastructure Needs of the Southeast Counties, 2004, Roger Tym

and Outer Impact areas, as shown in **Table 3.9** below. The assessment shows that the Inner Impact Area has a high level of open space including significant sites such as the Metropolitan Parks of Victoria Park and Hackney Marshes. The open space in the Outer Impact Area is predominantly made up of District Parks such as Mile End Park and West Ham Park. There will also be provision of open space as part of the Olympic Park legacy.

Table 3.9 LCS Open Space Assessment

Geography	*Small Local Park (ha)*	*Linear Open Space (ha)*	*Local Park (ha)*	*District Park (ha)*	*Metropolitan Park (ha)*
Inner Impact Area	8.84	1.70	7.61	24.9	162.43 (IIA and OIA)
Outer Impact Area	14.58	3.41	96.35	125.03	
Total	23.42	5.11	103.96	149.93	

Source: LCS Housing and Social Infrastructure Study (Draft)

3.142. Recent discussions with boroughs carried out as part of the research in to this report suggest that in most or all cases the situation has changed since the SIAs were carried out.

Committed and Planned Provision

3.143. The draft OLSPG includes plans to improve and extend the open space provision across the sub-areas, in line with proposals included in the Lower Lea Valley Opportunity Area Planning Framework (LLV OAPF) to create a network of parks and open spaces focused around the River Lea. The locations of these new open spaces are being identified in individual borough plans[42].

3.144. LB Hackney has invested £10 million in improvement works to Hackney Marshes and Mabley Green, which was completed in April 2011. Funding and design support for this project was given by the LDA and Design for London.

3.145. Consultation has revealed that, for the LB Newham, the proposed Queen Elizabeth Olympic Park and expansion of Lea River Park will address a borough wide quantitative deficit of metropolitan open space. However, it was noted that additional small open space sites will need to be provided within residential areas to ensure local access.

3.146. LB Tower Hamlets has identified a number of locations as suitable for new public open spaces within the OLSPG area, including Fish Island, providing an additional 1.2ha of open space to address existing deficit and provide for future growth at a cost of £1.1 million. A second project has also been identified at Bromley-by-Bow, which will provide an additional 1.2ha of public open space at a cost of £1.6 million. Both projects will be funded through investment from Section 106 or CIL contributions and capital funding. The sites were identified in the borough's Open Space Strategy.

[42] OLSPG (2011)

3.147. LB Waltham Forest has plans for three open space sites which fall within the OLSPG boundary; Drapers Field, Marsh Lane and Abbotts Park[43].Funding will be sourced from the ODA via a Section 106 Agreement and Section 111 Agreement linked to their planning application for temporary use of Drapers Field in support of the 2012 Games. The works will include remediation work and improvement to current provision and the installation of an urban beach facility in Drapers Field. The total cost for works will be around £2.2 million for work on Marsh Lane, £495,000 for works on Abbotts Park and £2.2 million for works on Drapers Field.

3.148. The OPLC have set out plans for the LCS development to contribute 9.4ha of the total 102ha open space which is to be provided across the OLSPG area, the core of which will be the Queen Elizabeth Olympic Park[44]. It should be noted that the LCS infrastructure plans have not yet been approved and are therefore open to revision.

3.149. Consultation with boroughs carried out as part of this research highlighted that the outlook for funding and committed investment has changed considerably since the SIAs were carried out. There are now reduced levels of planned investment.

Net Provision Requirements: Demand Arising Less Existing Capacity

3.150. The high-level picture of open space provision shows large areas of newly created publically accessible open space coming forward, the majority of which is contained within the Queen Elizabeth Olympic Park, located at the heart of the OLSPG area. This new park will form the core of the 102ha of open space to be provided in the OLSPG area and is in line with the demand for new park space.

3.151. Demand for open space includes smaller, informal open space and allotment space, of more localised catchment areas. Further consideration needs to be given to the location of small parks within the OLSPG area, in particular in former industrial areas being converted to residential uses, which typically by the previous uses are under-supplied with local open spaces.

Cost of Net Provision Requirements

3.152. We currently do not have enough information on potential investments and improvements in open space to draw up an estimate of relevant costs. However, based on an indicative rate of £32 per sq m[45] the indicative open space cost would be £22.8m.

[43] LB Waltham Forest Cabinet Report - Leyton Open Spaces Investment Programme

[44] Condition LTD 22 for plans across the OLSPG area states that at least 102ha of open space be provided that meet the London Plan criteria for designation as Metropolitan Open Space

[45] LB Camden Open Space, Sports and Recreation Study Update (Atkins, 2008)

Location of the New Infrastructure

3.153. Based on the modelling undertaken as part of this study, the allocation of the total demand for 103ha of open space by OLSPG sub-area has been identified in **Table 3.8**.

3.154. There are a number of models of delivery which could be used in order to provide this additional open space, according to the category of open space required. The larger areas of open space will generally be provided as part of the new Queen Elizabeth Olympic Park, though smaller areas of open space will need to be integrated into new developments to provide locally accessible spaces. As set out below, the wider catchment area for the larger open spaces means that the QE Olympic Park will be able to meet the demand for metropolitan park space within a wide catchment area.

3.155. The catchment area for open space varies according to the type of open space. The London Plan 2011 sets out the following hierarchy and requirements:

- Regional Parks (defined as being 400+ ha) have an 8km catchment area;
- Metropolitan Parks (60-400+ ha) have a 3km catchment area;
- District Parks (20-60ha) have a 1-2km catchment area; and
- Local (2-20ha) and Small Local (<2ha) open spaces, which have a 400m catchment area.

3.156. The consideration of catchment areas in making locational decisions is discussed further in **paragraph 3.10**.

Play Space

Policy Review

3.157. Play space incorporates a number of open space types including those dedicated areas for children containing play equipment provided within public open space areas and those within parks and specific multi-use games for younger people. The size of these spaces can vary widely.

3.158. At the national level, the Children's Plan, 2007, outlines the commitment to improve the lives of children and young peoples up to 2020 by providing access to safe play spaces. This was followed by the Play Strategy, published in 2008, which set out guidance for local authorities to consider in order to ensure that communities are provided with child play space. This was, supported by an investment of £235 million from central Government to deliver new or refurbished play areas and adventure playgrounds between 2008 and 2011. The delivery programmes through which this funding was invested were the Playbuilder, Play Pathfinder and Play Capital Investment Programmes.

3.159. Embedding the Play Strategy, published in 2010, is non-statutory guidance which guides the implementation of the 2008 Play Strategy.

3.160. The London Plan 2011 presents guidance on children's play space provision in Policy 3.6 *Children and young people's play and informal recreation facilities*, which states that local authorities should ensure that all children and young people have safe access to good quality, well designed play and informal recreation provision.

3.161. The GLA's Supplementary Planning Guidance 'Providing for Children and Young People's Play and Recreation', 2008, provides guidance on three levels of accessibility of play space:

- Under 5 years should have access within 100m of dwellings
- 5 to 11 year olds should have access within 400m of dwellings; and
- 12 years and older should have access within 800m of dwellings.

Gross Demand Arising

3.162. GLA strategic modelling of demand for the provision of children's play space across the OLSPG area is based on the assumption that there should a standard 10 sq m of children's play space per child[46]. We have modelled demand for open space provision across the OLSPG area using the following assumptions:

- Child yields as per **Table 2.7** and for private and intermediate dwellings an estimate of the number of 16 and 17 year olds by apportioning the number (child yields of social rented include children from 0 up to 18 years old)
- There are no child yields for private and intermediate dwellings. Therefore to estimate the number of 16 and 17 year olds, we have assumed that the number of 16 and 17yrs olds are 10% of the total 0 to 16 year old children (yields fall as age cohorts rise)
- Aligned the age cohorts of the child yield with those of the Play Space SPG by taking 1/7th of the 11 to 18 years cohort and adding to the 5 to 11 years cohort
- Space and accessibility requirements as per the GLA's Supplementary Planning Guidance 'Providing for Children and Young People's Play and Recreation' (2008)

3.163. The total play space requirement for children and young people is estimated at approximately 156,660 sq m or 15.7ha. Results are shown in **Table 3.10**.

[46] GLA SPG on Providing for children and young people's play and informal recreation, 2008

Table 3.10 Gross Child Play Space Demand (Hectares)

	OLSPG Area	OLSPG Sub-Areas				
		Hackney Wick Fish Island	Northern Olympic Fringe	Olympic Park	Southern Olympic Fringe	Stratford
0 to <5 yrs old	6.6	1.4	0.8	0.5	2.2	1.7
5 to 11 yrs old	4.7	1.0	0.7	0.3	1.6	1.2
12 - <18 yrs old	4.4	0.9	0.6	0.3	1.5	1.1
Total	15.7	3.3	2.1	1.1	5.2	3.9

Source: URS calculations
Note: Figures may not sum due to rounding

Existing Capacity

3.164. Consultation with LB Hackney indicated that the capacity of play space provision at the borough level was at an acceptable level. However, more up to date information has been provided which shows that the OLSPG area of the borough is currently under-provided for.

3.165. There is no information on capacity of provision for child play space in LB Newham.

3.166. There is no information on capacity of provision for child play space in LB Tower Hamlets. Consultation with the borough revealed that existing provision is primarily within existing parks and gardens.

3.167. LB Waltham Forest has a deficit in the supply of child play space in the borough. There is an estimated 3.52 sq m per child, which falls below the GLA's requirement of 10 sq m per child in new developments.

3.168. There is no information on capacity of provision for child play space in LCS.

3.169. Given that children's play space is often required at a local level near to or part of new development it is likely that in most cases any surplus in existing provision will tend not to be suitably located to meet the needs of new development.

Committed and Planned Provision

3.170. LB Hackney has been allocated £1.6 million through the Play Pathfinder programme which will fund the creation of ten new spaces by 2018, of one is located within the OLSPG area, the Trowbridge Village Green renovation project.

3.171. There is no new planned provision of play space in LB Newham within the OLSPG area. However, new play space will be required as part of new residential areas in accordance with standard requirements.

3.172. New play space in LB Tower Hamlets is to be provided within the new public open space planned at Bromley-by-Bow. Provision is estimated for 2015-2020.

3.173. LB Waltham Forest has been allocated £1,135,071 capital and £45,065 revenue funding which will be invested from 2009 to 2011 for improvement works to a minimum 22 play areas.

Further funding through the Playbuilder Programme will be used to provide improvement works at 25 play areas in the borough.

3.174. OPLC proposals for the LCS include a minimum of 2,616 sq m Doorstep Play Space, 3,524 sq m Local Play Space, 2,663 sq m Neighbourhood Play Space and 1,900 sq m Youth Play Spaces. It should be noted that the LCS infrastructure plans have not yet been approved and are therefore open to revision.

3.175. Consultation with boroughs carried out as part of this research highlighted that the outlook for funding and committed investment has changed considerably since the SIAs were carried out. There are now reduced levels of planned investment.

Net Provision Requirements: Demand Arising Less Existing Capacity

3.176. Current information suggests minimal spare or planned and committed capacity and consequently we assume that net requirements are as outlined in **Table 3.10** above. Hackney Marshes playing field pitches are likely to be able to meet demand arising from the age cohort 12 to 18 years for those located within the catchment of 800m.

Cost of Net Provision Requirements

3.177. Assuming £199 construction cost per sq m of child play space the net cost for early years provision across the OLSPG area would be £31.3 million.[47]

Location of the New Infrastructure

3.178. Based on the assessment of demand set out in **Table 3.10**, the location of demand is highest in the sub-areas of Southern Olympic Fringe, Stratford, and Hackney Wick and Fish Island.

3.179. There are a number of models of delivery which could be used in order to meet the demand for play space. Options include the provision of new play spaces as part of a residential development or as an extension of provision within a larger public open space through the redevelopment of local parks. In assessing locational needs, guidance from the GLA (set out in paragraph **3.161**) must be considered, in particular:

- Doorstop Playable Spaces for children less than 5 years, within 100m;
- Local Playable Spaces (5 to 11 years) within 400m; and
- Neighbourhood Equipped Playable Spaces (12 years and older) within 800m.

3.180. The consideration of catchment areas in making locational decisions is discussed further in the 'Policy Review' above.

[47] LB Camden Open Space, Sport and Recreation Study Update (Atkins, 2008)

Libraries and Community Facilities

Policy Review

3.181. This section deals with library and community facilities. These include Idea Stores in LB Tower Hamlets, which are multi-use facilities, providing library services in addition to other community uses such as adult learning courses, events and activities.

3.182. The 1964 Public Libraries and Museums act sets out the duty of local authorities to provide a comprehensive and efficient library service to all who live, work or study in the area.

3.183. The Museums, Libraries and Archives Council also provide guidance on priorities and standards in order to achieve the aims set out in their 'Inspiring Learning for All' initiative.

3.184. A recent study by Kent County Council and URS has suggested that it may be beneficial to consider how provision may be expanded and improved beyond provision additional floorspace. The study highlighted that there is a need to reflect evolving service delivery models, for example the need to provide access to virtual resources. This implies that increased provision could include factors beyond space standards[48].

3.185. Another recent development has been the evolution of the form and purpose of modern library provision. A good example is the Idea Stores, a multi-purpose library and community facility fist launched by DCMS in 1999 and now located in multiple boroughs across London. The Idea Stores provide traditional library services alongside a range of adult education classes, along with other career support, training, meeting areas, cafes and arts and leisure pursuits[49].

3.186. Where capacity has been assessed in the SIAs, two different standards have been used in the infrastructure assessment to identify surplus or deficit capacity. LB Hackney has used the Department of Culture, Media and Sport (DCMS)'s standard of 32 sq m per 1,000 population, whereas LB Tower Hamlets has used the Museums, Libraries & Archives Council standard of 30 sq m per 1,000 population. LB Waltham Forest and LB Newham did not provide a standard used as capacity was not assessed.

Gross Demand Arising

3.187. We have modelled demand for library and community space provision across the OLSPG area using the following assumptions:

- 0.061 sq m of community space per person (based on guidance set out in the Lower Lea Valley Regeneration Strategy)
- 30 sq m of library space per 1,000 population (based on Public Libraries, Archives and New Development: A Standard Charge Approach, May 2010)

[48] Validating the Robustness of Kent County Council Customer and Communities Services Model 2011

[49] LB Tower Hamlets Ideas Store Strategy 2009

- 500 sq m for a typical sized library

3.188. Results are shown in **Table 3.11** below, which indicate that the OLSPG area residents will require approximately 4,560 sq m of community space and over 3.5 libraries.

Table 3.11 Gross Library and Community Floorspace Demand (sq m)

	OLSPG Area	*OLSPG Sub-Areas*				
		Hackney Wick Fish Island	*Northern Olympic Fringe*	*Olympic Park*	*Southern Olympic Fringe*	*Stratford*
Community space (sq m)	***4,561***	930	494	423	1,416	1,090
Library (sq m)	***1,784***	364	209	170	589	452
Libraries	***3.6***	0.7	0.4	0.3	1.2	0.9

Source: URS calculations
Note: Figures may not sum due to rounding

Existing Capacity

3.189. LB Hackney has an average net floorspace of 33-32 sq m per 1,000 population, which equates to a surplus of provision. There is no information on capacity of community facility provision.

3.190. LB Newham has 11 libraries, though no information is available on the capacity of this provision. There were also 31 community centres located in LB Newham operated by the council, which has been assessed to be sufficient to meet demand, though the quality was generally poor.

3.191. LB Tower Hamlets was found to have a surplus of supply of 194 sq m of library and idea store space (based on the Museums, Libraries & Archives Council standard of 30 sq m per 1,000 population). There is no information on capacity of community facility provision.

3.192. There is no information on capacity of community facility or library provision in LB Waltham Forest. However, this could be calculated from the data showing that the borough has a total of 9,936 sq m of library space. Based on a population of 224,300 in 2009, this gives a ratio of 22.6 sq m per 1,000 population, which is below recommended standards.

Committed and Planned Provision

3.193. Consultation with LB Hackney has confirmed that plans to increase library provision in the OLSPG area of the borough are yet to be decided, and will be covered either by the creation of a new library at Hackney Wick, which is currently uncosted, or through expanding Homerton library. Due to the recent spending cuts it is unclear what budget will be available to cover the revenue costs for these plans. There are also plans to create a priority community facility, to be developed by the council and Berkley Homes. The borough is also undertaking a modernisation programme of its community halls.

3.194. LB Newham is investing in a number of projects, which have been identified through consultation with the borough. These include the refurbishment of Stratford Library, which will include a new Integrated Front Office. Chandos East Community Centre, located within the Northern Olympic Fringe area, will be retained as a Hub for the Stratford and West Ham Community Forum area. In addition, it has been confirmed that Abbey Lane Children's Centre is to be retained.

3.195. LB Tower Hamlets has plans to create a new Idea Store Local in Bromley-by-Bow, providing around 1,000-1,500 sq m of library and learning space. Funding was expected to be raised through partners including the New Skill Funding Agency, Tower Hamlets College and capital assets from the council, in addition to possible developer contributions. Indicative costs were estimated at around £3.2 - £3.6 million for a new build Store. Consultation revealed that this anticipated cost will be met through a combination of capital funding and planning obligations. The site for the new Idea Store has been secured.

3.196. LB Waltham Forest Council has already invested £11 million in six of its ten local libraries, with plans to invest in the remaining four in process.

3.197. The OPLC has set out plans for the LCS development to deliver 2,460m² of new Idea Store space, 2,423 m² of flexible community space and 1,258 m² of flexible cultural space. It should be noted that the LCS infrastructure plans have not yet been approved and are therefore open to revision.

3.198. Consultation with boroughs carried out as part of this research highlighted that the outlook for funding and committed investment has changed considerably since the SIAs were carried out. There are now reduced levels of planned investment.

Net Provision Requirements: Demand Arising Less Existing Capacity

3.199. With the shift towards less library space per resident and more intense use of this space we anticipate that it will not be appropriate to provide new library space to the space standards mentioned above for all of the OLSPG area. We anticipate that areas currently near to existing libraries can cover future need with investment in improvements to these libraries. There is also anticipated to be a case for at least one new library to serve the OLS area.

Cost of Net Provision Requirements

3.200. Assuming £1,746 construction cost per sq m of community floorspace[50] the net cost for community space provision across the OLSPG area would be £8.0 million.

3.201. Assuming £3,000 construction cost per sq m of library floorspace[51] the net cost for library provision across the OLSPG area would be £5.4 million.

[50] The Cost and Funding of Growth in the South East England (Roger Tym and Partners, 2005) (2005 prices)

[51] Ratio based on the proposed costs of the Bromley-by-Bow Ideas Store

Table 3.12 Net Cost of Community Space and Libraries by Sub-Area (£ million)

	OLSPG Area	*OLSPG Sub-Areas*				
		Hackney Wick Fish Island	*Northern Olympic Fringe*	*Olympic Park*	*Southern Olympic Fringe*	*Stratford*
Community Space	8.0	1.6	0.9	0.8	2.6	2.0
Libraries	6.1	1.2	0.7	0.6	2.0	1.5

Source: URS calculations
Note: Figures may not sum due to rounding

Location of the New Infrastructure

3.202. The shift in the provision of library space towards multi-use offerings, including adult learning space, is a factor which will affect delivery and location of provision. The LCS planning application, which identifies locations for new and expanded community facility and library (Ideas Store) provision as follows:

- 697 sq m of flexible community space, located in the Olympic Park sub-area;
- 1,249 sq m of flexible community space and 2,460 sq m of Ideas Store space, located in the Hackney Wick Fish Island sub-area;
- 477 sq m of flexible community space, located in the Southern Olympic Fringe sub-area.

3.203. To identify suitable locations for library and flexible community space use models of provision, accessibility needs, the needs of the local population and other factors such as those listed under 'Policy Review'.

4. TRANSPORT

Introduction

4.1. This section considers the transport infrastructure schemes required to support growth in the OLSPG area. Some of the schemes are located beyond the boundaries of the OLSPG area but are required to provide improved connectivity to surrounding neighbourhoods and areas of London.

4.2. The costs of transport interventions listed below include a number of caveats and exclusions which need to be taken into account. Appendix B sets out these caveats and exclusions.

OLSPG Strategic Transport Study

4.3. As part of the OLSPG, TfL have completed a Transport Study, which accompanies the draft OLSPG[52].

4.4. In reviewing the range of interventions required to support the growth of the OLSPG, the Transport Study takes into consideration the existing transport benefits and issues of the OLSPG area. These benefits and issues include:

- Good strategic public transport links in and out of the area, including: direct rail connections to central and east London and to parts of Essex and Kent
- Key strategic roads including the A11, A12 and A13 providing access to central and south London
- Extensive network of rivers and canals that provide opportunities to move fright, waste and construction materials, and provide walking and cycling routes
- Overcrowding and congestion on parts of the public transport and highway networks; and
- Poor local connections to surrounding neighbourhoods and communities, with numerous physical barriers such as railway lines, roads and limited crossings over waterways which act as barriers between places and communities.

4.5. To enhance these benefits and address these issues a coordinated approach to land use and transport planning is required. The Transport Study and Connectivity and Transport Chapter in the OLSPG highlights the transport interventions required to support the OLSPG's anticipated growth. The Transport Study considers interventions required across the OLSPG as a whole and does not disaggregate interventions by sub-area.

4.6. Transport interventions across the OLSPG are considered at two levels:

[52] OLSPG Strategic Transport Study (September 2011)

- Local and strategic schemes which have a direct impact on the Olympic Legacy area and are required to enable development; and
- Strategic schemes which will provide substantial benefits to the Olympic Legacy area but will also benefit other areas of London, which will be referred to as supporting schemes.

4.7. The list of local and strategic and supporting transport interventions and their costs are set out below. The list of schemes assumes that by 2014 there will be significant development and implementation of a number of connectivity schemes in the short term as part of Post Games Transformation (PGT) and Olympic Park Transport Environmental Management Scheme (OPTEMS). These projects are set out in Annex A of the Transport Study. The list of direct and supporting transport interventions also does not take into account the transport interventions proposed in the LCS masterplan.

Directly Enabling Schemes

Local Interventions

4.8. The OLSPG identifies local public transport intervention projects which are required to support the anticipated growth of the OLSPG, This list of intervention projects was developed by collating transport schemes identified in the local masterplans for the OLSPG area and then assessed against the gaps in the committed public transport network in the OLSPG area and against the Mayor's Transport Strategy goals during a workshop involving Design for London, TfL and LTGDC. This list was then agreed with the relevant London boroughs.

4.9. There are a number of transport improvements which will open in the short term as part of TfL's Business Plan, High Level Output Specification (HLOS) and in preparation for the Olympic Games. These include Crossrail, DLR Stratford International route, London Underground upgrades and bus improvements. The benefits of these improvements need to be maximised by reducing barriers to use, for example by ensuring that access to stations meets best practice guidelines. In addition to the local interventions required to support the OLSPG anticipated growth, TfL have therefore also identified an area-wide allocation towards walking, cycling (including Cycle Hire) and wayfinding.

4.10. The total cost of these local schemes is estimated at £60 million. Improvements to Bow Roundabout would be a very large intervention and is best treated as another separate line item, with a cost estimate of £20 million.

4.11. The OLSPG lists the following local connectivity schemes required to support the OLSPG growth:

i. Improve links from Roman Road, Fish Island, to the Queen Elizabeth Olympic Park and Stratford, in particular over the A12

ii. Improving the highway network in Stratford Town Centre to improve its environment making it attractive for all users and to reduce congestion, including new or improved pedestrian and cycle routes linking Carpenters Estate, Greenway and Pudding Mill Lane

iii. Improve links over the River Lea south of Bromley by Bow

iv. Improve the highway network in Stratford Town Centre, reduce congestion, new and improved pedestrian and cycle routes linking Carpenters Estate, Greenway and Pudding Mill Lane

v. Improve links between Ruckholt Road and Leyton

vi. New and improved pedestrian and cycle links between Leyton and the Queen Elizabeth Olympic Park and Eton Manor

vii. Improve pedestrian and cycle links across the A12 esp. from Bow Roundabout southwards, and improved pedestrian and cycle environment along the A12

viii. Improvements to Bow roundabout

ix. Improve links south of Hertford Union Canal between Hackney Wick across the Lee Navigation

x. Improve links north of Hertford Union Canal between Hackney Wick across the Lee Navigation

xi. Improve north-south pedestrian and cycle connections on both sides of the River Lea to better link the Queen Elizabeth Park north to Hackney Marshes and south to Three Mills, with particular focus where the river goes under the North London Line and the A12 to enable improved bus services

xii. New bus infrastructure around the A12

xiii. Improve links to the western entrance of Stratford Station

xiv. Improve all modes access to Sugar House Lane and Three Mills

xv. New bus connections within Sugar House Lane

xvi. Eastway bridge improvements (now being delivered by OPTEMS); and

xvii. Area-wide walking, cycling (including Cycle Hire) and wayfinding and routes to stations.

4.12. There will need to be an allowance for bus capacity enhancements, to pump prime new services, and local infrastructure such as bus standing facilities which are not identified separately under the local connectivity links. The existing section 106 agreements for Stratford City and Olympic Post Game Transformation have already identified bus requirements for these developments which total £16 million. Further bus capacity enhancements and supporting local infrastructure will be required to support other growth within the OLSPG area, and for lack of detailed analysis or information at this point, TfL suggest an estimate of £56 million based on comparable information from the Vauxhall Nine Elms Battersea (VNEB) Development Infrastructure Fund (DIF). It should be noted that bus capacity enhancements will not be able to be collected in CIL (as they do not comply with the

definition of infrastructure), and will be subject to separate ongoing S106 improvements. For now, we will continue to include the £56m figure in tables.

4.13. The above list of local and neighbourhood level interventions schemes are considered to be necessary for the success of the OLSPG.

Strategic Interventions

4.14. There are a number of strategic interventions schemes which will directly benefit the OLSPG. These strategic schemes identified by TfL are listed as:

i. Local station upgrades (Hackney Central / Hackney Downs link, Hackney Wick London overground station, Bromley-by-Bow London underground station, Leyton London underground station and Pudding Mill Lane DLR escalators)

ii. Improved all modes access to Sugar House Lane and Three Mills

iii. Double tracking DLR

iv. Three Car DLR Operation

v. Crossrail 1; and

vi. Strategic highway schemes.

4.15. Strategic highway schemes have not been specifically identified in the OLSPG, but the OLSPG sets out that these will be necessary to mitigate the cumulative impacts of development to maintain an acceptable performance in the transport network, such as junction improvements. An example of such a scheme is the package of river crossings which would provide benefits to the Strategic Highway Network in the OLSPG area. Further work will need to be undertaken to define a full list of interventions required. It is suggested that an allowance of £60m is made for these strategic highway schemes. An appropriate governance mechanism will need to be established, potentially in a similar way to the existing Olympic Park Transport Environmental Management Scheme (OPTEMS) programme, to monitor, review and bring forward schemes as appropriate.

Indicative Costs

4.16. TfL have estimated the capital cost of the local and neighbourhood direct enabling transport schemes which are required to support the anticipated growth of the OLSPG to be £60 million, of which £20 million is Bow Roundabout. A further £56 million is estimated for bus capacity enhancements. **Table 4.1** below lists the required local and neighbourhood transport schemes.

4.17. TfL have identified capital costs related those strategic schemes which will directly benefit the OLSPG. These schemes are listed in **Table 4.2**. A number of these schemes are geographically more closely related to the OLSPG area, such as the local station upgrades and the double tracking of the DLR, and running three car DLR vehicles via Pudding Mill Lane (before and after double tracking which would allow increased frequencies), while Crossrail will have direct benefits to the OLSPG area and also across Greater London and

beyond and which has its own funding regime already established, as set out in Appendix A. For these strategic schemes TfL will seek contributions from developers towards the scheme's costs.[53] Total capital costs without Crossrail1 included are £186 million. Crossrail1 is estimated at £16 billion.

4.18. Some of these interventions may already be expected, or eligible, to have funding from other sources of funding, such as S106 agreements, Borough, TfL, LTGDC or Government schemes. Only a couple of the schemes identified already have funding identified through existing S106 agreements at Bromley-by-Bow and Stratford City, and these will be subject to those schemes being built out.

Table 4.1 Direct Enabling Local Transport Schemes and Capital Cost (£ Million)

	Local Intervention Schemes	*Indicative Cost (£ m)*	*Committed Funding*		*Other Funding*
			£ m	*Source*	
i	Links from Roman Road, Fish...		0	-	-
ii	Highway network in Stratford…		0	-	-
iii	Links over the River Lea south…		0	-	-
iv	Highway network in Stratford Town…		0	-	-
v	Links between Ruckholt Road…		0	-	-
vi	Pedestrian and cycle links, Leyton…		0	-	-
vii	Pedestrian and cycle links, A12…		5.0+[1]	S106 [2]	-
viii	Links south of Hertford Union Canal…	40	0	-	-
ix	Links north of Hertford Union Canal…		0	-	-
x	North-south pedestrian and cycle con…		0	-	-
xi	New bus infrastructure around A12…		0	-	-
xii	Links to west entrance Stratford Stn…		0	-	-
xiii	All modes access to Sugar House Ln…		0	-	-
xiv	Bus connections Sugar House Ln… [3]		tbc [3]	Developer contributions	-
xv	Eastway bridge improvements [4]		0 [4]	OPTEMS [4]	-
xvi	Walking, cycling, wayfinding…		0	-	-
xvii	Improvements to Bow roundabout…	20.0	0	-	-
	Sub-Total	**60**	-	-	-
xviii	Bus capacity enhancements	56	16	-	S106 [5]
	Total Cost	**116**	**0**	**-**	**-**

Source: TfL

Note: Does not include strategic highway schemes are not identified

1. Part of a package of works including underpass and new junction, met by developer contributions

2. Bromley-by-Bow Tesco S106

3. tbc: To be confirmed. Assumed to be delivered through emerging developers schemes

4. Package delivered by OPTEMS (Olympic Park Transport Environmental Management Scheme) by 2014. There are a number (over 70) connectivity schemes to be delivered by 2014 which TfL assume will be in place to enable the delivery of the Games and OLSPG. The Eastway bridge improvements are considered to be essential interventions.

5. £16 million has been allocated from Stratford City S106 and Olympic Post Games Transformation.

[53] Contributions sought / received will vary by location and are determined by factors such as the scale of development, which relate to extra trips made, land values and development viability.

Table 4.2 Direct Enabling Strategic Transport Schemes and Capital Cost

	Strategic Interventions Schemes	*Indicative Cost (£ m)*	*Committed Funding*		*Other Funding*
			£ m	*Source*	
i	Local Station upgrades Total incl:	41	3.5	S106 [1]	-
	- Hackney Central/Hackney Downs link	4	0	-	Network Rail/TfL/GLA riot recovery fund
	- Hackney Wick LO station	10	0	-	Network Rail/TfL/LTGDC
	- Bromley-by-Bow LU station	10	3.5	S106 [1]	
	- Leyton LU station	14	0	-	
	- Pudding Mill Lane DLR escalators	3	0	-	
ii	All modes access to Sugar House Ln…	5	0	-	-
iii	Double tracking DLR	50	0	-	-
iv	Three Car DLR Operation:	30	0	-	Potential S106
	- 3 additional vehicles (no double track) to run current services via PML to 3 car	7.5		-	-
	- 9 additional vehicles (post double tracking) to increase frequency via PML	22.5		-	-
v	Strategic highway schemes	60	0	-	Wide [2]
vi	Crossrail 1	16,000	-	CIL/S106 [3]	
	Total (not including Crossrail 1)	**186**			
	Total (including Crossrail 1)	**16,186**			

Source: TfL

Note: Does not include strategic highway schemes are not identified

1. Bromley-by-Bow Tesco S106

2. Wide range of schemes could be proposed. Could include Thames river crossings separate workstream with potentially high costs.

3. CIL refers to three additional charges Crossrail Business Rate Supplement (BRS), Crossrail S106 levy and the Mayor's CIL.

Supporting Schemes

Proposed Interventions

4.19. There are several strategic connections which will support the OLSPG area but will also benefit other areas of London, but cumulative growth in the OLSPG area would be expected to contribute towards these schemes. The schemes are subject to much further study, definition, and will be the subject of other feasibility workstreams and approval mechanisms with stakeholders. These are:

i. Services north of Stratford (including Hall Farm Curve, Lea Bridge Road Station and the West Anglia Main Line upgrade. which are all subject to further investigation and approval by rail authorities

ii. Power upgrade Central Line: Apportionment of costs to OLSPG will be subject to further consideration

iii. Chelsea - Hackney Line: This is a safeguarded route and TfL is currently engaged in a review of the line to ensure it will be able to provide the maximum benefit and value for money

iv. Further Strategic Highway schemes (still to be identified); and

v. DLR vehicles to run additional DLR Stratford International to Beckton services.

Indicative Costs

4.20. TfL have provided high level estimates of the likely capital cost associated with supporting development schemes.

Table 4.3 Supporting Development Transport Schemes and High Level Capital Costs

	Strategic Interventions Schemes	*Indicative Cost (£ m)*	*Committed Funding* £ m	*Committed Funding* Source	*Other Funding*
i	Rail services north of Stratford Total Incl:	41+	4	-	-
	- Hall Farm	36	4	Stratford City S106	To be spent by 2013
	- Lea Bridge Road Station	5			-
	- Services north of Stratford and WAML	Uncosted			-
ii	Power upgrade Central Line	60	-	-	-
iii	Chelsea – Hackney Line	10,000	-	-	-
iv	Further Strategic Highway schemes	Uncosted	-	-	-
v	14 additional DLR vehicles to run additional DLR services Stratford International to Beckton	35			
	Total (not incl. Chelsea–Hackney)	**>136**			
	Total (incl. Chelsea–Hackney)	**>10,136**			

Source: TfL

5. UTILITIES

Introduction

5.1. This section covers the key utility infrastructure items (gas, electricity and water), sewerage (or waste water), waste management and flood defence. The responsibilities of monitoring capacity and managing the maintenance and expansion of these systems lies with a number of private utilities operators.

5.2. This assessment has relied upon previous studies and consultations with utilities providers. It has drawn upon information sourced from published documents, provided for public use by the operators in charge of the utilities networks across the OLSPG area. These include investment plans and resource management plans. Information has also been sourced, where possible, from the borough-level SIAs.

5.3. Given the nature of information available the analysis presented below is mainly sub-region, covering the wider London area. It has not been possible produce an assessment of existing capacity or planned investment being undertaken by these operators at a local geographical level. We have though produced estimates of demand for relevant services based on benchmarks.

5.4. For planned and committed investment, the LCS is the focus, as this new development will require new connections to be made to the existing utilities systems.

Location of the New Infrastructure

5.5. Based on the modelling undertaken as part of this study, the allocation of the total demand anticipated for the OLSPG by sub-area has been identified in **Tables 5.1 to 5.7.**

5.6. The LCS will be served in part be new gas, water, electricity and flood defence utilities infrastructure put in place to serve the Olympic Park area during Games time. These new utilities will fall within the Olympic Park, the Hackney Wish Fish Island and the Stratford sub-areas.

5.7. In addition, new gas, water and electricity utilities infrastructure will be provided after the Games in order to serve the LCS development area. These will be located within the Southern Olympic Fringe sub-area.

5.8. The available models of delivery for these new utilities will vary according to the nature of the utilities infrastructure. For much of the inherited infrastructure, new development will need to be connected up to the inherited Games infrastructure networks. The inherited provision is also likely to require restructuring in some cases in order to serve post-Games development.

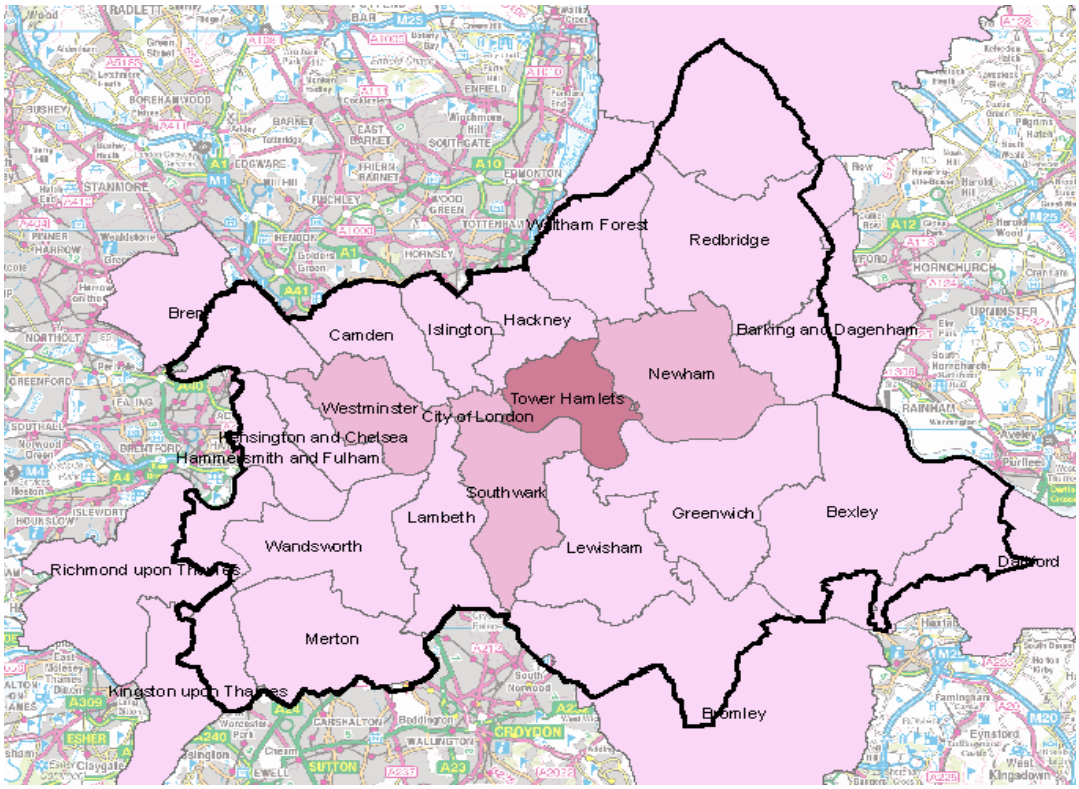
Electricity

5.9. The OLSPG area falls within the London Power Networks (LPN) area, which covers some 665 sq km across London[54]. The map below shows the LPN network, representing the London area with the black outline identifying the extent of the operational area.

Policy Review

5.10. Electricity network operators have a legal obligation to ensure that adequate electricity is provided to meet the requirements of new residential development. LPN submit their growth plan to the regulator Ofgem for approval and review, which is a requirement set out in national guidance.

Figure 5.1 London Power Network Operational Area



Source: EDF Energy, in the Waltham Forest Utilities Infrastructure Assessment 2009

Existing Requirements

5.11. Capacity in existing electricity networks is thought to be limited with the exception of planned new provision associated with the Olympic. Consultation with EDF has revealed that the current network capacity is adequate for meeting existing demand.

[54] The area was formerly covered by EDF.

5.12. It is possible that through the implementation of decentralised energy and the Code for Sustainable Homes, the levels of energy consumed through EDF's network will decrease, though the extent of this has not been quantified.

5.13. **Table 5.1** below shows the electricity usage at the borough level compared to the London average in 2007.

Table 5.1 Electricity Consumption by Local Authority and London Wide, 2007

	Average domestic consumption kWh	Average commercial and industrial consumption kWh
Hackney	3,604	25,441
Newham	3,782	83,982
Tower Hamlets	3,868	172,175
Waltham Forest	3,973	39,974
Greater London	4,161	68,901

Source: www.berr.gov.uk/energy/statistics/regional/regional-local-electricity/page36213.html

Provision Requirements

5.14. Indicative demand for electricity can be estimated using the ratio of Kilo Volt Amperes (kVA) by use class:

- Residential demand, 1.3 KVA per dwelling
- Office development, 0.08 KVA per sq m Net Internal Area (NIA)
- Retail development, 0.12 kVA per sq m NIA;
- Industrial development, 0.04 kVA per sq m NIA;[55]
- Primary sub station, 5,000 dwellings, £4 million; and
- Distribution sub-station, 300 dwellings £50,000.[56]

5.15. There are a number of assumptions underpinning these ratios. Utility networks requirements for a local development and a sub-regional development differs considerably. For a local development demand ratio per residential dwelling is in the region of 1.6kVA per dwelling; for a regional development it is 1.0KVA. For this assessment a mid-point ratio of 1.3 has been applied. For commercial and industrial sector, there is a large variance on demand – a B8 use class distribution unit could use less energy than small industrial company involved in high energy demand.

[55] These figures have been informed through consultation undertaken by URS for other London-based strategic infrastructure assessments

[56] Based on consultation with electricity providers for other Strategic Infrastructure Assessments

5.16. Based on the ratios applied above the indicative demand is presented in **Table 5.2** below.

Based on the assumptions set out above, it is estimated that the OLSPG area will require a total of just under 6 primary sub-stations and just over 97 distribution sub-stations.

Table 5.2 Estimated Electricity Demand from New Development (kVA)

	OLSPG Area	*OLSPG Sub-Areas*				
		Hackney Wick Fish Island	*Northern Olympic Fringe*	*Olympic Park*	*Southern Olympic Fringe*	*Stratford*
Residential	37,907	7,615	4,182	4,002	12,486	9,623
Non Residential	94,828	12,086	1,340	2,963	14,409	64,030

Source: GLA OLSPG Model and URS/SW Calculations
Note: Figures may not sum due to rounding

Committed and Planned Provision

5.17. With the aging of existing infrastructure and recent growth in the OLSPG area and wider area LPN plans and requirements include replacement and expansion of the existing network and infrastructure.

5.18. EDF could not confirm whether capacity improvements will be required in the absence of a review conducted of a specific development proposal. Consultation between LB Newham and EDF has confirmed that there are no major improvement projects planned up to 2015 for the Newham area.

5.19. The OPLC plans for the LCS development to be served by a range of utilities infrastructure designed for both the Games and their legacy and this infrastructure will be available for use by new development. These inherited infrastructure items include High Voltage (HV) and Low Voltage (LV) power networks, including a new primary substation at King's Yard in Hackney.

Cost of Net Provision Requirements

5.20. In the absence of more detailed local analysis it is not possible to estimate costs at this stage. However, data has been obtained on the cost and provision requirement in relation to primary sub-stations and distribution sub-stations, as set above[57]. Based on these assumptions, it is estimated that the costs across the OLSPG area for provision of primary sub-stations will be £23.3 million and for distribution sub-stations is £4.9 million.

Gas

5.21. National Grid is the gas network strategic infrastructure provider for OLSPG area.

Policy Review

[57] based on discussions with Scottish and Southern Water Board in the course of work being undertaken by URS on behalf of LB Hillingdon

5.22. Gas network operators have a legal obligation to ensure that adequate gas infrastructure is provided to meet the requirements of new residential development.

5.23. National Grid published their Long Term Development Plan in October 2010, setting out the projected demand to 2020 and the planned investment necessary to meet this demand. This document projects that demand will decrease annually by around 4.5% to the end of 2019. These falling usage rates have been caused by a number of factors, primarily the rising consumer gas prices and the national economic downturn. In addition to this, government measures to improve the thermal efficiency of buildings and mandated improvements to appliance efficiency have reduced demand[58].

Existing Requirements

5.24. **Table 5.3** below shows the gas usage at the borough level compared to the London average in 2007.

Table 5.3 Gas Consumption by Borough and Across London (kWh)

	Average domestic consumption, kWh	Average commercial and industrial consumption, kWh
Hackney	14,119	273,564
Newham	15,263	1,276,720
Tower Hamlets	12,065	565,140
Waltham Forest	16,589	330,085
Greater London	16,911	455,522

Source: www.berr.gov.uk/energy/statistics/regional/regional-local-electricity/page36213.html

Provision Requirements

5.25. Indicative demand for gas can be estimated using the ratio of cubic metre per hour by Dwelling or GEA floorspace of non-residential use:

- Residential demand, 1.0 m^3/hour per dwelling (this figure is the average demand of low, medium and high density residential development)
- There is no breakdown of use class across the OLSPG area. For this reasons an average ratio of 0.03 m3/hour per sq m NIA for non-residential has been applied across Office development which has been calculated from: retail development, 0.01 m3/hour per sq m NIA and industrial and warehousing development, 0.05 m3/hour per sq m NIA.[59]

[58] National Grid London Term Development Plan 2010

[59] These figures have been derived through consultation undertaken by URS for other London-based strategic infrastructure assessments

5.26. These figures are typical ratios applied by utility companies for both development design and strategic planning. Strategic planning figure change with volume and the information not published as it is commercially sensitive.

5.27. Based on the ratios applied above the indicative demand is approximately 29,000 cubic metres per hour for residential demand and 44,000 cubic metres per hour for non-residential (i.e. industrial, warehousing, commercial and retail) demand, as presented in **Table 5.4** below.

Table 5.4 Estimated Gas Demand (Cubic Metres per Hour per Use Class)

	OLSPG	*OLSPG Sub-Areas*				
		Hackney Wick Fish Island	*Northern Olympic Fringe*	*Olympic Park*	*Southern Olympic Fringe*	*Stratford*
Residential	29,159	5,858	3,217	3,078	9,604	7,402
Non Residential	44,194	5,632	624	1,381	6,715	29,841

Source: GLA OLSPG Model and URS/SW Calculations
Note: Figures may not sum due to rounding

Committed and Planned Provision

5.28. With the aging of existing infrastructure National Grid plans and requirements include replacement of elements of the existing network and infrastructure.

5.29. Consultation between LB Newham and National Grid revealed that there is currently sufficient capacity in the sub-region, which falls within the North London Local Distribution Zone, up to 2027. As the general trend across this area is falling average gas consumption, there are currently no major projects planned to increase capacity. National Grid have confirmed that the housing trajectory figures for Newham to the 2020s are unlikely to change their strategy as across the network the impact is very small.

5.30. The LCS development will be served by a range of utilities infrastructure designed for both the Games and their legacy and this infrastructure will be available for use by new development. These inherited infrastructure items include a gas network. This consists of Low Pressure and Intermediate Pressure gas mains which supply the Energy Centre at King's Yard and also the Olympic Stadium.

Cost of Net Provision Requirements

5.31. In the absence of more detailed local analysis it is not possible to estimate costs at this stage.

Water

5.32. Water is being supplied to the OLSPG area via a system of pipes, owned and operated by Thames Water.

5.33. Clean water resources for the OLSPG area, and London in general, are largely based on abstraction from the River Thames and River Lee, and subsequently stored in reservoirs at

Crossness, near Bexley, and Walthamstow Marshes. There are minor boreholes that are used as well as a new de-salination plant at Beckton to support the overall process.

5.34. Water resources are planned at a Water Resource Zone (WRZ) level, which is defined as an area within which all water resources can be shared, ensuring that all customers experience the same level of service. The OLSPG is part of the London WRZ, covering Greater London.

5.35. Thames Water are regulated by Ofwat in terms of performance, including security of supply and quality of drinking water.

Policy Review

5.36. Water companies have a legal obligation to ensure that adequate water supply infrastructure is provided to meet the requirements of new development.

5.37. Thames Water Asset Management Plan 5 (2010 to 2015) determines the capital expenditure that Thames Water is committed to for the 2010 to 2015 period. This is supported by the 2009 Thames Water Revised Draft Water Resources Management Plan for 2010 to 2035. This document sets out how Thames Water intends to meet predicted demand for water over the next 25 years and face the challenges of increasing demand, climate change and the economic downturn. A new WRM Plan is produced every five years.

Existing Requirements

5.38. Thames Water Resources Management Plan 2009 baseline scenario for the London WRZ shows a daily deficit in water supply of 23 million litres per day in 2012-13. This is predicted to rise to 344 litres per day in 2034-5. Demand management measures and mains replacement will be required to address this deficit.

5.39. However, current forecasts from Thames Water suggest that without expanded provision the London WRZ will have a deficit in provision of water by 2025 which projected to become -15% by 2034/35. The deficit is being driven by demand, though leakage management may offset an element of the shortfall. Thames Water has also estimated that with demand management, leakage control and supply development options combined there will be a 120 Ml/d surplus by 2035. However, a report by Atkins on Thames Water's modelling of future supply and demand balances has indicated that there are considerable uncertainties in the data available to assess the likely capacity and surplus in the system[60].

5.40. In the whole of the Thames Water supply area it is estimated that in 2006/07 household consumption accounted for 47% of demand, non-household consumption 21%, and unbilled and operational use 2%. Leakage accounted for 28% of demand; split into 20% distribution losses and 8% customer supply pipe leakage.

[60] Atkins (July 2011) Adaptation Sub-Committee & Thames Water: Water resource planning under climate uncertainty in London

Provision Requirements

5.41. Indicative demand for water can be estimated using the ratio of litres per day per resident or employee:

- Demand arising from residential property is 150 litres per day per resident[61]; and
- Demand arising from commercial and industrial uses is 15.80 litres per day per employee.[62]

5.42. These figures are typical ratios applied by utility companies for both development design and strategic planning. Strategic planning figure change with volume and the information not published as it is commercially sensitive. Based on the ratios applied above the indicative demand is estimated to be approximately 9.8 million litres per day, as presented in **Table 5.5** below.

Table 5.5 Estimated Water Demand (Million Litres per Day)

	OLSPG Area	*OLSPG Sub-Areas*				
		Hackney Wick Fish Island	*Northern Olympic Fringe*	*Olympic Park*	*Southern Olympic Fringe*	*Stratford*
Residential	8.9	1.8	1.0	0.9	2.9	2.3
Non Residential	0.9	0.1	0.1	0.03	0.1	0.5
Total	9.8	1.9	1.0	0.8	3.0	2.8

Source: GLA OLSPG Model and URS/SW Calculations
Note: Figures may not sum due to rounding

Committed and Planned Provision

5.43. At the London-wide level, growth over and above the projection set out in the WRMP projections for the period 2010-2015 may need to be paid for by third parties, i.e. developers as the resourcing for these plans has already been approved by Ofwat. Situations in which developer or third party contributions would arise are likely to be those requiring localised extension of infrastructure in order to enable development.

5.44. Investments set out in the Thames Water Investment Plan 2010-2015 which will be needed to meet demand arising across the sib-region include the continuation of the leakage reduction programme via Victorian Mains Replacement (VMR) and capital maintenance of existing water mains.

[61] Based on other comparable London based infrastructure studies, e.g. Waltham Forest

[62] Advised by GLA see www.ciria.org/service/Web_Site/AM/ContentManagerNet/ContentDisplay.aspx?Section=Web_Site&ContentID=8988. Confirmed by
The figure of 15.80 litres per person per day is for office use class. However it is acknowledged that there could be significant variation in water usage, depending on the type of commercial or industrial activity.

5.45. The LCS development will be served by a range of utilities infrastructure designed for both the Games and their legacy and this infrastructure will be available for use by new development. These inherited infrastructure items include a potable water network, supplied by existing water distribution networks nut with new connections at two points to Thames Water off-site infrastructure, and a non-potable water network, served from a water recycling plant located at Old Ford in Hackney.

Cost of Net Provision Requirements

5.46. In the absence of more detailed local analysis it is not possible to estimate costs at this stage.

Sewerage

5.47. This section covers surface water drainage and foul water drainage.

5.48. The infrastructure covered in this section include physical assets associated with transporting and treating surface and foul water from the OLSPG area and discharging the treated effluent to watercourses. This includes; sewage treatment works; pumping stations; sewers; maintenance and control equipment; IT and buildings; and the planned Thames Tideway Tunnel.

5.49. The sewerage system in the OLSPG area is operated by Thames Water.

Policy Review

5.50. Thames Water Asset Management Plan 5 (2010 to 2015) determines the capital expenditure that Thames Water are committed to for the 2010 to 2015 period. This is supported by the 2009 Thames Water Revised Draft Water Resources Management Plan for 2010 to 2035. This document sets out how Thames Water intends to meet predicted demand for water over the next 25 years and face the challenges of increasing demand, climate change and the economic downturn. A new WRM Plan is produced every five years.

5.51. Sewerage companies have a legal obligation to ensure that adequate sewer treatment infrastructure is provided to meet the requirements of new development. The OLSPG area will be served a number of sewage treatment works which discharge into the tidal River Thames.

Existing Requirements

5.52. Thames Water have estimated that each person will produce around 0.08 kilos (80g) of sludge daily. The existing capacity is not known in the OLSPG area.

Provision Requirements

5.53. Indicative demand for sewerage management can be estimated using the ratio of litres per day per resident or employee:

- Residential property flow rate 200 litres/day per resident
- Retail and office flow rate 1.1 litres/s per 10,000 sq m; and

- Industrial and warehousing flow rate 1.6 litres/s per 10,000 sq m.

5.54. These figures are sourced from Sewers for Adoption (Water Research Council, 6th edition, 2006). The assessment is an approximation and makes a number assumptions, including:

- The volume of sewerage treated per customer will remain the same during the planning period (2031)
- The surface water flow is not considered; and
- The number of Thames Water customer's increases at a constant rate from now until 2031.

5.55. Based on the ratios applied above the indicative demand is estimated to be approximately 73,000 litres per day, as presented in the **Table 5.6** below.

Table 5.6 Estimated Sewerage Flow Rate (Millions of Litres per Day)

	OLSPG Area	*OLSPG Sub-Areas*				
		Hackney Wick Fish Island	*Northern Olympic Fringe*	*Olympic Park*	*Southern Olympic Fringe*	*Stratford*
Residential	11.9	2.4	1.4	1.1	3.9	3.0
Non Residential	15.8	2.0	0.2	0.5	2.4	10.7
Total	27.7	4.4	1.6	1.6	6.3	13.7

Source: GLA OLSPG Model and URS/SW Calculations
Note: Figures may not sum due to rounding
The provision requirements for non-residential were calculated by converting into millions of litres per day.

Committed and Planned Provision

5.56. At the regional level the major sewerage infrastructure project currently planned is the Thames Tunnel project, which aims to reduce pollution from the Beckton/Crossness sewerage system. This will comprise of a storage and transfer wastewater tunnel from West London to Beckton Sewage Treatment Works.

5.57. The LCS development will be served by a range of utilities infrastructure designed for both the Games and their legacy and this infrastructure will be available for use by new development. These inherited infrastructure items include surface water drainage network, with new outfalls to the Park's watercourses and foul water drainage network, which discharges to the public sewerage network.

Cost of Net Provision Requirements

5.58. In the absence of more detailed local analysis it is not possible to estimate costs at this stage.

Waste Management

Introduction

5.59. In the UK local authorities have responsibility for dealing with Municipal Solid Waste (MSW), which is defined by the Environment Agency as:

Municipal solid waste (MSW) means household waste and any commercial or industrial waste collected by the waste collection authority or its agents. It includes collected household waste, street cleaning and litter, bulky household and civic amenity waste, commercial and industrial waste collected by or on behalf of the authority under section 45 of the Environmental Protection Act 1990, waste from council premises, parks and gardens waste, beach cleaning waste and fly-tipping clearance. (This definition is currently under review by DEFRA)[63]

5.60. In London local authorities have joined into four statutory waste disposal authorities, each of which is responsible for the disposal of wastes from collected by the waste collection authorities in their area. The OLSPG area is covered by two of these; the North London Waste Authority, of which Waltham Forest and Hackney are members, and the East London Waste Authority, of which Newham is a member. Tower Hamlets acts alone in the treatment and disposal of the borough's waste. Waltham Forest have contracted Biffa Municipal (previously Verdant Group plc) to undertake the borough's waste and recycling collection.

Policy Review

5.61. At the national and international level there is a requirement to move towards more sustainable waste management practices, including increase recycling and re-use of waste material.

5.62. The policy for waste is driven at the regional level by the London Plan 2011, which sets out the apportionment and projected waste arising at borough-level, as well as capacity estimates for the amount of waste to be managed by each borough.

5.63. The key drivers of municipal waste policy are listed in the Mayor's Waste Strategy as:

- The need to increase the level of recycling undertaken in London
- The increase in landfill tax by £8 per tonne each year from 1 April 2011 until at least 2014; and
- The revised definition of municipal waste (yet to be determined).

5.64. At the local level across the OLSPG area, waste policies are being driven by the following plans;

- North London Waste Plan 2008 (consultation draft)

[63] Environment Agency, 'your waste –your responsibility' (July 2007 – V1)

- North London Joint Waste Strategy 2009
- East London Joint Waste Development Plan Document (DPD); and
- East London Waste Authority Joint Municipal Waste Management Strategy
- Tower Hamlets Core Strategy Waste Evidence Base Report (2009).

Existing Requirements

5.65. The current demand for the waste management systems in the OLSPG area has been calculated at the statutory waste disposal authority level.

5.66. According to the NLWA, of the total MSW generated in North London, 18% is recycled, 35% is sent for energy recovery in Edmonton and 47% is disposed of to landfill. Comparisons with London as a whole, where 64% of MSW is disposed of to landfill, shows that North London is currently managing its waste higher up the waste hierarchy i.e. by recycling more and disposing of less to landfill[64].

Provision Requirements

5.67. The indicative amount of waste arising (by volume) across the OLSPG area can be estimated using the following ratios:

- Residential: 449kg per person per year[65]
- 1,505 kg of commercial and industrial waste arising per employee per annum. This ratio is the average weight of commercial/industrial waste generated by employees of Hackney, Newham, Tower Hamlets and Waltham Forest.[66]

5.68. There is no indicative breakdown of floorspace by use class therefore we have applied the retail floorspace ratio and assumed NIA is 85% of GEA floorspace, and 75% of floorspace is sales floor.

5.69. Based on the ratios above the indicative quantum of waste arising is estimated to be approximately 97,650 tonnes per annum of waste per annum, as presented in the **Table 5.7** below.

[64] North London Waste Plan (2008), *Issues and Options Report; North London Joint Waste Plan Development Plan Document*.

[65] See DEFRA: www.defra.gov.uk/statistics/files/mwb201011_statsrelease.pdf

[66] Calculated from http://legacy.london.gov.uk/shaping-london/london-plan/docs/waste-arisings-note.pdf

Table 5.7 Gross Estimated Waste Generation (Millions Tonnes per Annum)

	OLSPG Area	*OLSPG Sub-Areas*				
		Hackney Wick Fish Island	*Northern Olympic Fringe*	*Olympic Park*	*Southern Olympic Fringe*	*Stratford*
Residential	26,699	5,442	3,134	2,550	8,811	6,762
Non Residential	70,952	9,042	1,002	2,217	10,781	47,909
Total	97,651	14,484	4,137	4,768	19,592	54,671

Source: GLA OLSPG Model and URS/SW Calculations
Note: Figures may not sum due to rounding

5.70. Changes in waste management practices in European and national legislation will be the main driver for improved waste management. Technological advance, funding and investment are drive as a result of change to these policies, for example the diversion of waste from landfill and increases in the number of recycling facilities.

Committed and Planned Provision

5.71. LB Tower Hamlets are examining options that would enable the construction of a new and more sustainable waste treatment and disposal facility. Costs vary according to the type, size and location of this facility, which have not yet been confirmed.

5.72. LB Hackney has plans for the expansion of strategic waste sites around Millfields Depot by 2014. These plans have not been costed.

5.73. There is an opportunity to use the waste facility at Edmonton Eco Park to process the waste form the OLSPG area by making use of the waterways. The remediation of contaminated industrial land in the area presents the opportunity for a soil treatment plant to be created, which will be assessed in the strategic land contamination study[67]. The OLSPG document also suggests that development should investigate the use of the area's network of waterways to carry construction waste materials.

Cost of Provision Requirements

5.74. In the absence of more detailed local analysis it is not possible to estimate costs at this stage.

Flood Defence

Introduction

5.75. An area of flood risk is defined as the likelihood that the area will flood now or in the future. Flood risk can come from a variety of sources such as groundwater, sewer, surface water, fluvial (river), and tidal. Flood risk can be influenced by changes in watercourse conditions due to the effects of climate change or siltation. Flood defences are typically built within and along the banks of rivers, canals and reservoirs to protect developments from flood risk.

[67] OLSPG (2011)

Flood mitigation infrastructure can include attenuation basins and tanks, over sized sewers and sustainable urban drainage systems (SUDS).

5.76. The dominant risk of flooding within the OLSPG area is fluvial flooding through the watercourses breaching their banks during extreme rainfall events.

5.77. Bodies responsible for maintaining and renewing flood defences in the OLSPG area include:

- Thames Water (responsible for the combined foul and surface water sewerage network)
- The Environment Agency
- British Waterways;
- Local authorities; and
- Private individuals and landowners.

Policy Review

5.78. The policies government flood risk and defence at the national and regional level are *Planning Policy Statement 25 (PPS25): Development and Flood Risk*; The *London Plan 2011*; local authorities' *Strategic Flood Risk Assessment* and local planning guidance (within the Unitary Development Plan or Local Development Framework). These standards are intended to help reduce the amount of surface water generated by proposed developments by requiring the implementation of SUDS and encouraging the implementation of flood resilient architecture.

5.79. The Pitt report produced in 2008, in reaction to the widespread flooding in the UK in 2007, identified 92 separate proposals including measures such as that local authorities ensure developers make full contributions to the costs of building and maintaining necessary flood defences. Many of these recommendations have been carried forward into the Flood and Water Management Act that was passes in 2010.

5.80. The London Development Authority (LDA) commissioned a Strategic Flood Risk Assessment to support regeneration of the Lower Lea Valley and the development associated with the 2012 Olympic Games and its supporting infrastructure, including the OLSPG area.

5.81. Flood risk management in the Olympic park area is currently to an appropriate standard. Issues in the wider area, including the risk of fluvial flooding, are mapped in the OLSPG document. Additional information could also be gained from Lower Lee modelling data and the final modelled outputs from the Olympic Flood Risk Assessment.

5.82. There are also a number of strategic reports and investment plans which have been produced by the bodies responsible for managing flood risk in the OLSPG area. These include:

- North London Strategic Flood Risk Assessment

- Thames Catchment Flood Management Plan 2009
- The Environment Agency TE2100 Plan (2009)
- Draft Lower Lee Flood Risk Management Strategy 2008; and
- Borough level Strategic Flood Risk Assessments.

Existing Requirements

5.83. The Olympic Park sub-areas cover an area of increased flood risk as the cross or boarder the River Lea flood plain. The current combined draining system serving the area is inadequate at times of high rainfall. Thames Water are investing in mitigating measures including works to prevent sewage discharges into the River Lea from Abbey Mills Pumping Station and a potential upgrade of sewage works to the north of the OLSPG area.

5.84. Each borough has a Surface Water Management Plan (SWMP) and/ or a Strategic Flood Risk Assessment, looking at the issues facing the area and identifying actions. These are summarised below for the four OLSPG boroughs.

- LB Hackney Level 2 Strategic Flood Risk Assessment (2011): The main source of flood risk to Hackney is fluvial flooding associated with the Lower Lee. Hydrodynamic modelling undertaken by the LDA shows that Hackney Wick, which is in flood zones 3a and 3b, is at actual risk of fluvial flooding from the Hackney Cut. The report concludes that, in the light of the significant flood risk facing Hackney Wick coupled with the quantity of new development proposed for the area, steps will need to be taken to reduce the risk of flooding in this area.
- LB Newham, Strategic Flood Risk Assessment: Volume 2 (2010): LB Newham contains localised areas that are prone to flooding from a range of processes including: fluvial, tidal, surface water, sewer, groundwater, and flooding from artificial sources. The key areas at risk include the western areas of the borough that are within the Lower Lea Valley and are likely to be affected by flooding on the lower reaches of the River Lea. The eastern parts of Newham are within the Lower River Roding and are also likely to be affected by flooding.
- LB Tower Hamlets, Strategic Flood Risk Assessment: Volume 2 (2008): The Tower Hamlets three major areas of development, identified as Leaside, the Isle of Dogs and the City Fringe, have been assessed in terms of the level of flood risk posed to future development in these areas. The Leaside development area overlaps with the OLSPG boarder. Parts of this area are within Flood Zone 3 which have a high probability of flooding from fluvial or tidal sources. There are small parts of Leaside in Flood Zone 2 but the majority is in Flood Zone 1 where all types of land use are appropriate.
- LB Waltham Forest Level 2 Strategic Flood Risk Assessment (2011): The River Lee forms the western boundary of LB Waltham Forest and poses a flood risk to the North Olympic Fringe area. The report found that approximately 60% of the North Olympic Fringe area lies within Flood Zones associated with river channels which

make up the River Lee, Lee Navigation, Flood Relief Channel and Dagenham Brook.

Committed and Planned Provision

5.85. The Olympic Delivery Authority (ODA) have undertaken a number of measures to ensure that the Olympic Park and the subsequent LCS development site are adequately defended against flood risk both during and after the Games, including:

- Three Mills Lock – a navigation structure that provides increased flow capacity through Prescott Channel
- Henniker's Ditch culvert – which provides an alternative flow path for overland flow approaching the site from the north, thus significantly reducing downstream flood risk
- Increased flood water storage in the northern half of the Olympic Park and along Waterworks River
- A new surface water drainage network which has been designed in accordance with current regulations
- New / upgraded river wall structures; and
- Additional drainage measures being proposed across the OLSPG area include the storage of clean surface water to enable it to be used sustainably or gradually discharged and additional urban greening measures.[68]

5.86. At the borough level, the SFRAs have identified the following interventions which would reduce the risk of flooding:

- In LB Hackney, potential mitigation measures include improving the level of the flood defence walls along the edge of the Hackney Cut, at an estimated cost of £800,000 for the 200m length identified in the report. Additional measures include an increase in the volume of storage available in the floodplain, at an estimated cost of between £6-£10 million for 70,000m^2 of storage along a narrow strip of the Hackney Cut. In order to establish the viability of these flood mitigation measures, detailed hydraulic modelling will be required[69].
- In LB Newham, recommendations have been made for 'strategic flood risk interventions' (e.g. improving the existing standard of defences) on both the Lower River Lea and Lower Roding may reduce existing flood risk in Newham[70].

[68] OLSPG (Draft for Consultation, September 2011)

[69] LB Hackney Level 2 Strategic Flood Risk Assessment (2011)

[70] LB Newham, Strategic Flood Risk Assessment: Volume 2 (2010)

- In LB Tower Hamlets, Strategic options for mitigation have been considered. The report states that the probability of flooding from surface water can be reduced on new developments by reducing the flows and volumes of runoff from the site through the use of SUDS[71].
- In LB Waltham Forest, recommendations are that the regeneration of Blackhorse Lane and Northern Olympic Fringe should be seen as a key mechanism through which flood risk reduction can be achieved through making space for water[72].

Cost of Provision Requirements

5.87. In the absence of more detailed local analysis it is not possible to estimate costs at this stage.

[71] LB Tower Hamlets, Strategic Flood Risk Assessment: Volume 2 (2008)

[72] LB Waltham Forest Level 2 Strategic Flood Risk Assessment (2011)

6. VIABILITY ASSESSMENT

Introduction

6.1. This section considers how infrastructure cost in the OLSPG area may be recovered through levies on future development. This covers a high level commentary on the viability of the main land uses, quantum and locations of development envisaged within the policy document.

Approach

6.2. In general, developers will take a view on whether a scheme is viable according to the difference between the existing use value of a site and the residual land value of it in the event of development, and their required return on capital employed in order to realise that value. Broadly speaking, if residual land value does not exceed what land is worth in its existing use, it is unlikely to be developed.

6.3. There will also be a range of site specific cost and value assumptions that determine the developer's decision to proceed. The viability of a development project depends on additional factors such as the availability of land and finance, requisite planning consent and overall developer confidence.

6.4. The greater the margin between the value and costs of development, the more attractive the development is likely to be to developers, and the lower the risk. Ultimately, it is a subjective process.

6.5. We have undertaken a high level cost and value appraisal process to assess potential gross development cost and value of the residential and commercial space identified within the OLSPG area. This process produces hypothetical residual land values for each zone, ignoring all infrastructure, servicing and abnormal costs. The purpose is to gauge a potential range of charges that might be levied without rendering development unviable.

6.6. This approach has limitations. It ignores site specifics, timing and phasing of development, and the risk and cost of the planning process.

6.7. We have adopted the GLA assessment of capacity within the OLSPG area based on the assessment of sites with development potential, as this is the total gross development area that the infrastructure is designed to cover. A more detailed study would need to consider the development pipeline in each sub-area in order to forecast likely timing of development supply.

6.8. Our approach assumes costs and values at 2011s rates. However we have also considered the effect on viability of value and cost growth, and the limitations of fixing a CIL charging schedule in advance of regeneration of an area.

6.9. Our approach excludes all additional planning obligations, Section 106 and Mayoral CIL payments that a developer would take into account when assessing viability.

6.10. Affordable housing values barely exceed build costs at present, and in the current era of constrained grant funding this is a significant hindrance on the viability of residential schemes, particularly in areas of low value in relation to wider London, such as parts of the OLSPG area.

6.11. Given the high level approach to this study we have adopted a base level of 30% affordable housing provision across the OLSPG area. We have therefore assessed viability of the remaining 70% private residential element on the assumption that at a 30% minimum of affordable will be provided, but at a cost/value neutral position and that it will not attract additional payments under a CIL charging schedule.

6.12. On this basis variation to the level of affordable housing has a direct impact on gross development value, but because the net land area is proportional to the assumed area developed the net land value per sq ft or hectare does not change and therefore our view on viability also remains unaffected.

6.13. In order to assess the potential impact of variation in affordable housing level we have run a model to factor in market build cost and estimated value. We have adopted a blended approach to value and have assumed a rate of £1,600/sq m for all affordable housing. We have tested variations to the affordable rate at 25%, 20% and 15%.

6.14. We have assumed a similar split of flats to townhouses as adopted for the private element, at a ratio of 70:30, and 80:20 in the Olympic Park sub-area.

Market Overview

6.15. Commercial and residential values in the OLSPG area have traditionally been low relative to London averages. One of the key reasons for locating the Olympic Games in this area was to reinvigorate and regenerate, with residential and commercial property values expected to benefit as a result.

6.16. If successful development viability is likely to improve in the medium to long term. The extent to which this occurs will remain unclear until the years after the Games. This is in addition to short term buyer sentiment and investor interest buoyed by the 'Olympic Effect', which is already being priced in to markets.

Residential

6.17. **Table 6.1** below shows average house prices in August 2011 across the four host boroughs within which the OLSPG area sits, and how they have changed over one month and twelve months respectively.

Table 6.1 Average House Prices Across the Four Host Boroughs

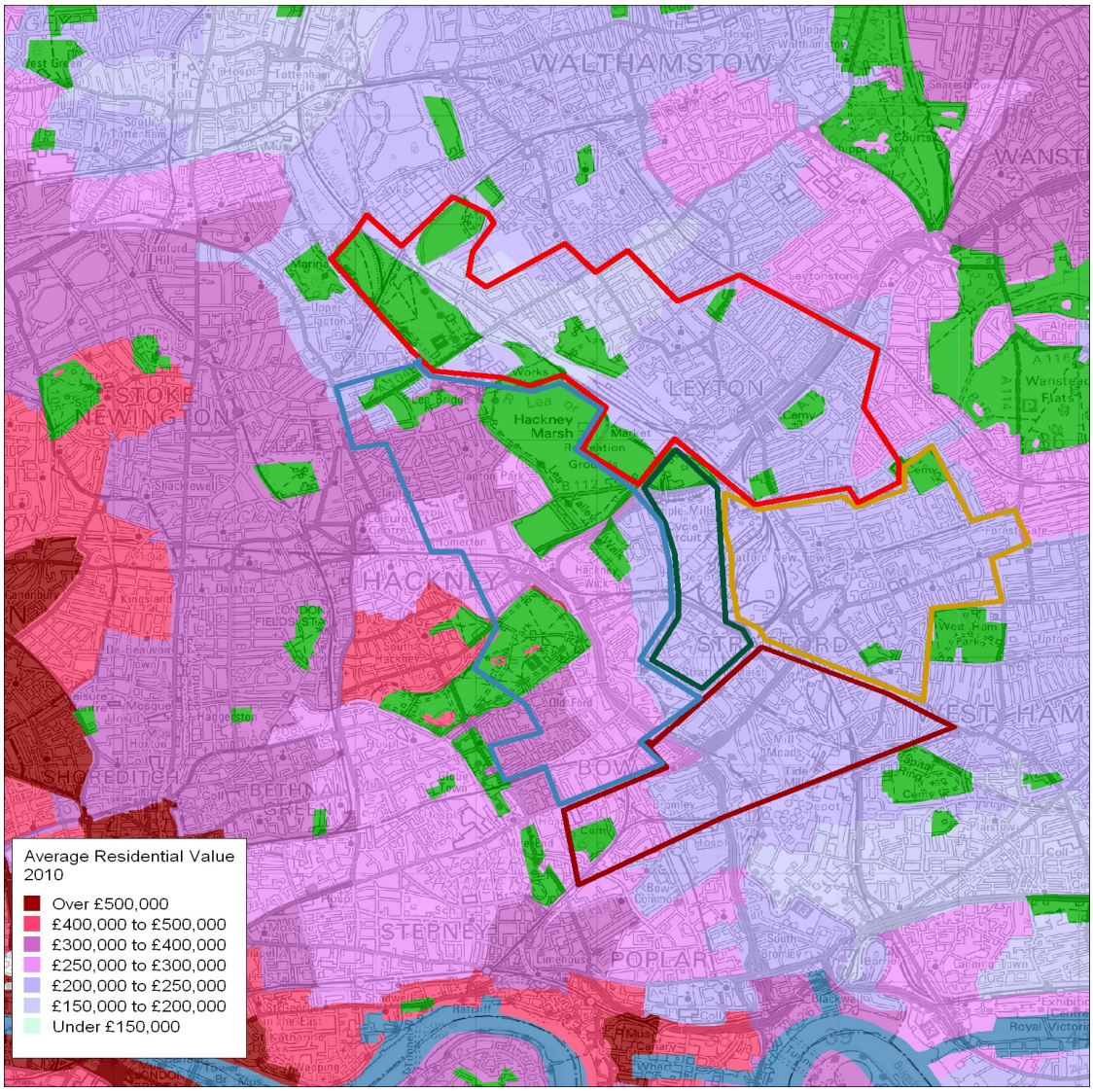
Host Borough	*Monthly Change (%) (July - Aug 2011)*	*Annual Change (%) (Aug 2010 – Aug 2011)*	*Average Price (£) (Aug 2011)*
Newham	-1.7	-3.1	225,069
Tower Hamlets	0.4	0.9	349,692
Waltham Forest	-0.8	0.2	239,843
Hackney	0.1	4.5	383,634

Source: Land Registry

6.18. Prices in the area have struggled since pre-credit crunch peaks. Over the last 12 months Hackney has performed significantly better than the boroughs further east.

6.19. **Figure 6.1** below illustrates how house prices in the OLSPG area relate to those in the surrounding area. This demonstrates the current low average values relative to wider London averages (though many of the AoCs (strategic sites within the OLSPG which have been identified for development) within the OLSPG currently do not have housing).

Figure 6.1 Average House Prices Across the OLSPG Area



Source: Land Registry

6.20. Within the OLSPG area there are areas of better quality existing housing and there are examples of new development schemes in nearby higher value areas, both of which demonstrate that it is possible to exceed base prevailing values, which is what developers within the OLSPG area will be aiming to achieve.

6.21. Through discussions with local agents we understand that there is significant demand for flats in Stratford, where the market has been particularly strong over the last few months. Furthermore properties have been consistently receiving multiple bids and exchanging above asking prices.

6.22. There has been considerable demand for the larger (previously live-work) units in developments such as the Iron Works and Omega Works. Although there is a mixed

purchaser profile, agents have noticed an increase in buy-to-let investors who are mainly driven by the anticipated impact of the Olympics and Westfield Shopping Centre. Agents and marketing suites have seen a positive response to the shopping centre and this has increased purchaser demand.

6.23. Until recently Savills Research department has forecast that residential prices across London, and across all grades of stock, are likely to increase by 29% over the next five years. In the light of recent economic data however, these forecast figures are in the process of being revised downward.

6.24. Residential values are likely to grow as a result of infrastructure and investment in the area. In our experience a premium of between 10-20% over prevailing market values can be achieved as a direct result of major inward investment/development. This is reflected in a perceived 20% premium on residential flats within the Olympic Park that we have factored in (see below) over and above prevailing values in Stratford.

6.25. The key to adding value through regeneration is to challenge pre-conceived ideas, either by creating a landmark destination of sufficient scale and critical mass, finding solutions for difficult buildings, or creating a product that breaks the mould of what is currently on offer, or a combination of all three.

6.26. This process rarely works without a higher priced market in the adjacent vicinity from which to draw value. **Figure 6.1** above demonstrates that this is generally the case within the OLSPG area, particularly in the case of Hackney Wick and Fish Island.

6.27. It is not clear however how far a premium will extend out from the Olympic Park and Stratford, where the majority of current investment is concentrated. For example it may be that the transport, leisure and aesthetic attributes of the Olympic Park will be reflected in say, a 20% premium for residential property within the immediate area and a 5-10 minutes walk time radius, but that this might drop to 10% premium for 10-20 minutes. Thereafter it may have no perceivable impact.

6.28. We have undertaken an assessment of comparable market data for new build flat and townhouse properties and set average values according to our findings. There is a distinct lack of new build townhouse market data in the area, which reflects the ODA's preference for provision of this in consideration of the OPLC LCS application for the Olympic Park.

Employment

6.29. The market for office and industrial space in the OLSPG area is generally weak. Development of 18,500 sq m of office space is underway at Stratford City, and 460,000 sq m is proposed at the Lend Lease International Quarter scheme. Quoting rents on are in the region of £320-375/sq m. This is at a substantial premium of almost double local market rental values.

6.30. Speculative development of office and industrial space is negligible.

6.31. Retail development in the area is dominated by the new Westfield scheme and Stratford Town Centre. Other retail development is predominately as a mixed use element on

residential-led schemes, rather than stand-alone commercial developments and commands similar rental values to office use.

6.32. Away from the Olympic Park itself, and the Stratford transport hub, values remain depressed in line with general trends for peripheral and secondary/tertiary markets in the capital.

6.33. **Table 6.2** below shows the rateable value of non-residential space within the OLSPG area, which is based on assessment of 2008 rental values. As a benchmark, it would be unlikely for market values to be lower than the figures quoted below.

Table 6.2 Rateable Value of Commercial Property within the OLSPG Area

	Rateable Value (£/ sq ft) 2008 data based on 2005 list		
	Office	*Retail*	*Other*
Newham	9	11	5
Tower Hamlets	18	14	5
Waltham Forest	8	10	4
Hackney	12	9	4
Olympic Catchment	8	8	5

Source: VOA

6.34. We have undertaken an assessment of comparable market data for office, retail and industrial property in the OLSPG area.

6.35. Drawing on these findings, and excluding Westfield retail rents and new Stratford office rents, given that there is no split of non-residential land uses within the OLSPG document, and the relative weakness of the market outside Stratford, we have concluded an average rent for all non-residential space. This strikes a balance between slightly higher and lower rents for office and industrial space.

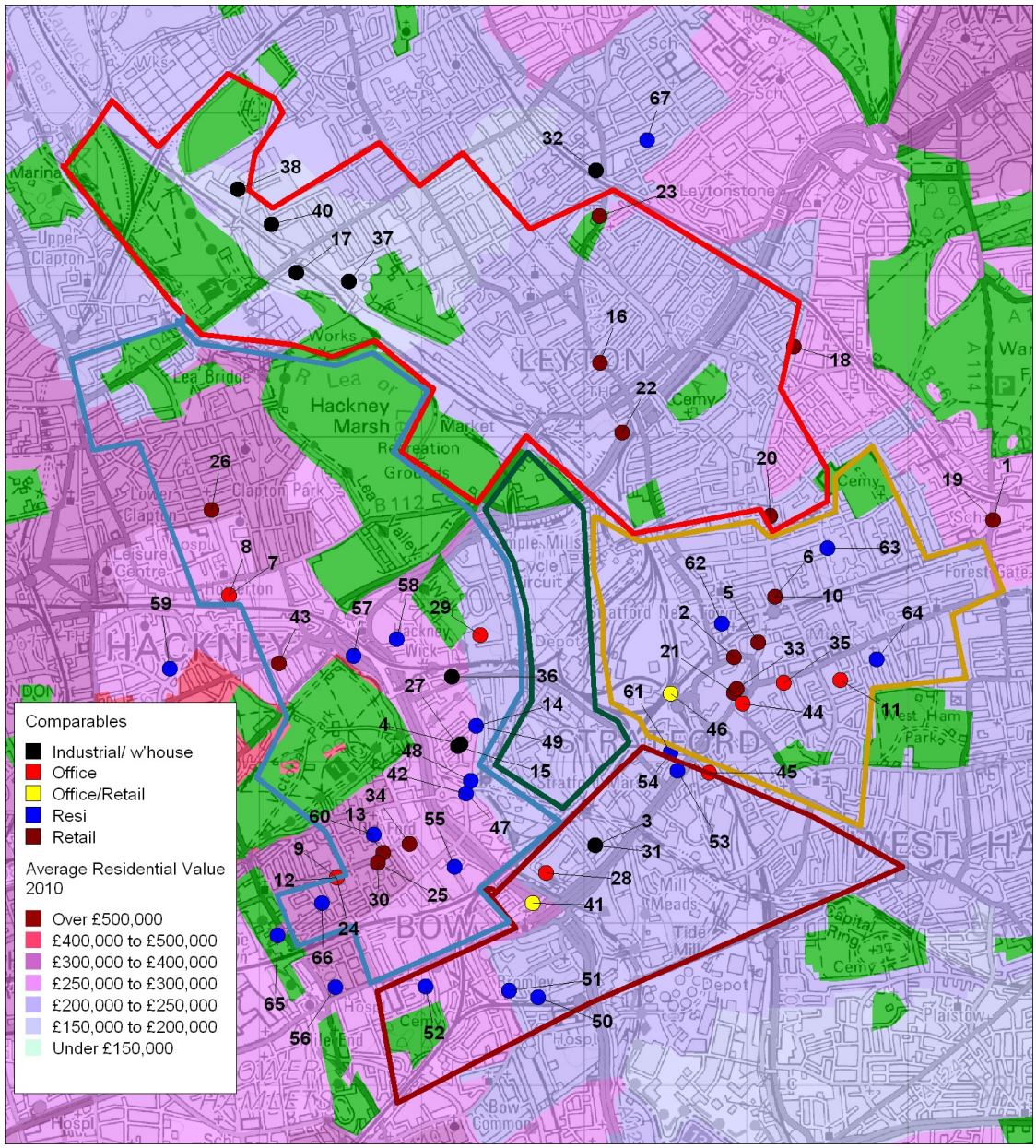
6.36. To this we have applied an average yield in order to assess capital value.

6.37. **Figure 6.2** below shows the location of the comparable evidence across all uses, overlaid on the map showing OLSPG zones and average residential values. In some cases a spot on the map denotes several property transactions, such as at a residential flat development scheme. In such a case we have used values for average sixed 2-bed flats on the 3rd or 4th floor, for the sake of consistency.

6.38. We have shown below the approximate average values across each OLSPG sub-area as used in our assessment of viability. The map illustrates the geographic spread of the comparable market data on which we have based our initial opinion of value, and the relative proximity of it to each sub-area.

6.39. The map shows that Stratford and Hackney appear to be the two sub-areas with the most active property markets, whilst the Northern Olympic Fringe area shows an active market for industrial space, but a scarcity of residential development.

Figure 6.2 Location and Use Class of Comparable Market Data and Average Residential Values, 2010



Source: Savills and Land Registry

OLSPG Quantum and Location of Development

6.40. We have reviewed the quantum of development shown within the OLSPG area. It is clear that capacity in each sub-area has been carefully considered, with due weight given to surrounding character and context (e.g. smaller scale near the Conservation Area near Fish Island, and higher rise development along Stratford High Street).

6.41. The largest scale of development is located adjacent to the best transport hubs, with family housing to be focused further from these or in areas more suited to smaller scale development due to their prevailing character.

6.42. We have excluded the residential units at the Athletes Village and the office space at the International Quarter as these are approved developments of substantial scale and value which will distort the exercise, high level as it is.

Table 6.3 Quantum and Location of Development within OLSPG Area by Use

OLSPG Sub-Area	*OLSPG Strategy*			*Gross Development Areas/ Use*		
	Resi Units	*Less 30% Affordable*	*Employment (sq m)*	*Resi Flats*	*Resi Houses*	*Employment (sq m)*
HWick/FIsland	5,900	4,130	173,000	176,351	102,837	173,000
Northern OF	3,200	2,240	20,000	95,648	55,776	20,000
Olympic Park	3,100	2,170	42,000	92,659	54,033	42,000
Stratford*	6,600	4,620	455,000	197,274	115,038	455,000
Southern OF	9,600	6,720	206,000	286,944	167,328	206,000

Source: OLSPG
**Does not include the International (460,000 sq m) and Athletes Village (4,800 units)*

6.43. In terms of the projected capacity of circa 29,000 units, potential build out rates in the OLSPG area will depend on how quickly and how well developers can sell product. Therefore it will depend on the specification and standard of what is built, and in what price bracket and range the completed units are competing.

6.44. The rate of development will depend on a number of macro, micro and socio economic issues, as well as site-specific viability and availability, planning policy, and product differentiation.

6.45. Annual turnover of new homes in London within the relevant price range is approximately 3,300 units per annum. It might be that the OLSPG area would see between 10% and 25% of these sales, so between 330 and 825 units.

6.46. If additional depth of market is factored in for slow investor/ rental stock, the Government's Mortgage Indemnity Guarantee policy and slow market volume recovery, annual London turnover might increase to 5,500 units, and therefore the OLSPG proportion to between 550 and 1,375 units per annum.

Analysis of Approximate Land Value Bands by Land Use and Area

6.47. Taking the above points into consideration, for the purposes of illustrating a hypothetical value uplift exercise, we have considered what might be deemed a four phase development of the OLSPG area supply. In order to do so we have applied to 25% of the residential stock a nominal increase of 30%, 40% and 50% to current prices, and a nominal 5%, 10% and 15% increase to 2011 build costs, as if viability were being tested in 5, 10 and 15 years from 2011.

6.48. This is a theoretical exercise, and does not reflect a view on value growth. Instead it is an indicative tool to investigate the potential effect on CIL levy. The 30% consists of an

approximate 20% uplift as a result of Olympic Games-led regeneration of the area, and 10% general price inflation for each subsequent time period. This is based in part on Savills residential research forecasts for the whole of London (therefore including prime central London). As noted above these forecasts are also in the process of being revised. These growth percentages do not necessarily reflect historic growth indices in the area or London as a whole.

6.49. **Table 1.4** below shows the assessment of values for residential and employment use within the OLSPG area that we have used to test viability. The figures show average values as at 2011 levels that can be realistically applied to new build stock within the five zones. In reality there will be pockets of higher and lower values, and a range of site-specific factors that affect value.

6.50. As outlined above, and for indicative purposes only, we have also demonstrated a hypothetical scenario in which OLSPG supply is developed in four phases of 25% over 20 years, after a successful Olympic Games and delivery of infrastructure. The purpose of this is to indicate the effect on viability of development at a time of higher residential unit values. It does not reflect a firm forecast of value or cost, or of how phasing of development may or may not take place.

6.51. We have not applied this to employment use because the current market is of insufficient depth and strength.

Table 6.4 Approximate Current Average Values and Hypothetical Future Values

OLSPG Area	*Approximate average capital value (£/ sq m) at 2011s prices*			*Hypothetical estimate of average capital values (£/ sq m) Year intervals post 2011*					
				5 years		*10 years*		*15 years*	
	Flat	*House*	*Emp*	*Flat*	*House*	*Flat*	*House*	*Flat*	*House*
HWick/FIsland	3,700	4,300	2,013	4,810	5,590	5,180	6,020	5,550	6,450
Northern OF	3,600	3,700	2,013	4,680	4,810	5,040	5,180	5,400	5,550
Olympic Park	4,300	4,300	2,013	5,590	5,590	6,020	6,020	6,450	6,450
Stratford*	3,600	3,400	2,013	4,680	4,420	5,040	4,760	5,400	5,100
Southern OF	3,700	4,300	2,013	4,810	5,590	5,180	6,020	5,550	6,450
Average	**3,780**	**4,000**	**2,013**	**4,914**	**5,200**	**5,292**	**5,600**	**5,670**	**6,000**

Source: Savills
** Does not include the International (460,000 sq m) and Athletes Village (4,800 units)*

Current Viability

6.52. Our model shows potential current gross development value of £5.6 billion and gross development costs of £3.7 billion, which equates to a net residual land value in the region of £1.9 billion across the whole area. This translates to a value of approximately £750/sq m at current prices.

6.53. Viability will depend in part on whether residual value exceeds a site's existing use value because it will influence the availability of that land to developers and the incentive to develop. Bearing in mind the associated additional factors affecting viability such as the cost

of the Code for Sustainable Homes, as well as the current restricted access to development finance, this high level assessment suggests that currently there is limited scope for Local Planning Authorities to levy a charge on development. However we anticipate that over time market conditions will improve and there will be the opportunity to negotiate greater planning obligation contributions and/or higher levels of CIL.

6.54. When the residential data is separated it produces a potential gross development value of £4.0 billion and gross development costs of £2.3 billion, which equates to a net residual land value in the region of £1.5 billion across the residential element. Depending on the prevailing use of a given site, this suggests development may potentially be viable as it stands. In theory, there may be an opportunity to impose a levy. However even at this level it will only be minimal because current viability remains marginal.

6.55. The possible exception is the Olympic Park, where development produces a land value which could potentially absorb a CIL tariff of between £0 and £100/sq m. Hackney Wick & Fish Island appears to be the next best area in terms of viability.

6.56. The impact of variation of the affordable housing rate from 30% down to 15% is only a minor adjustment to net land value. The impact of this on overall net land value across the OLSPG area is in excess of £100 million. However this translates to a small change in net land value when distributed across the developable space within the OLSPG area. Therefore given that a lower affordable housing rate does not translate to significantly improved land value, our view on viability, and the potential to implement a CIL schedule, remains unaffected.

6.57. If a more detailed site-by-site analysis were undertaken it is likely that a lower affordable housing obligation will generate greater land value for individual sites and will enhance the potential introduction and level of CIL charging schedule.

6.58. If the hypothetical value and cost uplifts are applied as outlined residential development appears to remain broadly viable when a levy is applied after five years, and which increases at the 10 year and 15 year periods post 2011. This might be at levels of £100/sq m, £250/sq m and £350/sq m for example, respectively for 5, 10 and 15 year periods post 2011.

6.59. The potential CIL receipt at each five-year interval (5, 10 and 15 years post 2011) might be in the region of £30 million, £80 million and £120 million respectively, thus totalling £230 million across the OLSPG area and time period. By sub-area, the Southern Olympic Fringe looks to be the area of greatest receipt, with potential amounts of approximately £11 million, £28 million and £40 million at each point, compared to £3 million, £9 million and £13 million in the Northern Olympic Fringe. These figures provide an indication of scale of the potential levy receipts that could be raised at five-yearly intervals, though in actuality CIL receipts would be generated as and when development comes forward.

6.60. Whilst variation of affordable housing policy does not appear to support higher CIL rate schedule on viability grounds, it does suggest a pronounced effect on gross CIL receipts across the area. On the same assessment of using hypothetical value uplifts, CIL receipts improve to approximately £250 million, £265 million and £285 million over the twenty year period when the affordable rate is set at 25%, 20% and 15% respectively.

6.61. We have shown below a table to illustrate the impact on potential CIL receipt of variation in affordable housing rate, by sub-area and factoring in hypothetical value uplift. This is an indicative exercise only, and does not reflect potential receipt or a view on likely level of it. As made clear within this report, further more detailed work is required in order to do so.

Table 6.5 Impact of Variation of Affordable Housing Rate on Hypothetical CIL Receipts

OLSPG Sub-Area	*Hypothetical CIL receipts when affordable housing rate is varied (£m) Year intervals post 2011*											
	5 years				*10years*				*15 years*			
	30%	*25%*	*20%*	*15%*	*30%*	*25%*	*20%*	*15%*	*30%*	*25%*	*20%*	*15%*
HWick/FIsland	6.9	7.4	7.9	8.4	17.4	18.6	19.9	21.1	24.4	26.1	27.9	29.6
Northern	3.7	4.0	4.3	4.5	9.4	10.1	10.8	11.4	13.2	14.1	15.1	16.0
Olympic Park	3.5	3.8	4.0	4.3	8.8	9.5	10.1	10.7	12.4	13.3	14.1	15.0
Stratford*	7.1	8.3	8.9	9.4	19.5	20.9	22.3	23.7	27.3	29.2	31.2	33.1
Southern	11.1	12.1	12.9	13.7	28.3	30.4	32.4	34.4	39.7	42.5	45.4	48.2
Total	**33.4**	**35.8**	**38.2**	**40.6**	**83.6**	**89.6**	**95.6**	**101.6**	**117.1**	**125.5**	**133.9**	**142.2**

Source: Savills

** Does not include the International (460,000 sq m) and Athletes Village (4,800 units)*

6.62. Ignoring hypothetical scenario testing however, the crucial consideration is the land values that individual site appraisals will demonstrate. Given the abnormal costs that have been excluded from this process but which will need to be factored in by developers, viability is likely to remain restricted beyond residential development in the Olympic Park itself.

Conclusion

6.63. The high level approach that has been adopted in this exercise suggests that overall viability of development across the OLSPG area is likely to remain tight until such time as significant residential value growth occurs, both as a result of macro economic factors, and creation of a post-Olympic premium in the area.

6.64. Our approach in this study ignores many site specific costs and contingencies which will need to be borne by a developer. Given more detail on actual development plots, this could be addressed, however it is beyond the scope of this initial study.

6.65. In general terms, outside central London, development is restricted and residual land values low. Viability is not helped by increasing arrangement costs for debt finance currently faced by developers.

6.66. A more detailed study is required both to undertake detailed residual development appraisals of a sample of specific sites within the five sub-areas, and also in order to forecast values with any degree of accuracy.

6.67. It is difficult to see how a flat rate schedule will work across the entire OLSPG area, given that the infrastructure benefits will be mostly concentrated in the Olympic Park (residential) and Stratford (employment). It is not yet clear the extent to which this will trickle down into smaller scale schemes in the surrounding areas.

6.68. Further study may reveal at what value levels a trigger or review system could be developed in order to capitalise on development gain.

6.69. Lowering the affordable housing rate will improve CIL receipts, even if our exercise is too high level to demonstrate any corresponding positive impact on viability.

6.70. Employment use values for new build stock are unlikely to reach levels that will convince developers that it is viable to build beyond a modest apportionment within a mixed-use scheme. Taking account of the stated OLSPG aim to stimulate a range of new business, our findings do not support a fixed tariff on employment space.

6.71. It may be that a maximum net increase in floor area of say 5,000 sq m can be included alongside the current minimum of 100 sq m for employment use, above which a charging schedule could apply. This will enable contributions to be levied from developers building larger scale commercial schemes, for example in the event that Stratford was to develop into an established office hub.

6.72. Alternatively, for schemes over and above a certain net area, there may be scope to retain a form of direct S106-style payment for specific infrastructure elements, rather than imposing a flat rate across all development. It will depend in part on the location and scale of infrastructure investment.

6.73. Viability is likely to be tight in many areas within the OLSPG area and it will be important to bear in mind that ongoing development is key to a lasting Olympic legacy in the area.

7. SUMMARY OF INFRASTRUCTURE COSTS AND FUNDING

Introduction

7.1. The strategic infrastructure assessments carried out in the preceding sections have provided estimates of the projected demand, and identified any existing surplus capacity or planned investment which could provide additional capacity to meet the needs arising from the OLSPG area.

7.2. Consultation with the borough officers and key stakeholders found that there was a strong view that there was currently little or no surplus capacity in social infrastructure. The borough level SIAs show some surplus capacity across infrastructure items but, following consultation with the boroughs and key stakeholders, it has been assumed that in the time since these were prepared capacity has been taken up. All up to date information provided by the borough councils has been incorporated into the assessment demand.

7.3. Although existing deficits in infrastructure are identified, deficits are pre-existing and have not been generated by growth linked to development of the OLSPG. In the assessment of provision requirements arising from the OLSPG's development, any existing deficit is therefore taken into incorporated.

7.4. Planned social infrastructure investment has been detailed where possible in Section 3. Consultation with the boroughs highlighted that much of this planned investment was unsecured, and in light of the changing economic climate some of the projects may now be halted or revised. Our analysis includes a summary of transport infrastructure required by TfL in order to support the OLSPG anticipated growth. There is limited information readily available on utilities infrastructure, and this is not sufficient to assess the infrastructure investment requirements. Although investment in the Olympics includes allowing capacity for future legacy development we anticipate that a range of local measures across much of the OLSPG area will still be required.

7.5. Each infrastructure item is summarised below and in **Table 7.1**, which outlines the provision arising from the growth across the OLSPG and the indicative costs of providing this new infrastructure.

Table 7.1 Summary of Growth Arising and Required Investment

Infrastructure Theme	Infrastructure Item	Unit	Current Provision		Future Provision			
			Existing Capacity	Planned Provision	Net Demand	Indicative Costs *Investment Required*	*Already secured investment*[73]	*Total Net Investment*
Transport Infrastructure	**Strategic**	-	At/near capacity	Modest	TfL OLPSG plan	£186m	Minimal	Determined by viability
	Local and Neighbourhood	-	At/near capacity	Modest	TfL OLPSG plan	£116m	Minimal	£116m
Education	**Early Years**	Places	Assumed minimal spare capacity	2 FoE, Chobham Academy	1,234	£18.0m	Minimal	£18.0m
	Primary School	Places	As above	3 FoE, Chobham Academy	3,5480	£50.7m	Minimal	£50.7m
	Secondary School	Places	As above	6 FoE, Chobham Academy	1,672	£46.6m	Minimal	£46.6m
Health	**GPs**	GPs	As above	As above	33	£12.9m	Minimal	£12.9m
	Dentists	Dentist	As above	As above	33		Minimal	
Sports and leisure	**Swimming Pools**	Pools	May be some spare capacity with Olympic pool	Modest	3.0	Not known	(Olympic pool)	Not known
	Sports Halls	Halls	At/near capacity	Modest	4.8	£3.0m	Minimal	£3.0 + conversion costs
Green Infrastructure	**Open Space**	Ha	May be some spare capacity in Lower Lea Park	Modest	71.0	£22.8m	Minimal	£22.8m
	Play Space	Ha	At/near capacity	Modest	15.7	£31.3m	Minimal	£31.3m

[73] The LCS includes significant investment in infrastructure which would address most need in the Olympics Park and some adjacent areas. Our assessment does not include the LCS planned provision as funding is not yet secured.

Infrastructure Theme	Infrastructure Item	Unit	Current Provision		Future Provision			
			Existing Capacity	Planned Provision	Net Demand	Indicative Costs		
						Investment Required	*Already secured investment*	*Total Net Investment*
Library and community facilities	**Library space**	sq m	At/near capacity	Modest	1,784	£5.4m	Minimal	£5.4m
	Community facility space	sq m	At/near capacity	Modest	4,561	£8.0m	Minimal	£8.0m + conversion costs
Utilities Infrastructure	**Electricity**							
	- **Residential**	kVA	Assumed at/near capacity	Olympics infrastructure and strategic network	37,907	£28.2m	Not known	Not known
	- **Non Residential**				94,828	Not known	Not known	Not known
	Gas							
	- **Residential**	m^3/hour	Assumed at/near capacity	Olympics infrastructure and strategic investment	29,159	Not known	Not known	Not known
	- **Non Residential**				44,194	Not known	Not known	Not known
	Water	Litres/Day	Assumed at/near capacity	Olympics infrastructure	9.8m	Not known	Not known	Not known
	Sewerage	Litres/Day	Assumed at/near capacity	Olympics infrastructure and Thames Tunnel	27.7m	Not known	Not known	Not known
	Waste	Tonnes/ per annum	Assumed at/near capacity	Olympics infrastructure and	97,650	Not known	Not known	Not known
	Flood Risk	-	Assumed at/near capacity	Olympics infrastructure	Not known	Not known	Not known	Not known
Total *								342.8 million +

Notes:
All investment is to meet the demand arising from the new development and not to meet any existing deficit.
* Total known costs associated with the residential and commercial floorspace in the OLSPG area. Includes local and neighbourhood transport, early years, primary and secondary education, healthcare, swimming pools, sports halls, library space, community facilities space, open space and play space; and excludes strategic transport and unknown costs.

Summary Social Infrastucture Interventions

Early Years

7.6. The assessment of early years provision highlights that there is little existing spare capacity across the four boroughs. Planned provision which has the capacity to meet a proportion of the demand anticipated for the OLSPG area includes the Chobham Academy. The anticipated net demand, accounting for the two FoE provided by Cobham Academy, will therefore be 1,234 FTE places. The cost of meeting this requirement for early years places is estimated to be £18.0 million. Further consideration will need to be given to whether demand can be met through the extension of existing infrastructure or new infrastructure provision is required.

Primary Education

7.7. Consultation with the boroughs highlighted that there is little to no existing spare capacity for primary school places. The anticipated net demand, accounting for the new capacity to be provided by the Chobham Academy, will therefore be 3,480 places, which equates to 16.6 FoE. The cost of meeting this requirement is estimated to be £50.7 million. Analysis indicates that new provision should be highest the Southern Olympic Fringe where estimated demand is highest.

Secondary Education

7.8. Again there is no existing surplus capacity in secondary school provision, but the Chobham Academy will provide six FoE, so that the anticipated gross demand arising across the OLSPG is 1,672 (or 11.1 FoE) once the planned is taken into account. The net cost of meeting new demand across the OLSPG area is estimated at £46.6 million. Secondary schools have larger catchment areas that primary and early years education and will serve more than one sub-area each.

Health

7.9. Existing capacity in healthcare infrastructure across the four boroughs was found to be minimal, with a deficit of GPs in LB Newham and LB Waltham Forest. Although a surplus was found in LB Hackney and LB Tower Hamlets, this capacity's catchment is said to be located outside the OLSPG area. An assessment of demand for healthcare arising from growth based on the HUDU model assumptions indicated a requirement for 31 GPs and 33 dentists across the OLSPG area. The cost of meeting this requirement was estimated to be £12.9 million for GPs and dentists.

Sports and Leisure

7.10. The assessment of the provision of publically assessable sports halls and swimming pools found a deficit in most of the boroughs, with the exception of LB Newham, which had an overall surplus though provision varied across the borough. The assessment of anticipated demand points to a requirement for 3.0 swimming pools and 4.8 sports halls. This need will be met by a combination of new provision and by to conversion of Games legacy venues to

public use. Due to the uncertainties over post Games plans for legacy infrastructure, it has not been possible to estimate the cost of net swimming pools requirements. However, the cost of providing 4.8 sports halls has been estimated at £3.0 million.

Open Space

7.11. There is currently varied provision of open space across the four boroughs: large parks and areas such as Hackney Marshes allow residents of LB Hackney and Waltham Forest to be well provided for, but in LB Tower Hamlets and Newham there is a deficit. An assessment of anticipated growth indicates that there will be a demand for a total of 71.4ha of open space across the OLSPG area, split between open space, informal open space and allotment space. Indicative estimates suggest this provision could cost £22.8m. Planned provision which will contribute to this in part includes 2.4ha of newly created open space in LB Tower Hamlets, across two areas. The newly created Queen Elizabeth Olympic Park will also form the core of the 102ha of total open space provision for the area. However, there will still be demand at a neighbourhood level for local open space.

Play Space

7.12. Information provided through consultation and the SIAs indicated a deficit in the supply of play space in LB Hackney and LB Waltham Forest. There was no information available on capacity in LB Tower Hamlets and LB Newham. The total play space requirement for children and young people across the OLSPG area has been estimated at approximately 156,660 sq m or 15.7ha. Some of this demand will be met by existing provision, for example, the Hackney Marshes will meet demand arising form the 12-18 cohort within an 800m catchment area. The cost of additional provision to meet the demand arising has been estimated at £31.3 million.

Libraries and Community Facilities

7.13. There was a lack of information available to assess the current capacity of library and community facility provision, though the available data suggested that there was some small surplus available in LB Hackney and Tower Hamlets in relation to sq m of space per 1,000 residents. The assessment of growth arising from the OLSPG area indicates that OLSPG area residents will require approximately 4,561sq m of community space and over three libraries. LB Tower Hamlets have set out plans for a new Ideas Store local which will provide multi-use library space which could accommodate a proportion of the demand anticipated in this area of the OLSPG. The net cost for provision of community space has been estimated at £8.0 million, and for library space at £5.4 million.

Summary of Transport Interventions

7.14. TfL has reviewed infrastructure provision in and around the OLSPG area and concluded that there are currently good strategic links into and out of the area by road and rail and via the waterways. However, networks do suffer from overcrowding and congestion, and local connections are typically poor. The demand arising from development in the OLSPG area

has been mapped to new transport infrastructure requirements in a separate report by TfL74. Interventions have been assessed at two levels; local and strategic connections which directly impact on the OLSPG area and which are required to bring development forward, and strategic schemes which will also benefit the development but also other areas of London and will be seeking funding from elsewhere.

7.15. TfL have indicated that there are 16 local connectivity schemes which will be required to enable development in addition to a package of walking, cycling and wayfinding projects, totalling around £60 million, with a further £56 million (not applicable for future CIL) estimated to fund bus capacity enhancements. In addition, there are six strategic schemes which directly benefit the area which includes projects such as Crossrail 1 (which has its own s106 and CIL funding regimes which will apply in the OLSPG area, as set out in the Policy review). These strategic projects are either subject to other workstreams or being worked up in feasibility now and some have limited S106 funding allocated, and which will require funding generated by the development in the OLSPG area. Other supporting strategic interventions considered to be important to the OLSPG but which have wider network benefits across London and will be subject to much further study such as feasibility studies, consultation and approval with stakeholders. These other interventions can be expected to require more S106 and/or CIL contributions from the OLSPG development, as well as gaining other contributions from outside the OLSPG area and other organisations such as Network Rail.

Summary of Utilities Interventions

Electricity

7.16. The existing capacity across electricity networks n the OLSPG area is thought to be limited, with the exception of newly created infrastructure associated with the Olympic Park. The assessment of demand generated by new development in the OLSPG area indicates a demand for 37,907 kVa for residential uses and 94,828 kVa for non-residential uses. Planned provision which will help to meet this demand is at present limited to the new infrastructure being provided to meet the needs of the Olympic Park during Games time, which will later be converted for wider use for new developments in the area. In the absence of more detailed local analysis it has not been possible to estimate the net costs of meeting demand at this stage. However, it is estimated that the costs across the OLSPG area for provision of primary sub-stations will be £23.3 million and for distribution sub-stations is £4.9 million.

Gas

7.17. Information from National Grid suggests that there is currently sufficient capacity to the meet demand for gas in the OLSPG area. Current usage is typically below the Greater London Average in the four OLSPG boroughs. The demand anticipated across the OLSPG area is estimated to be 29,159 m^3/hr in the residential usage class and 44,194 m^3/hr in the commercial usage class. A proportion of the demand arising from the LCS development will be met by new infrastructure put in place to serve the Olympic Park during Games time. In

[74] OLSPG Strategic Transport Study (September 2011)

the absence of more detailed local analysis it has not been possible to estimate the net costs of meeting demand across the OLSPG at this stage.

Water

7.18. Information provided by Thames Water, the supplier for the OLSPG area, indicates that there is currently a deficit in water supply for London. The growth anticipated across the OLSPG area will generate demand for 9.8 million litres of water per day; 8.9m ltr/day for residential use and 0.9m ltr/day for non-residential use. Planned investment which will help to meet this demand includes the Thames Water mains replacement programme and the new infrastructure to be provided on the Olympic Park. In the absence of more detailed local analysis it has not been possible to estimate the net costs of meeting demand at this stage.

Sewerage

7.19. There is insufficient information to assess the capacity of existing sewerage infrastructure for the OLSPG area. The new growth across the OLSPG area will generate an estimate sewerage flow rate of 27.7 million litres per day, which can be divided into 11.9 million litres per day from residential usage and 15.8 million litres per day from non-residential usage. A major regional project is currently underway by Thames Tunnel to increase sewerage capacity and reduce pollution form overflow into the Thames. Planned investment also includes the Olympic Park infrastructure, which will be converted to serve the wider area after the Games. In the absence of more detailed local analysis it has not been possible to estimate the net costs of meeting demand at this stage.

Waste

7.20. Current analysis suggests that in North London, a lower percentage of waste generated is sent to landfill due to a higher rate of recycling. Based on the level of anticipated growth in the OLSPH area, the indicative quantum of waste arising is estimated to be approximately 97,650m tonnes pa. This can be divided between 26,700m tonnes per annum from residential usage and 70,950m tonnes pa from non-residential usage. Trends in waste management will be driven by policy updates and by investment into recycling facilities. Options for investment are currently being explored by the boroughs, including the use of the waste facility at Edmonton Eco Park to process waste from the OLSPG. In the absence of more detailed local analysis it has not been possible to estimate the net costs of meeting demand at this stage.

Flood Defence

7.21. The OLSPG boroughs cover an area which is at an increased flood risk due to their increased proximity to the River Lea flood plain. The existing capacity of the drainage system in this area is insufficient in times of high rainfall. Provision has already been strengthened with the investment by the ODA into flood mitigation measures which will serve the Olympic Park and surrounding area. In the absence of more detailed local analysis it has not been possible to estimate the net costs of meeting demand at this stage.

Funding

7.22. With government cuts in budgets there is generally limited funding currently available to meet anticipated infrastructure requirements. Below is an overview of some of the key potential sources of funding to help meet infrastructure requirements. The focus is on CIL and S106, but other possible mechanisms for raising finance are also acknowledged. The section concludes by presenting a possible model for an OLSPG/MDC infrastructure fund to maximise access to relevant funding.

7.23. The information presented in this section indicates that, due to the particular strengths and challenges of each funding mechanism detailed, it may be beneficial to utilise a range of funding sources in combination in order to maximise the benefit of each. For example, in order to maximise the potential funding generated by a CIL, it is recommended that implementation be delayed for a period which would allow for the values across the OLSPG area to increase as a result of wider regeneration, in order to avoid issues of development viability. A similar approach has been adopted in the LTGDC strategy on CIL implementation[75].

7.24. We have identified a number of funding options which would be available to help deliver infrastructure across the OLSPG area. These include:

Local funding streams:

- Planning obligations and CIL
- Retention of business rates
- Tax increment financing (TIF)
- Local Enterprise Partnerships and the Growing Places Fund
- Enterprise Zones

National funding streams:

- New Homes Bonus
- Local Green Fund

Planning Obligations and CIL

7.25. The total cost of required infrastructure linked to new development is likely to be substantially greater than can be afforded by development, whether funded by CIL and/or S106. Consequently, the main driver behind determining a charging level is viability rather than the infrastructure schedule. Planning obligations and/or CIL will only be able to partially fund the

[75] LTGDC (2010) Planning Obligations Community Benefit Strategy

total infrastructure required. It will therefore be important for a charging authority to prioritise which specific infrastructure items it intends to use the S106 and/or CIL to fund.

7.26. The findings from high level viability assessment indicate that a combination of S106 and CIL be used to raise developer finance. It is recommended that S106 should be the main mechanism used to raise funds, for the initial provision of infrastructure in the OLSPG area[76], with other funding mechanisms applied as they become viable over time, including CIL.

7.27. The March CIL 2010 guidance[77] set out the principle that the charging schedule should be set at a level that means that most schemes remain viable[78].The level of viability has been found to vary according to location and development type and will also change over time. A CIL charging mechanism would need to be set at a lower level in order to ensure that marginally viable schemes still remain viable. In comparison, the use of S106 would give more flexibility than the use of CIL, allowing the charging level to be adjusted to take account of varying levels of viability. The consequence of this is that a number of schemes may be able to afford to pay higher levels of planning obligations than just the CIL charge.

7.28. This suggests that there is likely to be a significant amount of potential revenue that could be raised to pay for legitimate planning gain infrastructure that will not be raised via an appropriately set CIL. This enhances the case for a differential changing approach (such as S106) rather than a CIL or a tariff.

7.29. S106 financial contributions would be sought by the local planning authorities based on detailed consideration of scheme viability. This would also include review mechanisms to increase contributions where viability changes positively at the point a scheme or scheme phase is implemented. The scenario testing in Section 6 of possible future increases in land and development values suggests that future receipts could increase to a total in the order of hundreds of millions of pounds, which would raise the viability of a CIL and/or S106 contributions.

7.30. It is recommended that CIL be used to dovetail funding contributions raised through S106 at a later stage of development in the area, and should be focused on certain sub-areas and land uses within the OLSPG sub-areas. These include for example residential developments, which would be expected to reach a higher level of viability than for other land uses. Setting the CIL charging schedule will need to strike a balance between setting a low level which would then limit revenue generation potential and setting a high level which would be likely to discourage developers from including much net additional development.

[76] It should be noted that the LCS outline planning application was submitted in September 2011, and includes ongoing discussions to identify potential S106 contributions for the LCS area. Work by OPLC outlines how funding is anticipated to be forthcoming.

[77] Community Infrastructure Levy Guidance: Charge setting and charging schedule procedures (DCLG; 25 March 2010)

[78] 'Charging authorities should avoid setting a charge right up to the margin of economic viability across the vast majority of sites in their area' (2010, paragraph 29).

7.31. The general intent of CIL is that it should be a charge that is designed to be used to pay for, and is justified by, a list of required infrastructure in a charging authority's area. The main caveat on this approach is that CIL should be set at a level that allows most development schemes to remain viable.

7.32. A CIL could be introduced by the relevant planning authorities operating in the OLSPG area, potentially including the Mayoral Development Corporation (MDC), in due course. In the initial stages at least, the CIL would apply only to a higher priority subset of the total infrastructure requirement, which would have been identified by the boroughs and/or the MDC. The balance of cost outstanding for the provision of infrastructure will be negotiated by further S106 agreements with individual developers.

7.33. The CIL Regulations[79] require that the CIL charging schedule is supported by evidence of the scale and cost of infrastructure requirements associated with growth. In addition, charging authorities can publish a separate list of 'required infrastructure', that is, projects or types of infrastructure that it intends will be, or may be, wholly or partly funded by CIL.

7.34. The prioritisation of infrastructure provision will need to take account of the phasing of individual planning applications for development and their requirements as to which infrastructure should therefore be prioritised. This may require a review of infrastructure requirements in light of details arising from individual planning applications. This is a complex context which will require careful consideration for each borough and by the MDC at the time that they each draw up their CIL charging schedules, which will each need to include a prioritisation of the infrastructure to be delivered within that area.

7.35. Consideration when combining the use of S106 and CIL for an area should be given to regulations which exclude the use of S106 for infrastructure which is being funded by CIL. Given that total cost of infrastructure required is significantly greater than can be afforded by development, the task is to choose a subset of this infrastructure that the charging authority thinks is most appropriate to cover via CIL (for example because it is difficult to secure via S106 and because more than five S106 obligations would be needed to otherwise fund the infrastructure).

7.36. Further detail on the use and implementation of CIL is provided in Appendix C.

Retention of Business Rates[80]

7.37. The Government is currently consulting on plans for local authority retention of business rates. The proposals will change the way in which non-domestic rates are distributed. The scheme will not, however, change the way in which non-domestic rates are collected and therefore has no direct impact on business. Under the current system business rates, which are levied on all non-domestic properties in England, are collected by billing authorities and

[79] Community Infrastructure Levy Regulations, which came into force in April 2010 and associated documents, including the Explanatory Memorandum to the Regulations.

[80] Text informed and taken from 'Local Government Finance Bill: Business rates retention scheme - Impact assessment' (DCLG, 20th Dec 2011)

then pooled at the national level. They are re-distributed by central government to all local authorities as part of their formula grant settlement. This dependence on a central distribution of funds means that local authorities do not face a financial incentive to promote business growth in their area. Local retention of business rates, including growth in business rates, will provide authorities in England with a strong incentive to promote business development, as increases in local authority budgets will be more directly linked to changes in local business rates.

7.38. In order to introduce the changes necessary for a business rates retention scheme, rating legislation, as well as changes to the legislation governing the distribution of formula grant will need to be amended or repealed. Changes will be needed to the Local Government Finance Act 1988 (as amended). Government intends to bring forward legislation and introduce business rates retention in April 2013.

7.39. Future changes in local authorities' budgets will be linked to business rates growth, and therefore provide a strong incentive for local authorities to promote business rates growth. On this basis developers would find that local authorities are more willing to accept new sustainable development due to the financial incentive to allow new business growth in their local areas. Local authorities would also be able to choose to borrow against future growth in business rates, through Tax Increment Financing (TIF) schemes, to help fund the provision of infrastructure.

7.40. If implemented we would encourage the Olympic boroughs to re-invest income from increased business activity in the OLSPG area in to OLSPG area infrastructure.

7.41. However, it is acknowledged that any arrangements for pooling business rates would require careful consideration. There could be both benefits and pitfalls in such an approach. The inter-relationship with the various delivery bodies is important, and across the OLSPG the picture is complex. The complexities in agreeing sharing of resources with the other delivery bodies may also complicate and/or delay taking forward such arrangements.

Tax Increment Finance (TIF)

7.42. TIF is a mechanism by which local authorities use prudential borrowing against predicted growth in their locally raised business rates to pay for up-front infrastructure, the benefits of which are anticipated to feed through to increased business rates income. The relevant increase in business rates is ring-fenced and used to repay the initial borrowing.

7.43. In Scotland TIF is currently in early stages of implementation but at present local authorities in England are not permitted to retain business rates and therefore cannot borrow against any predicted increase in rates. Allowing the local retention of business rates will remove the most important barrier to TIF schemes in London.

7.44. In its Local Government Resource Review (July 2011) the Government consulted on two ways in which TIF could be operated within the business rates retention system. The government is now considering consultation responses and will probably announce its preferred option next April when the Local Government Finance Bill is introduced (it is likely that a technical paper on TIF will be published at the same time). The two options are:

7.45. Option 1: This option would see additional business rates growth within a defined area retained to repay TIF borrowing. These revenues would be subject to the range of rates retention/rebalancing components. Local authorities would be free to borrow against all their retained business rate revenues including anticipated growth, subject to the normal operation of the prudential borrowing system. Under this option, local authorities would have some certainty about how the levy is applied to recoup a share of disproportionate benefit and would be able to plan borrowing and TIF projects on this basis.

7.46. Option 2: This option would be implemented in addition to Option 1. Under Option 2, additional business rates growth resulting from the TIF project would be retained for a defined period of time, during which it would not be subject to the tariffs and top-ups and other business rates retention rebalancing mechanism. The benefit of this approach is that the additional business rates growth would not be at risk of reduction from the levy or from resets. However this could also mean less money in the levy pot to manage volatility and for rebalancing at resets. This option would require government approval in order to limit and manage the number of TIF schemes coming forward.

7.47. Following consultation on the two options which ended in October 2011 and the Local Government Finance Bill was published in December 2011. In terms of timing, the Bill could become law by 1 April 2013.

7.48. If it is decided to take forward TIF in England then parts of the OLSPG area could be appropriate locations to develop TIF projects. Since residential development does not pay rates, any TIF projects would need to focus on commercial land use proposals.

Local Enterprise Partnerships and Growing Places Fund

7.49. The London LEP was approved in February 2011 and is a pan-London area partnership between the Mayor of London and London Councils, with the support of leading business organisations. LEPs also have the power to bid for Enterprise Zone status to be granted to areas within their boarders, as set out below.

7.50. LEPs are expected to fund their own running costs, with the remainder of their funding coming in the form of private sector investment and successful bids for the Regional Growth Fund in addition to the Growing Places Fund. This Fund has been developed to enable the creation of LEP led local infrastructure funds with the aim to establish sustainable revolving funds so that funding can be reinvested to unlock further development, and leverage private investment.

7.51. The London LEP allocation for 2011-2012 is £39.4 million. Guidance states that funding should be directed towards stalled sites and that funding should be spread across multiple projects[81]. This fund therefore has the potential to unlock development at sites within the OLSPG area where viability is marginal and to fund immediate infrastructure provision across multiple developments. The allocation of this funding will be decided by the LEP's lead funding authority (the GLA, in the case of the London LEP).

[81] DCLG and DfT (2011) Growing Places Fund Prospectus

Enterprise Zones

7.52. In March 2011 the Government announced the creation of 21 new Enterprise Zones (EZs) in England to try to boost economic growth. One of these was located in London, on a 300 acre site in the Royal Docks in Newham. Businesses in the EZ will benefit from business rates relief over five years and a simplified planning approach to development within the area. The site of the Royal Docks EZ does not overlap with the OLSPG area, although it is located in close proximity to it and may therefore benefit from the enhanced development potential generated within the EZ.

New Homes Bonus

7.53. The New Homes Bonus, which commenced in 2011, creates an incentive for local authorities to deliver housing growth in their area. It is based on the additional Council Tax raised for new homes and properties brought back into use, with an additional amount for affordable homes, for the following six years to ensure that the economic benefits of growth are returned to the local area. DCLG has set aside almost £1 billion over the Spending Review period to fund the scheme, including nearly £200m in 2011-12 in year 1 and £250m for each of the following three years.

7.54. The Olympic boroughs will be receiving New Homes Bonus receipts to match Council Tax receipts for development in their parts of the OLSPG area. The funding is an unringfenced grant and authorities will have the freedom to spend New Homes Bonus revenues according to local wishes – in line with the localism agenda. Given the funding gap between planning obligations receipts and total costs it is recommended that boroughs use this grant to invest in the infrastructure needed as a consequence of development in their areas of the OLSPG area.

London Green Fund

7.55. The London Development Agency (LDA) is rolling out its £100 million London Green Fund (LGF). This is the first JESSICA Holding fund in the UK[82]. There could be opportunities to tap in to the Green Fund for low carbon related infrastructure and projects in the OLSPG area.

7.56. The LGF will provide funding for investment in waste and energy efficiency projects. These will be revolving investment funds, where monies invested in one project are repaid and then reinvested in other projects. The scope of the LGF may be expanded in future to include support for medium and large scale decentralised energy systems.

7.57. Benefits of the JESSICA funding programme include the potential ability to engage the private sector, leveraging both further investment and competence in project implementation and management. JESSICA fund provides a flexible approach too in funds by way of equity, debt or guarantee investment.

[82] The JESSICA programme (Joint European Support for Sustainable Investment in City Areas) is a component of the European Regional Development Fund (ERDF).

Private Finance

7.58. As the economy recovers there will be an increased appetite for private sector investment in areas such as the Lower Lea. This could take various forms including developer investment of their funds, bank borrowing to developers, and/or bank/infrastructure fund investment infrastructure and development projects. An example of how this could be combined with other funding sources is outlined below.

Delivery

7.59. A key element of the context for delivery is the Mayor's plans to set up a Mayoral Development Corporation (MDC). Other relevant organisations include:

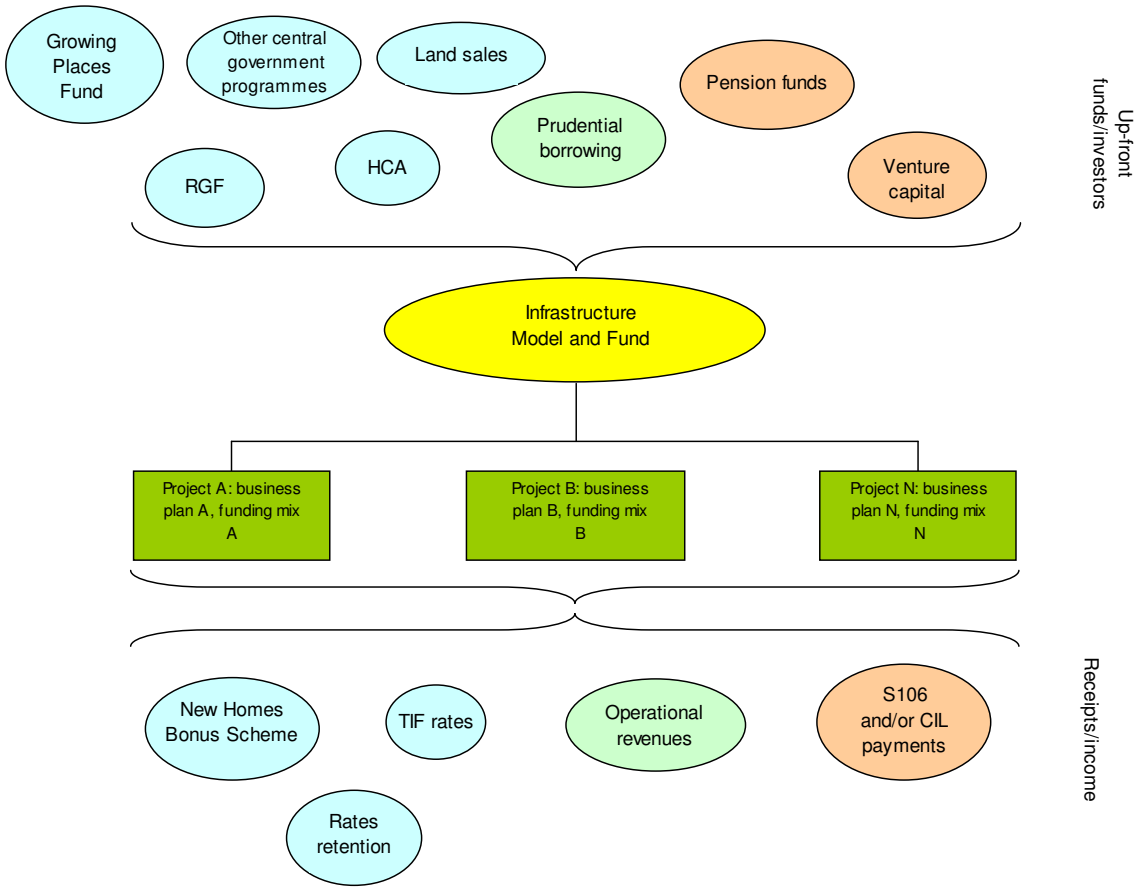
- The Mayor of London and the GLA Group
- Boroughs
- Voluntary sector and local communities
- Private sector
- HCA (to be absorbed in to the GLA in London)
- OLPC
- Government, inc DCLG
- Lee Valley Regional Park Authority (LVRPA)
- LTGDC (anticipated to be would up by April 2013)
- ODA
- Statutory and non-statutory agencies
- MDC.

7.60. A summary of relevant players and an overview of their roles are given in Section 4 of the OLSPG.

7.61. A summary of delivery mechanisms is also given in Section 4 of the OLSPG.

7.62. One option that could be worth exploring in more detail is to set up an infrastructure fund, similar in scope to the JESSICA Manchester Evergreen Fund, to channel private and public sector resources in to delivery in the OLSPG and/or MDC area. Below is a diagram illustrating how this could work. Such a model could be investigated in greater detail as part of the development of the MDC proposals.

Figure 7.1 Possible Model for an OLSPG/MDC Infrastructure Fund



7.63. The fund would provide a mix of public and private sector resources and mechanisms brought together to create a mutually complementary group of up-front funds and investment sources, to finance infrastructure projects, which then generate revenues, some coming from the public sector and others from the private. In combination the revenues will cover costs and meet investment return requirements, creating a revolving, sustainable, public-private investment fund. A key aspect of such a fund would be that it would be revolving – investing money, which is then repaid via developer contributions and revenue generation, and then reinvested in other projects.

7.64. The fund is then used to finance a series of projects that have been appraised and developed, as separate exercises, to comply with Green Book and financing criteria. The projects will generate revenues from a range of sources, for example potentially including the New Homes Bonus Scheme, TIF increased rates income, operational revenues and contributions from the private sector via S106 and/or CIL payments (this could work in a similar way to the operation of Regional Infrastructure Funds for SWRDA and SEEDA, the mechanism of which is now being considered by the Homes and Communities Agency (HCA) as a potential infrastructure funding mechanism.

7.65. The model requires flexibility to attract investment partners and rates return, to suit risk-reward profiles. Different rates of return could be built in to the model structure to meet

different requirements; the public sector accepting a lower rate of return on economic benefits grounds and the private sector expecting a higher rate of return to meet minimum investment criteria.

7.66. Given the long-term timescale of the OLSPG plans it is likely that in future the wider economic context will have improved and additional sources of funding will be forthcoming which will hopefully enable much of the OLSPG infrastructure requirements to be covered.

Timing and Prioritising of Delivery

7.67. Table 7.1 does not prioritise infrastructure provision in terms of their provision timing or relative need or order of provision. Prioritisation of infrastructure provision will be in part determined by the type and scale and timing of individual planning applications. CIL and/or S106 receipts are likely to be significantly lower than the cost of infrastructure provision and therefore it will be important to prioritise infrastructure items. Also, as indicated in the high level viability assessment (Section 6), CIL receipts are expected to increase over time as there could be significant uplift in the nominal value of residential and commercial floorspace as a result of improvements to infrastructure and strengthening perception of the OLSPG area as a place to live and work. The uplift in land value would influence the prioritisation and timing of infrastructure intervention. It is recommended that further work be undertaken to model infrastructure timing in order to plan for effective delivery of residential and employment floorspace.

8. REVIEW OF DRAFT OLSPG RECOMMENDATIONS

8.1. This final section reflects on whether the draft OLSPG's recommendations, in terms of infrastructure provision and delivery (as set out in the November 2011 version), are appropriate in relation to the anticipated development capacity and considers broadly whether they are deliverable.

Capacity and Population

8.2. The key driver of population is the potential dwelling capacity of the OLSPG. The testing of this dwelling capacity was not part of the study scope. However the method by which the potential capacity has been identified by the GLA (by a combination of discussions with boroughs, the LTGDC and the ODA, and emerging and published development plan documents, SHLAAs and masterplans) is considered to be appropriate.

8.3. The method by which population is estimated does raise questions. There is no common approach to estimating population and child occupancy. Some individual boroughs have undertaken their own household surveys to derive their own borough specific population and child yields. However, for the purpose of this assessment, given the geography of the OSLPG which cuts across four boroughs and that the sub-areas of the OLSPG do not correspond directly to borough boundaries, our chosen approach has been to follow GLA DMAG best practice guidance. Our approach takes into account new build dwellings, size (in relation to the number of bedrooms), tenure (private, intermediate and social rented) and type (house or flat), and therefore provides sensitivity to the potential variation in household socio-economic characteristics and population size. Though different to the OLSPG's methodology to estimating population, the calculated via the DMAG method results in a similar population total to that identified in the OLSPG draft (in total and by sub-area).

8.4. We understand that the four borough councils of the OLSPG area have commissioned DMAG to undertake a detailed review of demography to strengthen their understanding of the potential population occupancy and child yield. We recommend that the OLSPG analysis is reviewed in the light of this work. However there are a number of factors influencing household size of occupants of new development and a proportion of the occupants will not be from the local area and/or the characteristics of the occupants may not be the same as the existing population. For these reasons we consider the Wandsworth household survey a good starting point for estimating population and careful consideration should be given to the justification for using alternative assumptions.

Social Infrastructure

8.5. The methods and assumptions we have used to estimate social infrastructure requirements employ best practice and expertise refined through the undertaking of numerous assessments.

8.6. Given that the total population of the OLSPG estimated by this study is similar to the draft OLSPG, social infrastructure requirements would be expected to be similar. However there are two reasons why this study estimates slightly different social infrastructure provision

needs for some infrastructure items. First, in line with best practice and professional experience this study includes a number of additional assumptions to the OLSPG draft modelling assumptions, which result in different demand outputs; and secondly, this study takes account of existing surplus, deficit and committed provision in the calculation of net demand arising.

8.7. There was a strong belief among council officers consulted that existing social infrastructure had limited surplus capacity and in many instances had a deficit (i.e. demand greater than supply) and as such existing capacity does not impact on demand figures. However, planned provision in demand estimates for education provision (Chobham Academy providing three primary school FE and six secondary school FE) and the inclusion of additional demand assumptions (such as class size and a 5% demand capacity buffer), means that the net additional education infrastructure requirement identified in our study is different to the draft OLSPG. As a result the estimated need arising for education places at all levels of entry (early years, primary and secondary school) is estimated to be lower than in our report than set out in the draft OLSPG. Across the OLSPG area, 10.5 fewer primary school forms of entry and 16 fewer secondary forms of entry were estimated.

8.8. Due to different space-provision ratios our study estimates higher levels of demand compared with the draft OLSPG for community space and library space (approximately 13% and 25% higher respectively).

8.9. Child yield is closely associated with population yield. Our approach used to calculating child yield therefore has resulted in different (higher) estimates of child population than the draft OLSPG, which has implications for a higher demand and differential breakdown of play space by age-cohort.

8.10. In relation to the demand arising from population growth across the OLSPG area, the provision for leisure, including open space, sports halls and swimming pools, and GPs are broadly in line with those set out in the draft OLSPG.

Transport Infrastructure

8.11. Consultation undertaken by TfL set out in this study has provided a more detailed understanding of the prioritisation of the transport interventions required to support development across the OLSPG area, compared with the draft OLSPG. There is a stronger understanding now of the directly enabling local interventions and strategic interventions required. The total cost of interventions however does raise significant questions over how they will be financed as total capital costs are high (£116m for local interventions and £186 million for strategic interventions, not including Crossrail).

Utilities Infrastructure

8.12. It is not clear from the draft OLSPG or the modelling undertaken by the GLA whether utility infrastructure set out in the draft OLSPG are determined by demand and/or by the aspiration for high sustainable development. The proposals include a pipe network to link the Olympic Park energy network with that being developed for the Upper Lee Valley and the opportunity to expand existing heat distribution networks in the area. By contrast the approach taken in

this study has been to apply population–consumption ratios to arrive at an understanding of gross demand. In the context of the OLSPG being a visionary document and the GLA being an promoter of exemplar sustainable design and construction, we support the view that the draft OLSPG can afford to set high standards in low carbon energy generation. There are, however, some gaps in our study regarding planned provision and costs, which reflect the difficulty of accessing information from utility providers. This study recommends that ongoing efforts are made to consult with utility providers in order to develop a stronger and more complete picture of demand and provision requirements in the OLSPG area.

Viability, Funding and Delivery

8.13. In the context of financial viability we have considered the potential for charging CIL as a means to raise finance to pay for infrastructure. Our research found that in the current market conditions land values are relatively low. However it is expected that over time there will be land value uplift due to improving economic conditions, the 2012 Games, development of the OLSPG and strengthening of perception of the area as a place to live and work. As with other major developments the OLSPG has the strong potential to bring about significant economic catalytic effects in the sub-region given the proposed scale of growth, which will further raise demand for land and, by association, development viability.

8.14. Improvements to land values will increase developer demand as viability improves financial returns and lowers financial risk. It is expected that to maximise CIL returns there is differential charging of CIL by land use (for instance differing by residential, office, retail, industrial and warehousing) and by geographic area, that S106 is used as a mechanism to optimise payments with CIL in the light of improving viability, and that the CIL charges are re-considered on a regular basis. Over time it is expected that higher rates of CIL will apply.

8.15. A key factor of planning for infrastructure demand and maximising CIL receipts will be in understanding the potential timing of development. A firmer understanding of the timing of provision will also strengthen an understanding of how infrastructure could be prioritised.

8.16. To maximise the level of funding generated whilst maintaining viability, we recommend dovetailing CIL and s106. However the total cost of infrastructure requirements in the short to medium term are anticipated to exceed potential returns generated by CIL. Despite the difficult economic climate there are a number of additional funding mechanisms which could support delivery. To coordinate this funding process we recommend the formation of a delivery model – set out above in Figure 7.1 - which draws together a number of funding streams and mechanisms to maximise funding flexibility, and joint working between the public and private sector in order to reduce risk and leverage private finance.

Appendix A

Review of Key Policy Documents

Policy and Strategy Review

Introduction

A review of policy and strategy relevant to the OLSPG area is set out below under three headings: including national, sub-regional, and borough level policy.

National Planning Policy

Draft National Planning Policy Framework

The Government has published the draft National Planning Policy Framework ("the Draft NPPF") for consultation. The NPPF will replace the current suite of national Planning Policy Statements, Planning Policy Guidance notes and some Circulars with a single, streamlined document. The NPPF will set out the Government's economic, environmental and social planning policies for England. Taken together, these policies will articulate the Government's vision of sustainable development, which should be interpreted and applied locally to meet local aspirations.

Planning Policy Statements

As the draft National Planning Policy Framework has not yet been adopted, Planning Policy Guidance (PPG) and Planning Policy Statements (PPSs) continue to provide a national guidance framework for planning and development control, setting out the range of principles and objectives relating different aspects of land-use planning in England.

PPS1 'Delivering Sustainable Development' sets out the role of the planning system in the delivery of sustainable development, encouraging local authorities to recognise the wider spatial benefits of economic development and consider these alongside any adverse impacts that might be experienced locally. PPS1 also seeks to encourage the use of vacant and previously developed land and provide development in locations which are easily accessible by foot, bicycle or public transport.

Having regard to 'Housing', PPS3 proposes strategic housing policy objectives that are aimed at ensuring that everyone has the opportunity of living in a decent home, that they can afford, in a community where they want to live. It seeks to do this through achieving a wide choice of high quality homes, both affordable and market housing, to address the requirements of the community; widen opportunities for home ownership; and to improve affordability across the housing market, including by increasing the supply of housing.

PPS4 'Planning for Sustainable Economic Growth' sets out the Government's overarching objective of achieving sustainable economic growth. The statement emphasises that planning must help build prosperous communities by improving the economic performance of areas, reducing the gaps between the growth rates of regions, promoting regeneration, delivering more sustainable patterns of economic development and promoting the vitality and viability of towns and other centres.

PPS12 'Local Planning Policy' explains what local spatial planning is, and how it benefits communities. It also sets out what the key components of local spatial plans are and the key government policies that should inform their preparation by planning authorities.

Pertinent to 'Transport', PPG13 sets out objectives relating to the integration of planning and transport at the national, regional, strategic and local levels and to promote more sustainable travel choices both for carrying people and for moving freight. It states that planning authorities should seek to ensure that policies in development plans and transport plans are complementary and that consideration of plan allocations and transport priorities should be closely linked. This prescribes maximising the use of key sites located adjacent to transport interchanges.

PPG17 'Planning for Open Space, Sport and Recreation' describes the role of the planning system in assessing opportunities and needs for sport and recreation provision, ostensibly seeking to protect existing open spaces and improve their accessibility, as well as provide new open spaces in areas of deficiency.

Regional Planning Policy

London Plan 2011

The current London Plan 2011 – the Spatial Development Strategy for Greater London sets out an integrated social, economic and environmental framework for the future development of London to 2031. A number of overarching London Plan policies are relevant to the OL Study Area, from those relating to the themes of 'people', 'economy', 'living places and spaces' and 'transport'. In terms of the strategic spatial policies that relate to the OL Study area, these are discussed below.

Policy 2.4 on the 'Olympic Games and their Legacy', sets out that the Mayor will work with partners to develop and implement a viable and sustainable legacy for the Olympic and Paralympic Games to deliver fundamental economic, social and environmental change within east London.

Policy 2.13 'Opportunity Areas and Intensification Areas', encourages development in Opportunity Areas and for Boroughs to implement planning frameworks in these locations in order to help realise their growth potential. The Lower Lea Valley and Stratford is identified as an Opportunity Area and outlines the need for 50,000 new jobs in the area and 32,000 homes over the plan period. The strategic policy direction refers to this area as the single most important strategic regeneration initiative for London and an urban renewal challenge of global significance, which includes the 2012 Olympic and Paralympic Games and their legacy.

Further, and in addition to the above, the London Plan notes that strategic development proposals should support local employment, skills development and training opportunities.

Mayor's Transport Strategy

The Mayor's Transport Strategy (MTS), adopted in May 2010, sets out the transport vision for London and details how Transport for London (TfL) and partners will deliver the plan over the next 20 years.

The vision presented in the MTS is focused towards the achievement of six goals, of which one is to *'Support delivery of the London 2012 Olympic and Paralympic Games and its legacy'*. The MTS aims to support both the successful delivery of the 2012 Games Transport Plan, and the physical and behavioural legacy of the Games.

Olympic Legacy Supplementary Planning Guidance (OL SPG) (Draft)

The Olympic Legacy Supplementary Planning Guidance (OL SPG) (consultation draft, 2011) is the Mayoral planning guidance for the area including and surrounding the Olympic Park[83].

The SPG sets out a series of development principles which should inform and inspire development proposals in five sub areas: Olympic Park; Stratford; Southern Olympic Fringe; Hackney Wick and Fish Island; and the Northern Olympic Fringe. Within these sub-areas are key areas of change which total approximately 10% of the sub-areas, or 200 hectares. The draft OLSPG estimates that the Olympic Legacy area has the potential to accommodate 29,000 new homes over the next 20 years, which could increase the area's population by 60,000 people. Approximately 7,000 new homes could be built on OPLC land.

The OLSPG indicates that housing proposals in the Legacy area should secure the maximum reasonable provision of affordable housing taking into account viability and the available of funding. They should also provide a tenure mix that will provide a genuine choice of homes to meet the area's diverse housing needs and incorporate social rented and intermediate housing. This mix should also reflect the relatively high levels of social rented housing that exists in parts of the OLSPG area.

Lower Lea Valley Regeneration Strategy

The regeneration strategy for the Lower Lea Valley, outlined in 2006, is underpinned by a commitment to deliver a lasting legacy for east London beyond the 2012 Games and based on a shared vision *'to transform the Lower Lea Valley into a vibrant, high quality and sustainable mixed use city district, that is fully integrated into London's urban fabric and set within unrivalled landscape that contains new high quality parkland and water features.'*

The strategy aims to create between 30,000 and 40,000 new homes and 50,000 new jobs, harness the Valley's unique natural environment. of canals, waterways and green spaces to create a 'water city' and leave a legacy of environmental improvements that will make the area a destination of choice for living and working.

Lower Lea Valley Opportunity Area Planning Framework

The 2007 LLV OAPF sets out the Mayor's strategic planning guidance for the LLV region. It is therefore a material consideration for planning and development in the LLV boroughs and the ODA.

The LLV OAPF considers that the key opportunity for the regeneration and development of the LLV region is to be provided through the managed release of industrial land. Building on guidance set out in the 2004 London Plan, the LLV OAPF sets out recommendations to release up to a maximum of 173 hectares of existing industrial land in the LLV between 2005 and 2016. Plans were set out for this

[83] As the OLSPG is currently in draft form, the Opportunity Area Planning Framework (OAPF) for the Lower Lea Valley remains the current adopted framework for managing land-use in the area. As the OAPF will be superseded once the draft OLSPG is adopted, no detailed consideration of its policies is presented here.

land to deliver between 30,000 and 40,000 new homes for the area, including at least 44% required as family housing, in addition to 50,000 new jobs.

The plans also include the creation of a major new park which would link the Lea Valley Regional Park to the Thames.

OL SPG Strategic Transport Study

The OLSPG Strategic Transport Study (draft 2011) considers the transport challenges arising from the existing and anticipated development set out within the OLSPG area and the transport interventions that would be required to support development. The study identifies a set of measures that need to be in place to support and mitigate any adverse impacts of the development, thus providing a framework, for use at the planning application stage, to integrate the development into local areas in a way which supports the use of sustainable modes of transport. The framework is designed to help identify measures that can be designed in by developers, including electric charging points, cycling and walking facilities that can promote the use of sustainable transport.

The key conclusions of the study in terms of the transport and land use intervention measures likely to be needed are:

- Maximise walking, cycling and public transport use - Encourage behaviour change and ensure good local connectivity
- Rail - Capacity and connectivity improvements
- Bus - Ensuring sufficient infrastructure and capacity
- Highways - Traffic management and encourage less car use, and
- Land Use - Using policy to constrain car use.

East London Sub-Region Transport Plan

A Transport Plan for the East London sub-region (which includes Tower Hamlets, Hackney, Newham, Barking and Dagenham, Havering, Redbridge, Lewisham, Greenwich, and Bexley) has been prepared[84], which is intended to form a bridge between the Mayor's Transport Strategy (see above) and local authority transport plans. The plan shows how the goals set out in the MTS should be addressed in the context of the particular challenges faced at the sub-regional level.

Set out and detailed in the plan, the specific challenges facing the East London sub-region are:

- Maximising the benefits of committed investment
- Improving connectivity to, from and within key locations
- Reducing physical barriers to travel
- Supporting the efficient movement of freight, and

[84] The Plan is intended to be a live document to be updated in response to changing circumstances, such as the level of funds available from public sources to support transport schemes and programmes.

- Addressing public transport crowding, congestion and reliability.

A number of measures are set out in the plan aimed at addressing these challenges within the context of the wider London goals set out in the MTS.

Local Planning Policy

LB Hackney

Adopted in December 2010, the Hackney Core Strategy provides a framework for development within the Borough, promoting improvements to the general urban environment of the area, whilst ensuring that the needs of the Borough's residents are met. The Borough seeks to help initiate and promote development in Hackney in a way that will help meet the wider needs of London as a whole. The Core Strategy incorporates the monitoring target of the London Plan 2011 of 1,160 net additional new dwellings each year from 2011 to 2021. Core Strategy Policy 20 states that 50% of all new homes should be affordable (ten units or more) with a minimum of no less than 40% affordable housing in residential only development and 35% in mixed use developments.

LB Newham

Submitted for consideration by the Secretary of State in March 2011, Newham's Core Strategy DPD, entitled 'Newham 2027--Planning Newham' sets out the vision for the borough and its sub-areas and relevant strategic and development control policies.

LB Newham aims to be a vibrant, dynamic, cohesive and ambitious Borough that maximises the opportunities for transformation and regeneration that come from:

- the Olympic and Paralympic Games,
- excellent transport connections,
- its wealth of development land and wider sub-regional growth, and
- its young and diverse population.

Newham sees successful regeneration as being investment in jobs, education, health, the environment, leisure and tourism, retail, and transport, which will help to create cohesive and sustainable communities.

There are several strategic sites, as identified by LB Newham falling within or partly within the MDC development boundary, Carpenter's District, Chobham Village, Olympic Quarter, Pudding Mill Lane and Stratford North, Central, and Waterfront areas respectively. The vision for this area is for it to be transformed into a vibrant high quality and sustainable mixed use city district that is fully integrated into the urban fabric of London, and is set within an unrivalled landscape that contains new high quality parkland and water features.

Policy INF8 Community Facilities states that development and growth in the borough will be coordinated with the provision of infrastructure, services and facilities needed to maintain and improve

quality of life, ensuring a balance between jobs, housing and social infrastructure to meet the needs of existing and new communities.

Policy INF9 Infrastructure delivery states that priorities for infrastructure will be set out in the Infrastructure Delivery Plan, and will be updated annually. Broadly, priorities that accord with the Core Strategy's objectives include: family housing; community centres including affordable workspaces; local access to employment and training; education provision; intelligent infrastructure ('smart grid') e.g. decentralised energy network; new and improved open space; local transport and public realm improvements, and strategic transport where it does not prejudice the achievement of other local priorities.

Policy INF6 Green Infrastructure states that Green Infrastructure will be protected and strengthened over the plan period. Deficiencies in quantity, quality and access to open space in the borough will be addressed. It also states that new residential development, including family homes, should include (or contribute to the provision of) new children's play space within 150m.

LB Tower Hamlets

Adopted in September 2010, the Tower Hamlets 2025 Core Strategy is the key spatial planning document for Tower Hamlets, setting out the spatial vision for the borough and how it will be achieved. The overarching vision for the area is that the borough will reinvent, strengthen and transform places, continuing to be a place for diverse communities, and building on its strategic importance as a unique part of the inner London area. This spatial vision is underpinned by a number of key principles, including, but not limited to; optimising the use of land; reinforcing a sense of place; diversifying and growing the economy; supporting community cohesion; and supporting human health and wellbeing.

Policy SO2, Maximising the benefits of the Olympic Legacy, will be achieved through: close-working with other relevant authorities (including ODA, GLA, LTGDC) to ensure a collaborative approach to its planning and implementation; regenerating Fish Island; delivering High Street 2012, connecting Bow with the Olympic Legacy Area and Stratford City; assisting in the creation of the Lea Valley Park; taking full advantage of visitor spending to stimulate the local economy; supporting communities in participating in activities, sports and opportunities linked with the Olympic Legacy and stimulating economic regeneration through the creation of new local employment, enterprise and business opportunities.

Set out in **Policy SP02**, the borough aspires to the target of the London Plan 2011 of 2,885 net additional new dwellings each year from 2010 to 2025, with an overall target of 50% affordable homes by 2025 (35%-50% being required on sites subject to viability). Regarding health and wellbeing, **Policy SO10** prescribes delivery healthy and liveable neighbourhoods that promote active and healthy lifestyles and enhance people's wider health and well-being. **Policy SO11** seeks to ensure the timely provision of social infrastructure to support housing and employment growth. Regarding green space, **Policy SO12** seeks to create a high-quality, well-connected and sustainable natural environment of green and blue spaces, that are rich in biodiversity and promote active and healthy lifestyles. With reference to employment, **Policy SO16** seeks to support the growth of existing and future businesses in accessible and appropriate locations.

LB Waltham Forest

The Waltham Forest Core Strategy – Our Place in London is currently proposed for submission to the Secretary of State. The vision set out in the Core Strategy is focused upon achieving sustainable regeneration, providing quality homes, vibrant town centres, a dynamic cultural base, excellence in education, being a greenest borough, promoting healthy lifestyles, and having an inclusive community.

Relevant key strategic policy objectives set to achieve the vision are

- **SO1** - Capitalise on redevelopment opportunities to secure physical, economic and environmental regeneration of the borough and ensure the delivery of key benefits for local people.
- **SO2** - Ensure a continuous supply of land and homes to meet a range of housing needs including affordable housing, family housing and accommodation needs of specific groups within the community, whilst offering a range of housing choices which are of high quality in the right places.
- **SO3** - Facilitate sustainable economic growth by safeguarding and enhancing an appropriate range of sites and premises to meet the demands of local businesses and growth sectors in order to attract and retain high quality services, industries and well paid jobs in the Borough while ensuring residents are able to access them.
- **SO4** - Ensure the timely delivery of appropriate social infrastructure, to strengthen the community, and reduce existing deprivation in the Borough.
- **SO6** - Protect, enhance and further develop a network of multifunctional green infrastructure capable of delivering a comprehensive range of benefits for both people and wildlife.
- **SO10** - Reduce inequalities, unemployment and worklessness in the Borough by improving skills, training and employment opportunities and access to jobs.

Hackney Wick Area Action Plan

The Hackney Wick Area Action Plan (AAP), adopted in September 2010. The AAP plays a central role in bringing forward the regeneration of Hackney Wick by setting out a strategy for guiding development and investment, and through influencing the direction of, and maximising the benefits from, the 2012 Olympic and Paralympics Games and legacy for the wider Hackney Wick area.

Stratford and Lower Lea Valley AAP

The Stratford and Lower Lea Valley Area Action Plan (AAP), currently at the issues and opportunities stage, sets out a direction for the co-ordination, management and delivery of development for the Lower Lea Valley to 2020-25.

The key objectives for the AAP are:

- Rejuvenated town centres of Stratford, West Ham and Canning Town
- Enhanced, new and extended green spaces with easier access to the waterways

- Increased accessibility and movement through transport and highway improvements
- A higher level employment base
- Providing a broad range of higher skilled employment opportunities for local people.
- Improved range, quality and mix of housing stock
- Integration of new and existing development with appropriate community infrastructure provision, and
- Improving the relationship of the area to Central London.

Other Strategies, Guidance, and Evidence

Community Infrastructure Levy (CIL)

The Community Infrastructure Levy (CIL) regulations, adopted April 2010, and the accompanying guidance lay out the rationale for CIL and the key steps to be followed in its calculation. The Explanatory Memorandum to the Regulations states:

'CIL is an important new tool for local authorities to use to help them deliver the growth and housing set out in their development plans. As well as raising additional revenue for infrastructure, CIL will provide greater transparency and certainty for the development industry on the level of contributions towards infrastructure that are expected and as such should reduce delays in the granting of planning permission by removing negotiations over the amounts sought. Local authorities will have an additional source of revenue that can be used more flexibly to bring forward infrastructure than the current system of planning obligations.' (Paragraph 7.2).

HM Government is making a number of changes to the arrangements for CIL. First, amendments are being made under Planning Act 2008 powers. The *Community Infrastructure Levy (Amendment) Regulations 2011* came in to force on 6th April 2011. The amendments include:

- allowing councils to set their own flexible payment deadlines and offer developers the option to pay the Community Infrastructure Levy by instalments (Regulations 9(6)-(7), (11) and (13))
- removing the £50,000 minimum threshold for payments in kind, so charging authorities can accept a payment in kind in respect of any liability payable to them (Regulation 9(12)); and
- reducing administrative burdens on councils and developers (Regulation 9(1)-(4) and (8)-(9).

Localism Bill

Primary legislation in the form of the *Localism Bill (Bill 126)* is currently moving through parliament. This bill has a number of planning elements including reforms to CIL (Chapter 2). The bill is likely to be

adopted in autumn 2011; scrutiny of the main planning elements ended in March 2011 with ministers having offered to reconsider various clauses in within it. In its current form, the bill will:[85]

- provide for regulations to set out the evidence a charging authority is to consider in preparing their charging schedule, and how that evidence is to be used (see clause 94 (2));
- rebalance the relationship between a charging authority and the independent examiner
- clarify the general purpose of the CIL
- provide for regulations to direct charging authorities to pass funds raised through the CIL to other bodies to spend on infrastructure (clause 95(4)).

The Localism Bill sets the framework for achieving a number of goals relating to decentralisation but further primary legislation will be required to achieve some of them - for example, for neighbourhoods to receive CIL funds (see clause 95(4)). In addition the Bill may be changed further before coming into power later this year. Issues which ministers are considering include the duty to cooperate that would require local authorities to work together across council boundaries and whether CIL could be used to fund affordable housing.

Mayoral Development Corporations – Olympic Park Legacy Company

The Localism Bill includes provision for the designation of Mayoral development areas, and the creation of Mayoral Development Corporations (MDCs) to drive regeneration in those areas.

The Mayor of London has proposed to create a new MDC – the Olympic Park Legacy Corporation – centred on the Olympic Park, to take over the assets and responsibilities of the existing Olympic Park Legacy Company (OPLC). It would also take on some programmes and assets of other agencies currently working in the area. Proposals for the Olympic Park Legacy MDC are currently being consulted upon.

In terms of its physical boundary, the proposed area extends beyond the present OPLC boundary to include Eton Manor, the Olympic Village, Stratford Cit development site and a number of fringe areas including Hackney Wick, Fish Island and Bromley-by-Bow North. This boundary is aimed at ensuring that regeneration involves integration with areas beyond the Olympic Park site itself.

In terms of its powers, it is proposed that the Corporation would become the planning authority for the area for the purposes of plan-making and development control and for setting and collecting CIL (a proposal for the MDC to have the power to grant discretionary business rate relief is also under consideration). To enable this it is sought that the, assets of all regeneration bodies working in the area would be consolidated; so that the assets of the OPLC and of the London Thames Gateway Development Corporation would transfer to the new MDC.

[85] See http://www.publications.parliament.uk/pa/cm201011/cmbills/161/11161.i-vii.html (accessed on 18 March 2011) and also Explanatory Memorandum to the Community Infrastructure Levy (Amendment) Regulations 2011 http://www.legislation.gov.uk/ukdsi/2011/9780111506301/pdfs/ukdsiem_9780111506301_en.pdf (accessed on 18 March 2011)

The Plan for Growth

The Government's central economic policy objective is to achieve strong, sustainable and balanced growth that is more evenly shared across the country and between industries. The Plan for Growth contains four overarching aims that seek to ensure the progress is made towards achieving this economic objective. The ambitions are:

- to create the most competitive tax system in the G20
- to make the UK one of the best places in Europe to start, finance and grow a business
- to encourage investment and exports as a route to a more balanced economy, and
- to create a more educated workforce that is the most flexible in Europe.

Stratford Metropolitan Masterplan

Approved in December 2010, the Stratford Metropolitan Masterplan provides a statement for the regeneration of the wider Stratford area including the town centre, Stratford City and the Olympic Site after the 2012 Games. It sets out the Council's ambition for Stratford to be *'transformed into an integrated Metropolitan Centre for East London offering new opportunities for Newham residents including 46,000 new jobs, 20,000 new homes, new schools, new shops, leisure facilities and local services and better walking routes and transport connections'*.

The Masterplan's overarching objectives are to: develop Stratford into London's eastern gateway; secure the benefits of Stratford City and the Olympic Park for local residents; link together Stratford City, the Olympic Park in legacy, the existing town centre and local communities to create an integrated and coherent Metropolitan Centre; ensure the existing town centre shares the economic growth of Stratford City and the Olympic site; and strengthen the Council's powers to ensure high quality development.

Crossrail Tariff and proposed Crossrail CIL

There are three additional charges to development in London relating to Crossrail:

- Crossrail Business Rate Supplement (BRS), planned to raise £4.1 billion across London
- Crossrail S106 levy, planned to raise £300 million across London
- the Mayor's CIL, also planned to raise £300 million across London.

The Mayor is levying a business rates supplement of two pence per pound on non-domestic prorperties with a rateable value of over £55,000 across London from April 2010. This will help pay for Crossrail, a vital new east-west train link that will provide a major boost to London's economy.

The Crossrail S106 levy is a distinct funding source comprising developer contributions raised through the use of planning obligations under Section 106 of the Town and Country Planning Act 1991. The GLA's SPG on the Use of Planning Obligations in the Funding of Crossrail (March 2010) was adopted in July 2010. The SPG indicates that a charge will be levied per sq m GEA of net development by

geography. Outside the Central London charging zone and the Isle of Dogs Contribution Area, the georgraphy of contribution is defined by those areas within 1 km radii from the proposed Crossrail stations. The Olympic Park legacy is located within 1km of Stratford station. The levy is chargeable on office and retail floorspace at a rate of £30 and £16 0 per sq m respectively in the 'Rest of London' area (Table 2, page 28 of the forementioned report). The SPG indicates that the Mayor will work with the London boroughs to agree how the Crossrail levy will interact with CIL.

In London both the Mayor and the boroughs are entitled to bring forward CILs to fund infrastructure. The Mayor's Draft Charging Schedule (GLA, June 2011), will be considered at an EIP in November/ December 201, sets out that the Mayor's CIL will fund a small but significant proportion of the £300 million of the total cost of Crossrail. There are three CIL rates proposed as set out in **Table A.1**.

Table A.1 Proposed CIL Charging Rates for London Boroughs

Zone	London boroughs	Rates (£ per sq. m.)
1	Camden, City of London, City of Westminster, Hammersmith and Fulham, Islington, Kensington and Chelsea, Richmond-upon-Thames, Wandsworth	£50
2	Barnet, Brent, Bromley, Ealing, Greenwich, Hackney, Haringey, Harrow, Hillingdon, Hounslow, Kingston upon Thames, Lambeth, Lewisham, Merton, Redbridge, Southwark, Tower Hamlets	£35
3	Barking and Dagenham, Bexley, Croydon, Enfield, Havering, Newham, Sutton, Waltham Forest	£20

Source: Proposals for a Mayoral Community Infrastructure Levy, June 2011, page 26

The Mayor intends to allow any payment of CIL to be offset against the sum otherwise due from a S106 payment levied solely for the purposes of contributing to Crossrail[86]. This implies that for the land uses and geographical zones where Crossrail S106 charges apply, the S106 payment will be reduced by the CIL charge.

London Thames Gateway Development Corporation S106 Tariff

London Thames Gateway Development Corporation (LTGDC) adopted a Planning Obligations Community Benefit Strategy (POCBS) in March 2008. The Strategy is designed to ensure that developments contribute financially towards infrastructure required in the London Thames Gateway area to support development. The Strategy was reviewed in 2009-10 and a revised version of the POCBS was adopted in July 2010.

[86] See paragraph 4.1.12 of Proposals for a Mayoral Community Infrastructure Levy Draft Charging Schedule (Major of London; June 2011)

The POCBS is grounded in an analysis of scale of housing development and the quantity and costs of the infrastructure and community facilities required in the LTGDC area. This process deduced the likely gross cost and cost per dwelling of this infrastructure for the Lower Lea Valley and London Riverside.

Infrastructure requirements and costs are split into 'social infrastructure' i.e. schooling (nursery, primary, secondary, and 16+), community centres, libraries and leisure centres, police and fire stations and GP health centres; and 'other infrastructure' i.e. remediation and site clearance, flood protection, utilities, highways and bridges, public transport, public realm, open space and watercourses.

The 2008 POCBS found that a Standard Charge per dwelling of £22,400 in the Lower Lea Valley and £30,400 in London Riverside would be justified as a contribution towards infrastructure needs of the area. However this scale of contribution was not considered to be viable, and in most cases would inhibit regeneration.

A charge of £10,000 per dwellings in the Lower Lea Valley and £6,000 per dwelling in London Riverside for contributions towards community infrastructure was therefore put in place. The charges are applicable to all residential units - market and social housing. Assuming that most dwellings are flats and have an average area of 100 sq m the LTGDC charges imply CIL rates of £100/sq m and £60/sq m for units built in the Lower Lea Valley and London Riverside respectively.

No charge for commercial development (retail, office, hotel and industrial developments) is levied as the scale of development and potential contribution does not warrant the development of a full contributions strategy; however in kind contributions are still negotiated on a site by site basis.

The POCBS recognises that in some circumstances a development may be able to provide strategic infrastructure that will benefit a wider population. In such cases, the LTGDC may agree with the developer what costs will be able to be offset against financial contribution.

The LTGDC Board agreed a 12 month holiday on payment of the discounted Standard Charge element due on commencement (i.e. 25% of £6,000 in LR / 25% of £10,000 in LLV) for schemes between 1st August 2010 and 31st July 2011), in order to incentivise early commencement. The holiday was proposed because of concerns expressed by stakeholders during consultation and the lack of recent starts on site.

LTGDC has negotiated more than £50m via the tariff for strategic infrastructure in addition to £33m for other specific benefits and has received more than £4m in contributions.

Appendix B

Transport Costs: Caveats and Exclusions

The transport interventions costs have a number of caveats and exclusions to take into account:

- Transport project costs are indicative, and based on experience from other comparable projects.
- London Underground (LU) and National Rail station design work and Dockland Light Railway (DLR) upgrade work is at an early stage (i.e. assessment of feasibility, no physical development has taken place).
- For the range of highway and bridge connections, an initial estimate of potential costs for interventions, based on some knowledge of schemes where available has been derived for the purposes of this exercise, but it is felt that a total for these interventions is best applied to be 'rolled-up' for the purposes of this work.
- At this initial stage of area development, it must be understood that there are a whole range of items which cannot be calculated, or which the developer will already be committed to provide for local roads or developments, or would be expected to provide to necessary standards and which are not identified on this list and cannot be easily costed. This includes local measures which would be required to mitigate direct impacts of local development, such as new roads, junctions, lighting, paving, traffic signals and infrastructure and any street furniture such as bus stops.
- Estimates exclude cost of land, unless otherwise identified.
- The amounts provided are a best estimate at the moment, and are not always inclusive of risk or contingency, and therefore may change. Further studies will need to be undertaken to provide more detail on the costs.

Appendix C

CIL Implementation: Key Considerations

CIL Implementation

This appendix details the considerations to be taken into account in the implementation of a CIL.

Our analysis is based upon consideration of:

- the *Community Infrastructure Levy Regulations* which came into force in April 2010 and associated documents, including the Explanatory Memorandum to the Regulations
- *Community Infrastructure Levy Guidance: Charge Setting and Charging Schedule Procedures* published in March 2010
- additional guidance, namely *Community Infrastructure Levy: An overview* and *Community Infrastructure Levy: Summary* provided in November 2010.

CIL, Infrastructure and Viability

The general intent of CIL is that it should be a charge that is designed to be used to pay for, and is justified by, a list of required infrastructure in a charging authority's area. The main caveat on this approach is that CIL should be set at a level that allows most development schemes to remain viable.

Due to the substantial costs of required infrastructure linked to new development, CIL will only be able to partially fund the total infrastructure required in an area. It will thus be important for a local authority to decide which specific infrastructure items from the infrastructure list it intends to use CIL to pay for.

Assessing Economic Viability for Applying CIL

The Regulations state:

> *(1) A charging authority may set differential rates –*
>
> *a. for different zones in which development would be situated;*
>
> *b. by reference to different intended uses of development.*
>
> (2) *In setting differential rates, a charging authority may set supplementary charges, nil rates, increased rates or reductions.'* (Paragraph 13).

This allows a degree of flexibility to set rates that take account of the relative attractiveness of different geographic areas and the relative value of different land uses. However the viability of developing sites will vary significantly depending upon the specific characteristics and history of each site and its ownership, and on market conditions at the point in time that a scheme is being considered. The March 2010 guidance set out the principle that the charging schedule should be set at a level that means that most schemes remain viable[87]. The 2010 Regulations introduce a mechanism for offering relief to schemes which, in exceptional circumstances (in the view of the charging authority), have

[87] 'Charging authorities should avoid setting a charge right up to the margin of economic viability across the vast majority of sites in their area' (2010, paragraph 29).

difficulty in paying the set rate of CIL[88]. However, the exceptional circumstances mechanism has a number of procedural restrictions which should be borne in mind.

Implications of Applying CIL to Net Development

The task of assessing viability is further complicated by the Government's decision in the 2010 Regulations that CIL should be charged on net new development, rather than the previously envisaged gross development[89].

This is potentially problematic. Where a CIL rate is applied to gross floorspace, the consequences on financial appraisal decision making are that the cost will be considered to be spread out over the whole scheme. When it is applied to net development, viability appraisals will place this burden on the additional development floorspace beyond the net floorspace. Therefore there is less ability to raise revenue as there would be if it were applied to the gross scheme.

Infrastructure Requirements

The CIL Regulations require that the CIL charging schedule is supported by evidence of the scale and cost of infrastructure requirements associated with growth. In addition, charging authorities can publish on their website a separate list of 'required infrastructure', that is, projects or types of infrastructure that it intends will be, or may be, wholly or partly funded by CIL. These infrastructure lists and their relationship to CIL and S106 have important implications for the potential of a charging authority to raise revenues via these mechanisms.

The March 2010 guidance indicates that:

- a charging authority needs to identify the total cost of infrastructure that it desires to fund from CIL (paragraph 12).
- In determining the size of its total or aggregate infrastructure funding gap, the charging authority should consider known and expected infrastructure costs and the other sources of funding available, or likely to be available, to meet those costs (paragraph 14). This process may be informed by a selection of infrastructure projects or types which are indicative of the infrastructure likely to be funded by CIL in that area.

The independent examiner will test that relevant evidence, including that on the infrastructure requirements, is presented in relation to a proposed charging schedule, and that the relevant procedures have been adhered to.

Paragraph 123 of the Regulations refers to 'relevant infrastructure' as – *'where a charging authority has published on its website a list of infrastructure projects or types of infrastructure that it intends will be, or may be, wholly or partly funded by CIL, those infrastructure projects or types of projects'*. This

[88] See Explanatory Memorandum paragraph 8.2 and Regulations paragraph 55.

[89] See Explanatory Memorandum paragraph 8.2 and Regulation 40 of the 2010 Regulations. Paragraph 40 (10) clarifies that a building is in use if ia part of that building has been in use for a continuous period of at least six months within the period of 12 months ending on the day planning permission first permits the chargeable development.

infrastructure list is different to that list or information evidencing the requirement for and costs of infrastructure, and therefore the justifying the CIL charging schedule.

CIL and Section 106

The Government's intention is that the purposes of CIL and planning obligations should not significantly overlap in future (Regulations paragraph 122 to 123). The Circular 05/05 tests are moved from policy into law via paragraph 122 of the Regulations, to reinforce that the use of S106 should be applied only in line with its original purpose – to facilitate the granting of planning permission by mitigating the direct specific impacts of a proposed development. Affordable housing will also continue to be funded by S106 agreement and will not be provided by a CIL payment (and indeed CIL cannot be levied in relation to most types of affordable housing either, as is now confirmed by the 2010 Regulations[90]).

The legislation includes a number of requirements that if not handled carefully could significantly limit the ability of a local authority to raise revenue to cover infrastructure required to enable development. Particularly relevant are the regulations covering the limitations of the use of planning obligations where CIL is in place. Draft Regulation 123 states:

> *'(2) A planning obligation ("obligation A") may not constitute a reason for granting planning permission for the development to the extent that the obligation provides for the funding or provision of relevant infrastructure.*

It goes on to define 'relevant infrastructure' in (4):

> *'"relevant infrastructure" means –*
>
> *(a) where a charging authority has published on its website a list of infrastructure projects or types of infrastructure that it intends will be, or may be, wholly or partly funded by CIL, those infrastructure projects or types of projects, or*
>
> *(b) where no such list has been published, any infrastructure.'*

This restriction in (2) comes into force when a charging schedule takes effect.

Further restrictions are set out in (3):

> *(3) A planning obligation ("obligation A") may not constitute a reason for granting planning permission to the extent that:*
>
> *(a) obligation A provides for the funding or provision of an infrastructure project or type of infrastructure; and*
>
> *(b) five or more separate planning obligations that:*

[90] However, ministers are currently considering whether CIL could be used to fund affordable housing. This issue will not be finalised until the Localism Bill is adopted (expected autumn 2011).

(i) relate to planning permissions granted for development within the area of the charging authority; and

(ii) which provide for the funding or provision of that project, or type of infrastructure, have been entered into before the date that obligation A was entered into.

This restriction comes into force on 6th April 2014, i.e. within three years, and curtails the ability to pool S106 agreements and have any planning obligation based tariffs. It provides a significant limitation on S106 agreements and tariffs for cumulative contributions towards infrastructure, making it, in effect, mandatory to use CIL if there is a desire to achieve multiple (more than five) contributions to any type of infrastructure.

These provisions need to be carefully assessed by a local planning authority. The practical effect is as follows:

- If a charging schedule is brought in for any type of CIL, the charging authority must publish on its website the list of infrastructure that it intends will be or may be wholly or partly funded by CIL and if not, the local planning authority will not be able to enter into any S106 agreement (not even up to five of them) in respect of the Planning Act 2008 statutory list of infrastructure: i.e. (a) roads and other transport facilities, (b) flood defences, (c) schools and other educational facilities, (d) medical facilities, (e) sporting and recreational facilities; and (f) open spaces. Given that the charging schedule will have been based on a list of infrastructure, that should not be too problematic but the list should clearly set out what infrastructure is, and what is not, to be funded by CIL.

- If the authority wanted to mix and match CIL and S106 contributions towards infrastructure beyond 6th April 2014 (and for the above reasons it is considered that to maximise developer finance receipts from development occurring in the OLSPG, this may need to be seriously considered), then the mix and match will need to be carefully worked through.