London Borough of Camden

Affordable Housing Viability Study

Final Report

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Contents

1. The Study Brief

1.1 DTZ has been commissioned by the London Borough of Camden (LBC) to carry out a financial viability assessment of its affordable housing proportions and thresholds. The work has been undertaken to inform the development of policy for affordable housing provision to be contained in the Council's LDF Core Strategy and to satisfy the requirement set out in PPS3:Housing that affordable housing targets and thresholds should take into account the impact that these may have on the economic viability of development schemes.

Affordable Housing Policy Objectives

1.2 In devising affordable housing policy the LBC is seeking to achieve a number of different objectives:

- To devise policy in such a way that landowners are sufficiently incentivised to bring forward proposals for residential development

- To devise policy that will maintain the pipeline of new housing developments coming forward to ensure provision of new homes

- The LBC has a very substantial requirement for affordable housing and wishes therefore to maximise the provision of new affordable homes

- The desire to foster mixed communities and to ensure a reasonable mix of incomes and ages within local neighbourhoods.

1.3 Delivery of this mix of policy objectives has always been challenging in the centre of one of the world's great cities. The current economic environment makes this even more challenging.

1.4 Given the prospects for the national and regional (London) housing market we believe that the requirement set in the brief for this study - that the policy approach be tested on the basis of the market conditions prevailing from 2005 to 08 - is sensible. This also has the considerable merit that the viability modelling can be calibrated using real schemes and real data, rather than trying to double-guess how the market will behave in the next three to four years. LDF policy also needs to be set for the long term, and liquidity and development activity should return within the development plan period, if not to the levels associated with 2005 to 08.

1.5 We also believe that using the costs and revenues averaged for 2005 to 2008 is in line with current PINS thinking that viability assessment should neither be based on values and costs at the peak or in the current trough. DTZ's own London central house price scenario envisages recovery of 2007 values by 2017 – well within the period of the LDF.

1.6 Therefore, whilst we do not expect a return to trend growth after a couple of years of pain, we do expect activity to return within the plan period. Given the uncertainty about the future we believe that using the market conditions that prevailed over 2005 to 2008, together with testing the impact of different potential scenarios, is a sound basis upon which to devise policy.

The Study Approach

1.7 At the core of the study approach is a detailed viability modelling exercise. This examines the impact on viability of different affordable housing contributions upon hypothetical development schemes in different parts of the study area.

1.8 The modelling runs a cash flow analysis for a representative range of development schemes (referred to as scheme **archetypes**) in a representative range of geographies (referred to as **value areas**) under historic (2005 to 2008) market conditions.

1.9 The building blocks of the viability modelling approach are shown in Figure 1.1. More information on the model is presented in Sections 4 and 5 of the report, with detail provided on the way the model works, its key assumptions and its operation.

Figure 1.1: The Viability Modelling Approach

Framework for Analysis	Key Components	Key Variables for Testing	Viability Tests
Historic house price and sales rate scenarios	Revenues (price of market and affordable homes)	Percentage of affordable housing	Internal Rate of Return (target 15%)
Value geographies – 28 across the wider study area (11 wholly in LBC)	Costs (build, non-AH s106, marketing, finance costs, etc)	Market prospects – different scenarios	Residual land value (using land value as output)
Development archetypes – 12 different scheme types	Land value (can be an input or an output)	Level of affordable housing grant	% Profit on cost

1.10 The rest of this report is structured as follows:

- **Section 2** sets out the **value geographies** and how they have been derived

- **Section 3** shows the development **archetypes** and how they have been formulated

- **Section 4** presents the **model structure**, its operation and key assumptions

- **Section 5** sets out the results of the **base case** modelling

- **Section 6** examines the implications of the proposed affordable housing **threshold**

- **Section 7** develops the results of the base case modelling to show the impact of using a **sliding scale** for affordable housing contributions

- **Section 8** examines how **sensitive** the results of the analysis are to changes in key assumptions and variables

- **Section 9** presents DTZ's **conclusions** from the analysis for the affordable housing policies in the LBC

2. The Camden Value Geographies

2.1   A key driver of development viability is the sales value per m^2 that can be achieved on new schemes. Higher sales values produce greater revenue streams, thus improving margin if costs are kept constant. However, in practice competitive bidding for land means that a development in a high value area is often no more profitable than that in a lower value area, as higher revenues are offset by higher land costs (thereby keeping margins at the same level).

2.2   An important part of the viability modelling is therefore to capture how sales values (and by implication land values) vary across the London Borough of Camden. In order to do this we have identified distinct geographies where similar sales values are concentrated, which we refer to as the 'value geographies'.

Identifying the Spatial Extent of the Value Geographies

2.3   Sales values and land values vary substantially across the LBC. The identification of the spatial extent of the LBC's value geographies has been determined through analysis of Hometrack residential sales value data and interpretation of this by DTZ (including DTZ's London residential valuation team) and the client group. This process has achieved a general consensus that the LBC can be divided into a total of 11 value geographies. We have also included below the value geographies derived by DTZ for the City of Westminster viability study, for which a further 17 value geographies have been delineated

2.4   A brief overview of each of the geographies is provided below:

1.   **Mayfair Prime** – Lying to the south of Oxford St and west of Regent St. Prime residential area attracting some of the highest values in central London. Falls within the core CAZ. *City of Westminster*.

2.   **St James** – Limited concentration of residential due to predominance of clubs and embassies. However, more residential expected to be brought forward in near future. Values generally lower than Mayfair Prime market. Falls within the core CAZ. *City of Westminster.*

3.   **Soho** – Residential area attractive to more cosmopolitan buyer than Mayfair Prime and St James. Values generally perceived to be around two thirds of those achievable in St James. Falls within the core CAZ. *City of Westminster.*

4.   **China Town** – Small distinctive market dominated by restaurants and Chinese community. Buyers restricted towards particular ethnic groups. Limited new residential likely in the future. Values generally lower than those in Soho. Falls within core CAZ. *City of Westminster.*

5.   **Covent Garden** – Popular residential location with more of a mixture of buyers. Values marginally above those achieved in Soho. Falls within Core CAZ. *City of Westminster (majority).*

**Figure 2.1: The Spatial Extent of the Value Geographies**
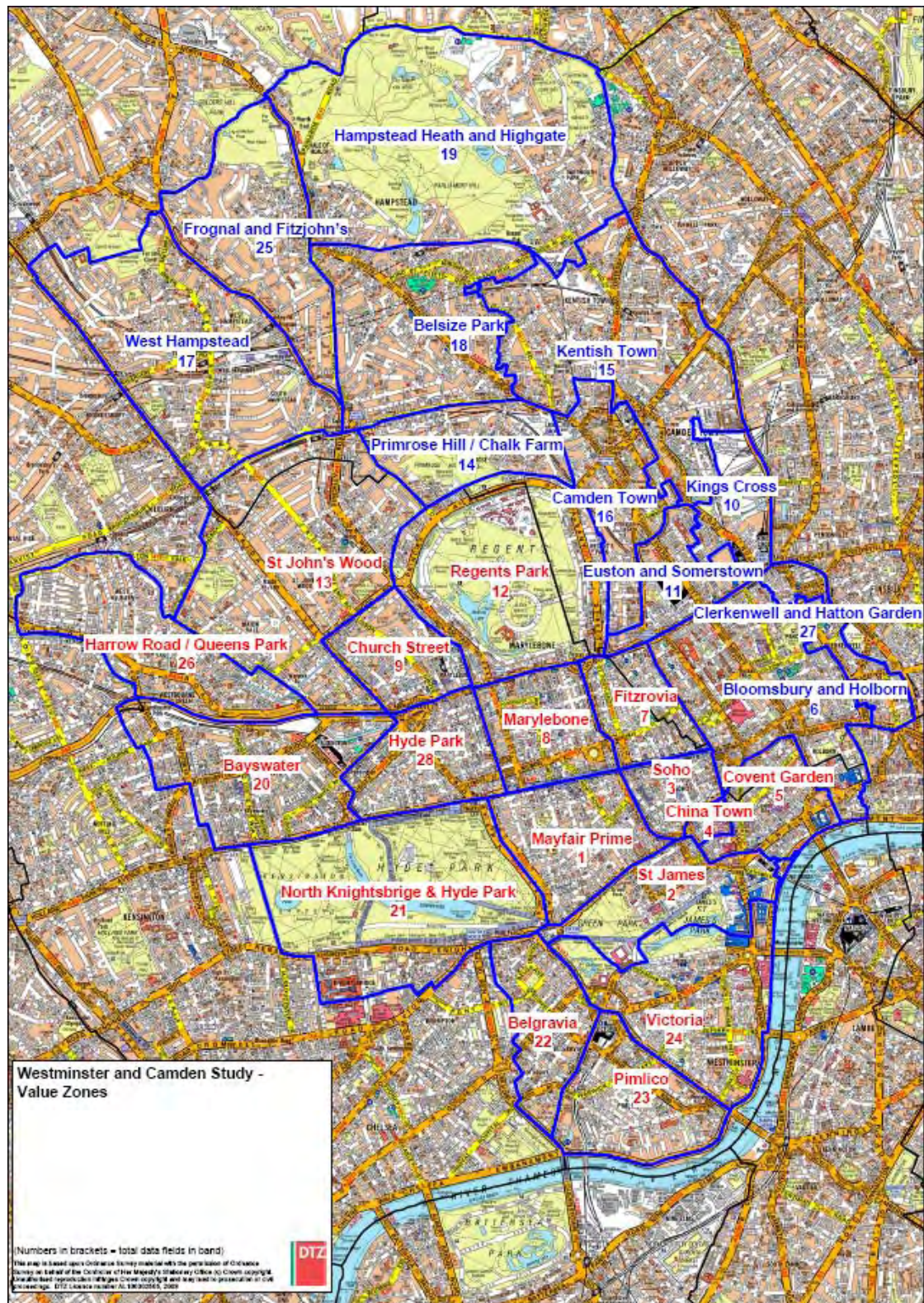
6. **Bloomsbury and Holborn –** A larger market area stretching from Embankment up to the Euston Rd with a nucleus of Bloomsbury Square. Values generally lower to those in Covent Garden. Southern area falls within core CAZ. *LB Camden.*

7. **Fitzrovia –** Lies to the north of Oxford St between Oxford Circus and Tottenham Court Rd. Values generally higher than those in the Holborn market. The southern part falls within the core CAZ, whilst the northern part falls within the wider CAZ boundary. *Majority City of Westminster.*

8. **Marylebone –** Dominated by medical activities and therefore more limited residential. Values similar or above those being achieved in the Fitzrovia market. Predominantly falls within the wider CAZ boundary. *City of Westminster.*

9. **Church Street** – Dominated by the Church Street Estate. This area stretches north from the Hammersmith flyover to the southern boundary of St John's Wood and falls partly within the wider CAZ and partly in the Paddington Opportunity Area (POA). *City of Westminster.*

10. **King's Cross** – A unique market and important regeneration area that will encounter a significant volume of new supply in the future. However, given its very particular set of historic development characteristics the analysis of the King's Cross area needs to be carefully interpreted. *LB Camden.*

11. **Euston and Somerstown** – Generally lower value area encircling Euston Station with a high concentration of social housing (Somers Town). Regeneration of the area may lead to improved values in the future. *LB Camden*

12. **Regents Park** – The very high value properties forming the ring around Regents Park comprise their own unique market. The spatial coverage of this market also largely fits within the wider CAZ boundary. *City of Westminster and LB Camden.*

13. **St John's Wood** – A relatively large market area covering Maida Vale to the west and the entirety of St John's Wood, which extends up to the southern fringe of Hampstead (delineated by Belsize Road). Falls mainly within the City of Westminster, though northern slice (above Boundary road) lies within the Borough of Camden. *Majority City of Westminster*

14. **Primrose Hill / Chalk Farm** – A distinct market from St John's Wood with marginally higher values to its neighbour. However, there is notable internal diversity, particularly with respect to the price premium for properties located on or next to the Hill. *LB Camden*

15. **Kentish Town –** A relatively large market area, but with generally low market values. Given the price differential between certain parts of central Camden, especially by the canal and the northern part of the Borough, the decision was made to split Camden Town and Kentish Town into two separate areas. *LB Camden*

16. **Camden Town** – The urban heart of Camden Borough and another popular cosmopolitan area. Though the market has notable diversity, values are generally perceived to be lower to those achieved in the 'Soho' market. *LB Camden*

17. **West Hampstead** – Given the price gradient the decision was made to split the Hampstead market stretching across the far north west of Camden Borough into distinct western and eastern market areas. The western area running to the east of Kilburn High Rd, which we have termed West Hampstead, generally commands lower values than the area to the east of the Finchley Road (Frognal and Fitzjohn's). *LB Camden*

18. **Belsize Park –** The values achieved in Belsize Park are generally lower than those in the Hampstead Heath and Highgate market, though towards the north of this value geography prices tend to increase as one gets closer to the Heath. *LB Camden*

19. **Hampstead Heath and Highgate** – Arguably the most desirable residential location in the whole of LB Camden this market surrounds the immediate periphery of the Heath. A small but very high price market given the Heath frontage price premium. *LB Camden*

20. **Bayswater** – Runs to the north of Hyde Park and encompasses Paddington Station and the Paddington Opportunity Area to the east. Values are broadly similar to those achieved in market 6 (Bloomsbury and Holborn). Part in CAZ, part outside CAZ. *City of Westminster*

21. **North Knightsbridge and Hyde Park** – One of the most expensive of all the value geographies, this market area includes those properties fronting Hyde Park around the south of the Bayswater Rd and along Park Lane, with the main concentration of dwellings located in North Knightsbridge. The spatial extent of this market shares almost direct conformity with the wider CAZ boundary. *City of Westminster*

22. **Belgravia** – Marginally less expensive than the North Knightsbridge and Hyde Park market, the Belgravia value geography stretches from the south eastern corner of Hyde Park down to Chelsea Bridge and is bisected by Eaton Sq. Most of this market area lies outside the core and wider CAZ boundary (though Belgrave Square is included in the core CAZ). *City of Westminster*

23. **Pimlico** – The Pimlico market has notable diversity, with very high values for properties towards the river and fronting its squares, compared with lower values in the central area, where social housing is concentrated. Almost the entirety of the market area is within the wider CAZ boundary. *City of Westminster*

24. **Victoria** – Residential properties are more limited in the Victoria market given the cluster of government buildings that dominate the area. The market is bisected by the core and wider CAZ boundary, with roughly half of the area falling in each zone. Values are broadly similar to those in the Pimlico market. *City of Westminster*

25.   **Frognal and Fitzjohn's** – An exclusive market located in the wedge between the east of the Kilburn High Rd and Hampstead Heath. Generally commands higher values compared to the west Hampstead market, particularly in the area bordering the Heath. *LB Camden*

26.   **Harrow Road / Queens Park** – Wedged between the more up-market St John's Wood area to the east and Bayswater to the South. One of the lower value areas due to the encompassing western part of Kilburn which tends to command lower prices than the surrounding areas of Maida Vale and St John's Wood. The market area is outside the CAZ. *City of Westminster*

27   **Clerkenwell and Hatton Garden** – A thin area wedged between Bloomsbury and Holborn to the west and the eastern boundary of Camden Borough. Generally lower values than the Bloomsbury and Holborn area, but almost twice those of the King's Cross area it shares a border with to the north. *LB Camden*

28   **Hyde Park** – This area is partly in the core CAZ, partly in wider CAZ boundary and partly outside the CAZ. It stretches from the northern boundary of Hyde Park up to the Hammersmith flyover. *City of Westminster*

2.5   In order to accurately capture price data for the value geographies a spatial definition of each area is required. The lowest spatial area that £ psf data can be captured at is the lower super output area[1] (LSOA).

2.6   Using LSOAs to define each area provides a much better fit to the value geographies than measures such as post code sectors, which are less detailed and are more prone to transcending value area boundaries. Accordingly we have produced a spatial definition of each market according to the LSOAs that each value geography covers, which is shown in Figure 2.2.

2.7   LSOAs are data fields and each value area shown in Figure 2.2 corresponds to a particular number of LSOAs/data fields. The number of LSOAs/data fields that each value area covers is shown in brackets in the key in Figure 2.2. No LSOA falls primarily within the China Town area.

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[1] A Super Output Area (SOA) is a unit of geography used in the UK for statistical analysis. Lower super output areas are areas that have a minimum population of 1000 and a mean population of 1500.

Figure 2.2: Lower Super Output Area Definition of Each Value Geography
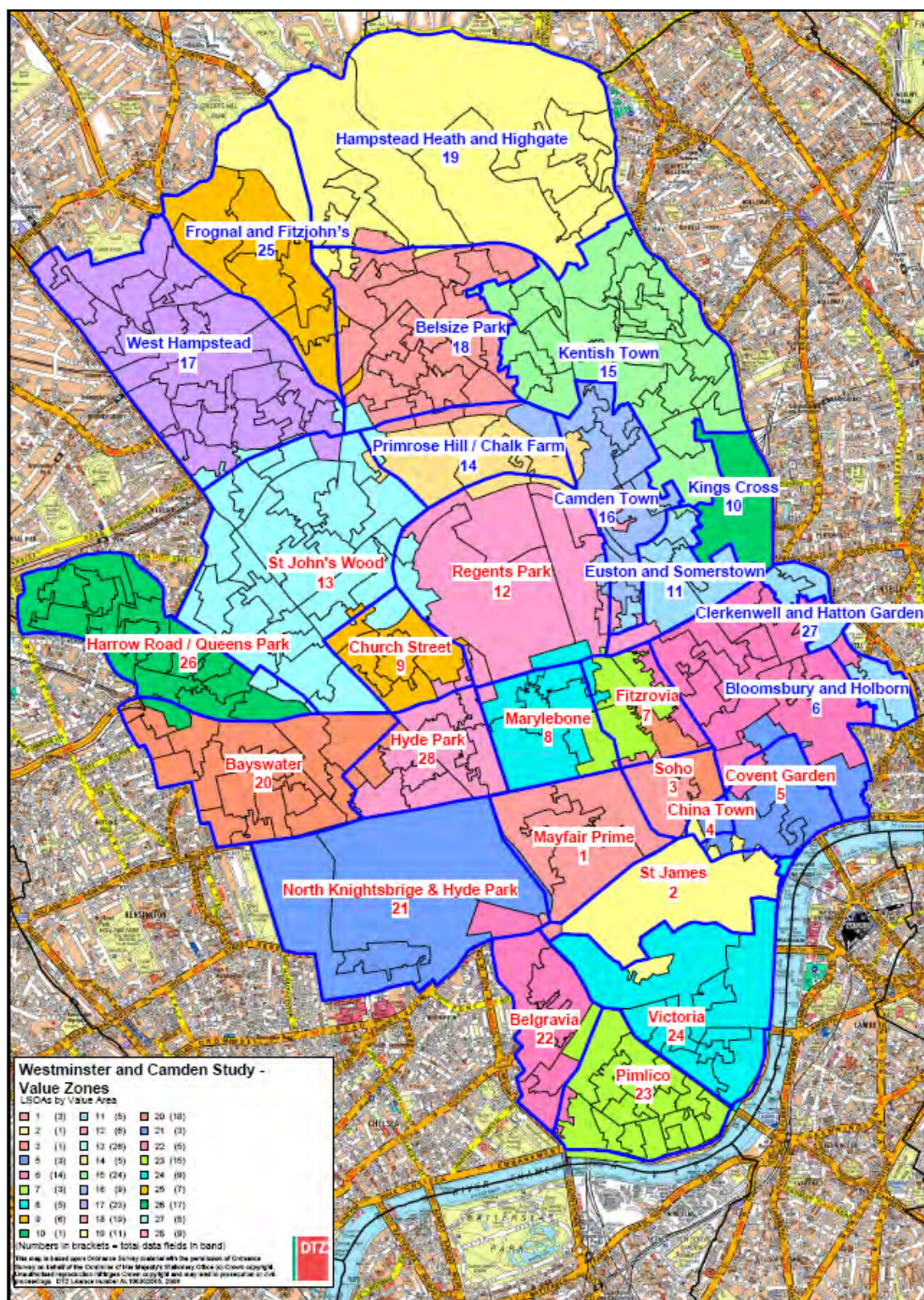
2.8   Average £ psf data from Hometrack for the period 2007 to 2008 has been meshed with the spatial definition of each value geography in Figure 2.3. The key in Figure 2.3 shows the price range that each LSOA corresponds to (the darker and redder the LSOA the more expensive it is) and the total number of LSOAs falling within that price bracket (the same applies in Figure 2.6, whilst in Figure 2.7 the key shows average % price change between 2005 and 2008 and the number of LSOAs falling within these price change brackets). Overall there is general conformity between concentrations of similar £ psf values and each value geography, though the Pimlico, St John's Wood and Belsize Park markets display internal diversity.

Figure 2.3: Average £ psf Values Across the Value Areas Dec 07 to Dec 08
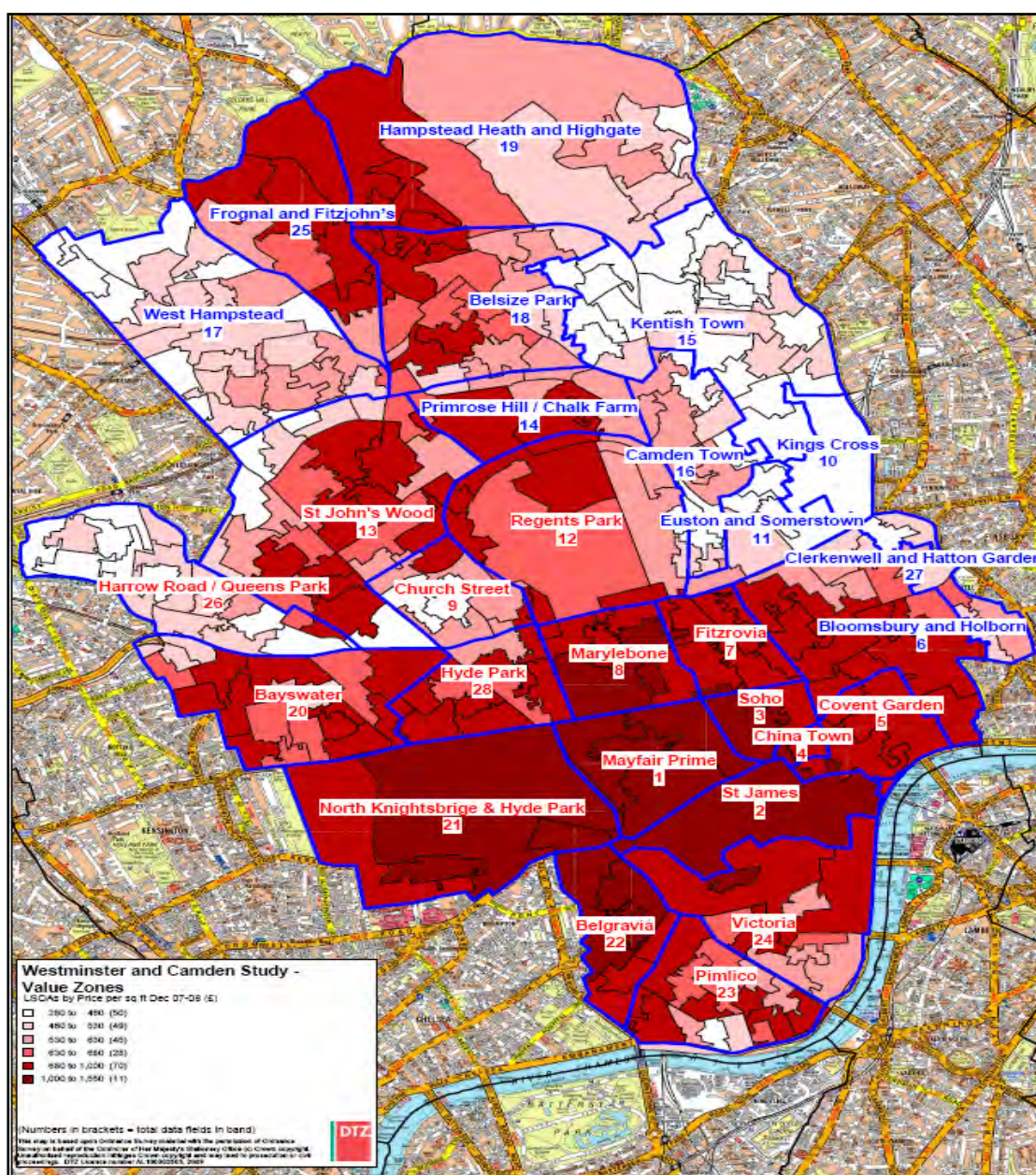
2.9 The time period for the viability modelling is 2005 to 2008. As well as the 2007 to 08 values shown in Figure 2.3, therefore, it is also important to capture how values have changed over the 3 years preceding 2008 and the values that were being achieved in 2005.

2.10 Absolute £ psf data for 2005 by LSOA is not available from Hometrack. However, we can obtain the percentage change that prices in each LSOA have experienced over the last 3 years. By applying these percentage changes to the 2008 data we are able to derive the equivalent £ psf values across the study area for 2005. These £ psf values are shown in Figure 2.6, with the % change that each LSOA experienced over the 3 year period prior to 2008 presented in Figure 2.7.

2.11 The mapping provides a useful insight into the spatial pattern of prices across the study area and the value geographies. However, for the purposes of the modelling these groupings of values need to be translated through to collective £ psf values for each value area. For sensitivity testing the modelling also requires high and low estimates of average values and how these have changed between 2005 and 2008. The sales value data has therefore been calibrated to the value geographies and is shown in detail in Figure 2.5 overleaf.

2.12 This data for 2007/2008 shows a good range and sufficient differentiation between the geographies, with values ranging from £1,265 psft in the Mayfair Prime market to £328 psft in the King's Cross market (Figure 2.4).

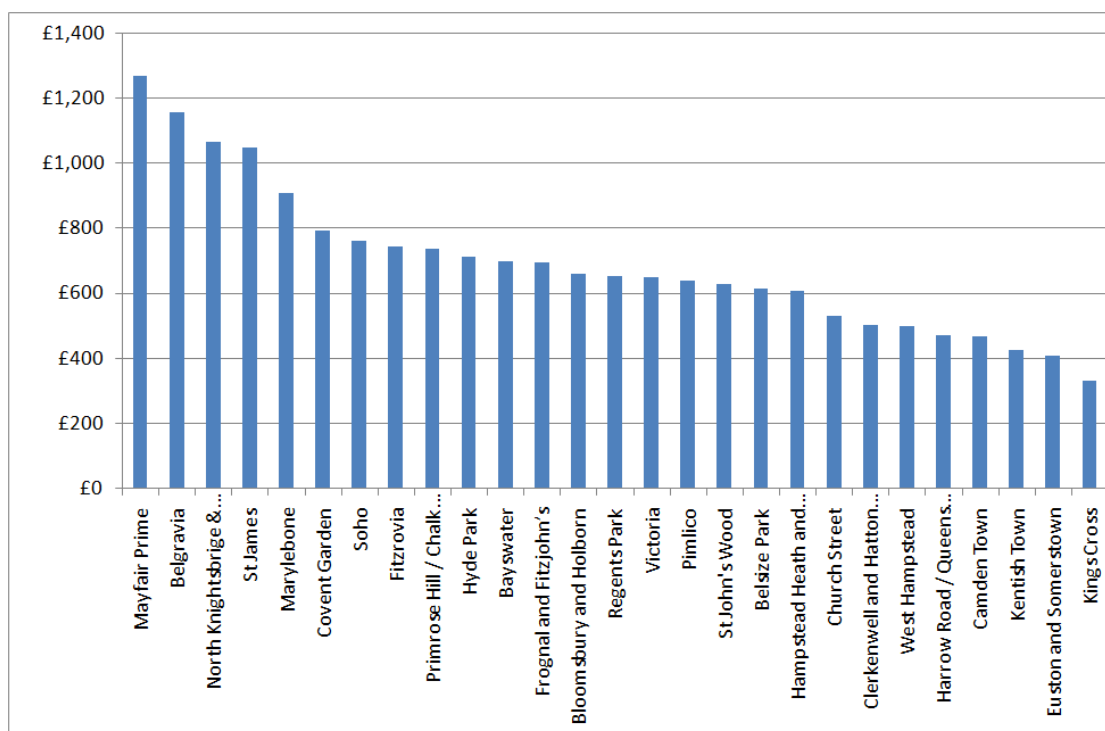**Figure 2.4: Average £psf Values 2007 / 2008 By Geography**

Figure 2.5: £ psf Values 2005 to 2008 by Value Geography

Source: DTZ / Hometrack

Value Area	Value Area Name	Average £psf 2004-05	Min £psf 2004/05	Max £psf 2004/05	Average % Change Since 2004/05	Minimum % Change Since 2004/05	Maximum % Change Since 2004/05	Average £psf 2007/08	Min £psf 2007/08	Max £psf 2007/08
21	North Knightsbrige & Hyde Park	£886	£726	£998	21.4%	6.6%	36.4%	£1,063	£990	£1,134
2	St James	£875	£875	£875	19.7%	19.7%	19.7%	£1,047	£1,047	£1,047
1	Mayfair Prime	£774	£653	£898	64.4%	51.2%	72.3%	£1,265	£1,108	£1,358
22	Belgravia	£759	£284	£1,088	68.4%	8.6%	183.9%	£1,157	£682	£1,543
8	Marylebone	£666	£511	£977	43.6%	-3.3%	95.9%	£908	£772	£1,011
3	Soho	£581	£581	£581	30.8%	30.8%	30.8%	£760	£760	£760
7	Fitzrovia	£542	£440	£624	40.3%	16.6%	76.5%	£741	£718	£777
5	Covent Garden	£507	£424	£665	59.7%	33.8%	79.0%	£790	£706	£889
13	St John's Wood	£502	£94	£1,082	43.8%	-42.5%	452.9%	£626	£396	£855
25	Frognal and Fitzjohn's	£468	£377	£606	53.3%	0.8%	149.0%	£693	£547	£939
12	Regents Park	£467	£338	£575	42.0%	-2.0%	79.7%	£653	£474	£875
28	Hyde Park	£463	£369	£597	55.1%	27.0%	85.2%	£710	£566	£944
23	Pimlico	£462	£292	£634	41.9%	3.9%	83.8%	£638	£422	£740
14	Primrose Hill / Chalk Farm	£461	£364	£647	65.8%	17.7%	134.2%	£737	£560	£882
6	Bloomsbury and Holborn	£448	£277	£524	47.8%	25.3%	76.0%	£660	£473	£823
24	Victoria	£442	£291	£559	51.2%	10.8%	99.6%	£649	£541	£752
18	Belsize Park	£440	£282	£612	41.5%	15.7%	106.5%	£612	£481	£834
20	Bayswater	£433	£312	£563	63.4%	22.3%	112.7%	£697	£477	£871
9	Church Street	£397	£286	£626	39.5%	-2.3%	92.2%	£529	£407	£612
19	Hampstead Heath and Highgate	£394	£278	£520	54.1%	19.3%	89.7%	£607	£383	£909
17	West Hampstead	£369	£278	£523	39.0%	-10.6%	90.5%	£498	£420	£621
26	Harrow Road / Queens Park	£360	£274	£447	31.4%	3.6%	58.3%	£469	£368	£552
16	Camden Town	£357	£237	£539	35.2%	-0.9%	89.2%	£465	£352	£612
27	Clerkenwell and Hatton Garden	£346	£306	£407	45.6%	20.3%	60.0%	£501	£419	£585
11	Euston and Somerstown	£338	£265	£393	20.9%	6.7%	53.7%	£406	£283	£465
15	Kentish Town	£335	£156	£496	30.4%	-16.2%	107.0%	£422	£298	£508
10	King's Cross	£271	£271	£271	21.1%	21.1%	21.1%	£328	£328	£328
	Average	**£494**	**£364**	**£642**	**43%**	**10%**	**98%**	**£690**	**£555**	**£823**

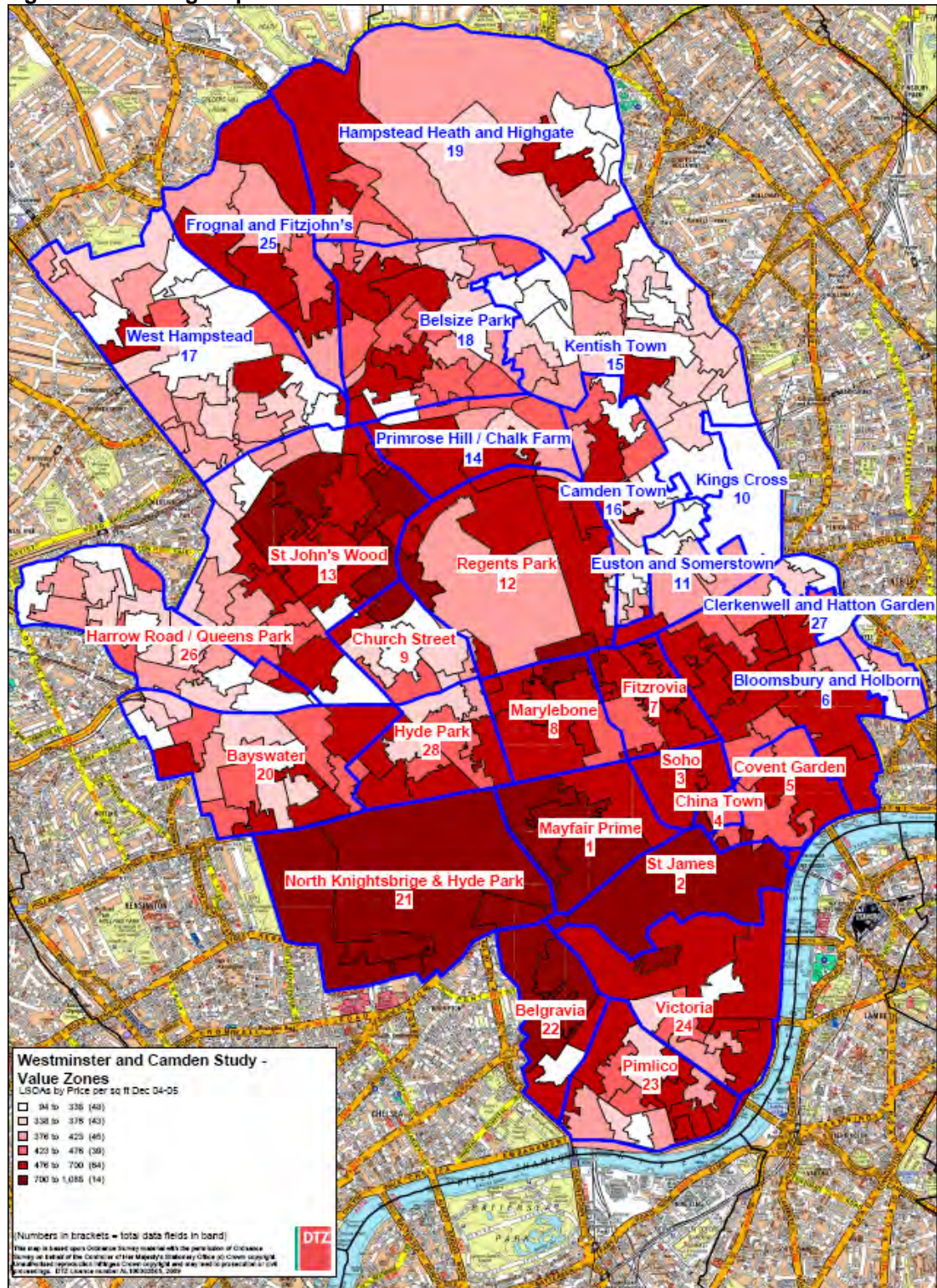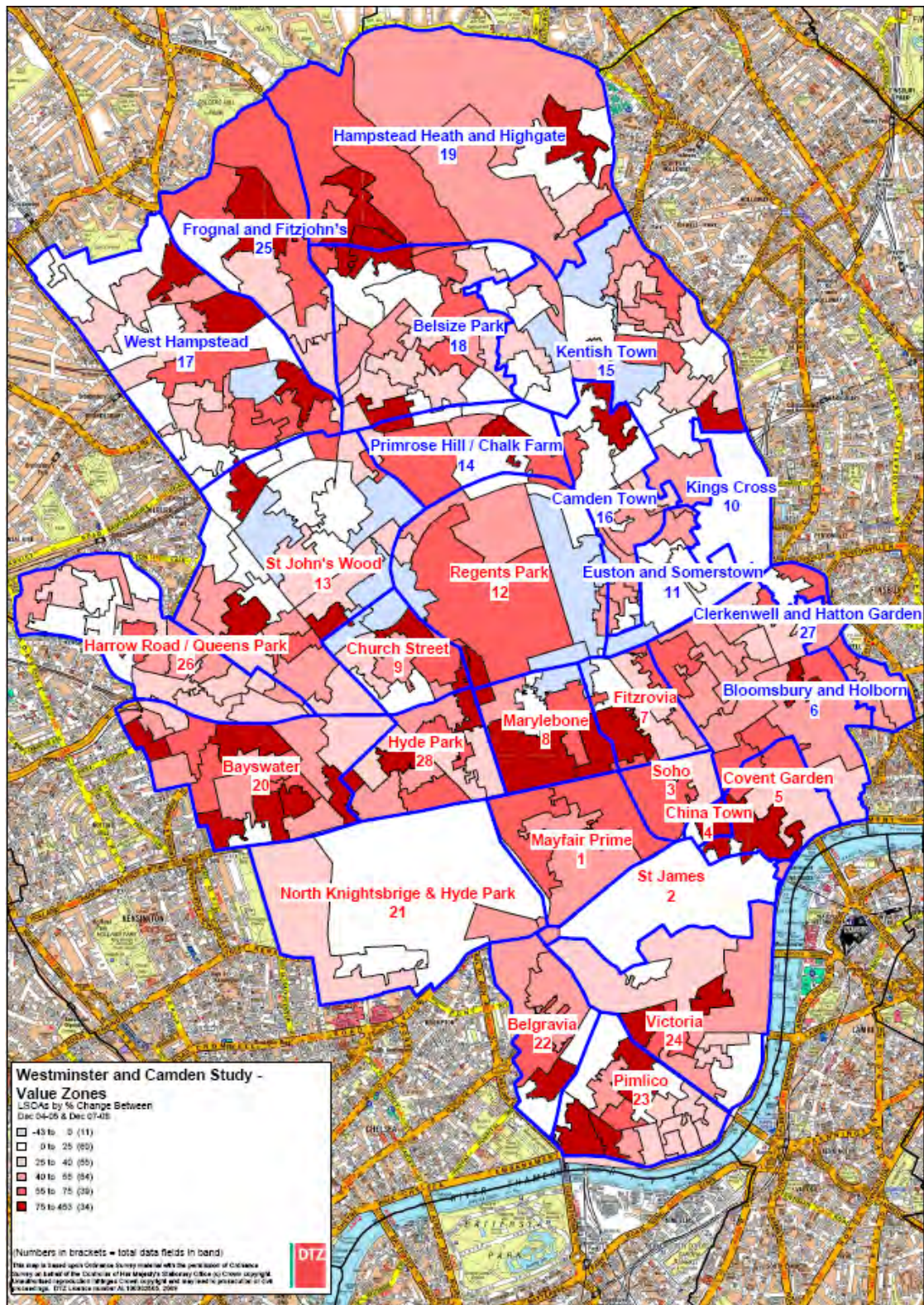**Figure 2.6: Average £ psf Values Across Value Areas Dec 04 to Dec 05**

Figure 2.7: Average % Price Change 2005 to 2008

Review of the Hometrack Data

2.13   The Hometrack data presented in Figures 2.5 to 2.7 represents a mix of new build and existing dwelling prices. DTZ's central London residential valuation have reviewed this data and adjusted the values according to valuation evidence and their experience of purely new build prices in each of the market areas in 2008. Generally the Hometrack values were considered to be notably lower than new build values being achieved in each area in 2008, as reflected in Figure 2.8.

Figure 2.8: Sales Values Comparison Across the Value Areas

	Average Hometrack £psf 2007/08	2008 New Build Values From Evidence of DTZ London Residential Valuation Team	Difference
Belgravia	£1,157	£1,660	£503
St James	£1,047	£1,650	£603
Mayfair Prime	£1,265	£1,640	£375
North Knightsbrige & Hyde Park	£1,063	£1,400	£337
Regents Park	£653	£1,300	£648
Marylebone	£908	£1,210	£302
Hampstead Heath and Highgate	£607	£1,200	£593
St John's Wood	£626	£1,200	£575
Primrose Hill/Chalk Farm	£737	£1,100	£363
Soho	£760	£1,100	£340
Frognal and Fitzjohn's	£693	£1,000	£307
Hyde Park	£710	£950	£240
Belsize Park	£612	£945	£333
Covent Garden	£790	£935	£145
Fitzrovia	£741	£925	£184
Bloomsbury and Holborn	£660	£900	£240
Victoria	£649	£835	£186
Pimlico	£638	£825	£187
Bayswater	£697	£815	£118
West Hampstead	£498	£660	£162
Clerkenwell and Hatton Garden	£501	£650	£149
Camden Town	£465	£640	£175
Kentish Town	£422	£630	£208
Harrow Road / Queens Park	£469	£600	£131
Church Street	£529	£590	£62
King's Cross	£328	£560	£232
Euston and Somerstown	£406	£550	£144
Average	**£690**	**£980**	**£290**

Source: Hometrack / DTZ

2.14   As the viability modelling requires new build prices the DTZ values shown in the second column of Figure 2.8 have been employed within the base case analysis (more detail on which is contained in sections 4 and 5). In order to generate 2005 values (the modelling is conducted over the 2005 to 2008 period) the DTZ values have been deflated by the house price growth experienced across the study over the preceding 3 year period, which the Hometrack data shows to be equal to 43% (or 13% per annum). The Hometrack price growth

data is broadly consistent with Land Registry data, which shows that between May 2005 and May 2008 house prices rose in each Borough by around 50%.

Figure 2.9: Land Registry House Price Change 2005 to 2008

Land Registry House Price Index Report – Average Price	May-05	May-08	% Change
Borough of Camden	£366,201	£550,000	50%
Borough of the City of Westminster	£412,872	£623,506	51%

Source: Land Registry

2.15   Deflating the 2008 DTZ values to 2005 using the Hometrack 2005 to 2008 price change (43%) generates the values used within the base case modelling, which are shown in Figure 2.10.

Figure 2.10: Base Case Sales Values Used Within Viability Modelling

	2005 New Build Values Using Hometrack Inflation	2008 New Build Values From Evidence of DTZ London Residential Valuation Team
Belgravia	£1,161	£1,660
St James	£1,154	£1,650
Mayfair Prime	£1,147	£1,640
North Knightsbrige & Hyde Park	£979	£1,400
Regents Park	£909	£1,300
Marylebone	£846	£1,210
Hampstead Heath and Highgate	£839	£1,200
St John's Wood	£839	£1,200
Primrose Hill/Chalk Farm	£769	£1,100
Soho	£769	£1,100
Frognal and Fitzjohn's	£699	£1,000
Hyde Park	£664	£950
Belsize Park	£661	£945
Covent Garden	£654	£935
Fitzrovia	£647	£925
Bloomsbury and Holborn	£629	£900
Victoria	£584	£835
Pimlico	£577	£825
Bayswater	£570	£815
West Hampstead	£462	£660
Clerkenwell and Hatton Garden	£455	£650
Camden Town	£448	£640
Kentish Town	£441	£630
Harrow Road / Queens Park	£420	£600
Church Street	£413	£590
King's Cross	£392	£560
Euston and Somerstown	£385	£550
Average	**£686**	**£988**
Difference	**43%**	

Note on Exclusion of China Town

2.16   China Town has had to be excluded from the analysis as, due to its very small size, no single LSOA falls within its boundary.

Note on Exclusion of King's Cross

2.17   The King's Cross area has been selected as an approximation to the Opportunity Area, although it does include two small outlying areas on the west of the Midland Mainline. The development process set up for the Opportunity Area effectively enmeshed development viability into the wider costs associated with the Channel Tunnel Rail Link. Consequently, it is not considered that the viability model and assumptions used in this report would accurately reflect the development economics of the Opportunity Area. Accordingly King's Cross has been excluded from the analysis.

3. The Camden Archetypes

3.1 The challenge of a viability assessment such as this is that there are a very wide range of factors that affect viability (ranging from residential land values, sales value, build costs, site size, dwelling mix, density, affordable housing quota, mix of affordable housing provision, availability of grant, and target rates of return).

3.2 In order to limit the numerous variations that could be tested it is important to identify a number of development archetypes – schemes that are typical of a large number of schemes involving Section 106 agreements and which collectively capture a large proportion of the inherent variability in schemes within the study areas (these also reflect a significant proportion of the output of affordable housing delivered on Section 106 schemes).

3.3 To inform the development of our archetypal schemes DTZ has undertaken extensive analysis of the past pattern and anticipated future pattern of provision across Camden. We have also relied on the experience of the planning teams at LB Camden to help shape the structure of the archetypes.

3.4 We have formulated the archetypes to allow the modelling to test viability for different types of scheme differentiated by:

- Density: in the past density has been an important driver in the viability of urban sites, with site coverage a key factor in pushing up gross development values – and, ironically, being a factor that has led to inflated land values. As relevant planning policies are likely to deem that different densities are appropriate to different locations this will affect viability (though in a perfect market it will also affect land values)

- Dwelling size mix: prices per m^2 can vary between different size dwellings (in many areas there is now a premium on larger dwellings).

- Site size: We will test for how viability varies by site size, since these will face different development cost profiles.

- Dwelling type: the flats and houses markets are behaving differently in the downturn with prices of flats more at risk of falling, so there is a need to distinguish between essentially flatted schemes and developments of houses. However, given the overwhelming bias towards flats across the study area we currently have only one archetype that includes houses.

3.5 The 12 proposed archetypes are shown in the matrix in Figure 3.1. More detail on how these have been formulated is contained in the remainder of this paper.

Figure 3.1: Development Archetypes For Camden Viability Study (Archetype Letter Name Shown in Bold. Gross External Area with AH contribution set at 50%)

Archetype Name	Density	Larger Site Size	Mix	Mid Site Size	Mix	Smaller Site Size	Mix
High Rise, High dph *Storeys: 10 to 15*	600 dph	0.23 ha 138 dwellings **A** GEA (sq m): 11,286	**100% flat:** 5% Studio 40% 1 bed 40% 2 bed 5% 3 bed 5% 4 bed 5% 5 bed	0.19 ha 114 dwellings **B** GEA (sq m): 9,456	**100% flats:** 5% Studio 40% 1 bed 35% 2 bed 10% 3 bed 5% 4 bed 5% 5 bed	0.14 ha 84 dwellings **C** GEA (sq m): 6,457	**100% flats:** 5% Studio 40% 1 bed 40% 2 bed 15% 3 bed
Mid Rise, Higher dph *Storeys: 5 to 10*	300 dph	0.35 ha 105 dwellings **D** GEA (sq m): 8,360	**100% flats:** 5% Studio 40% 1 bed 35% 2 bed 15% 3 bed 5% 4 bed	0.25 ha 75 dwellings **E** GEA (sq m): 6,604	**100% flats:** 35% 1 bed 35% 2 bed 20% 3 bed 5% 4 bed 5% 5 bed	0.2 ha 60 dwellings **F** GEA (sq m): 4,988	**100% flats:** 35% 1 bed 35% 2 bed 30% 3 bed
Mid Rise, Lower dph *Storeys: 5 to 10*	150 dph	0.3 ha 45 dwellings **G** GEA (sq m): 3,687	**100% flats:** 10% Studio 35% 1 bed 25% 2 bed 25% 3 bed 5% 4 bed	0.23 ha 34 dwellings **H** GEA (sq m): 3,003	**100% flats:** 35% 1 bed 25% 2 bed 35% 3 bed 5% 4 bed	0.17 ha 25 dwellings **I** GEA (sq m): 2,430	**100% flats:** 25% 1 bed 25% 2 bed 35% 3 bed 15% 4 bed
Low Rise, Low dph *Storeys: 0 to 5*	100 dph	0.15 ha 15 dwellings **J** GEA (sq m): 1,377	**100% flats:** 25% 1 bed 40% 2 bed 20% 3 bed 15% 4 bed	0.09 ha 9 dwellings **K** GEA (sq m):838	**100% flats:** 11% 1 bed 44% 2 bed 44% 3 bed	0.05 ha 5 dwellings **L** GEA (sq m):1,291	**100% houses:** 100% 4 bed town houses

The Formulation of the Archetypes

3.6   The design of the archetypes has been informed with reference to the characteristics of actual schemes being developed in the LBC (details of which are presented towards the end of this section), the experience of the Borough of Camden's planning team and wider policy context (most notably the London Plan density matrix).

3.7   The rationale behind each of the main components of the matrix are summarised below:

Density

3.8   The archetypes need to cover a range of densities. The start point has been the London Plan density matrix, which shows appropriate densities in the central area of London to range from 50 to 400 units per hectare. Our selection of the densities used in the archetypes matrix (Figure 3.1) was based on the following considerations:

- **600 dph:** The starting point for the highest density was the London Plan matrix maximum density of 405 dph. However, we have exceeded this due to a number of actual schemes that have a recorded density around the 600 dph level (more information on these schemes is contained towards the end of this section).

- **300dph:** Selected for the mid rise higher dph set of archetypes as this density is towards the upper end of the 175 to 355 dph range for the central setting in the London Plan matrix.

- **150 dph:** For the mid rise/lower dph we have used 150 dph, which is the rounded mid point of the 80 to 210 dph range for the central setting in the London Plan matrix.

- **100dph:** For the low rise/low dph we have used 100 dph (the mid point of the 55 to 145 dph range for the urban setting in the LP matrix). This gives more appropriate site sizes for the smaller schemes (in terms of comparability with actual schemes) compared with employing the lowest point in this range of 55 dph.

Mix and Size

3.9   The mixes used for each archetype reflect the experience of the Councils' planning teams and the structure of past development. They are based on the following considerations:

- Flats are the overwhelming type of unit in LBC and schemes with a mixture of houses and flats are very rare. Where houses are developed they tend to be in small schemes of purely houses. Hence the inclusion of only one archetype that has a small number of houses (5 units).

- Generally the proportion of larger (3 or more bedroom) units will increase as density and height goes down. The concentration of larger units therefore rises in the matrix as one moves from the top left to the bottom right.

- In LBC planners have tended to accept no more than 40% one bed and 40% two bed units (80% one and two bed combined). When studios are included this limit rises marginally to 85% (for the totality of studio, one and two bed units).

Number of Dwellings

3.10   The number of dwellings used for the archetypes provides the most representative spread of unit numbers compared with past patterns of development. There are very few examples of schemes coming forward in the LBC of more than 135 units.

3.11   The 5 to 135 unit range has been broken up to provide sufficient differentiation between schemes in terms of total unit numbers.

Site Size and Number of Storeys

3.12   Site sizes are determined by the relevant density per hectare and total unit numbers. We have also cross checked these with actual scheme information and they appear to have a close match with historic scheme sizes. For example, if one examines the actual scheme information contained in the rest of this section the majority of site sizes tend to be below 0.35 hectares – the largest site size within the archetype matrix. Similarly, the number of storeys has been determined with reference to actual scheme information which traces the general correlation between density and scheme height.

Actual Scheme Information

3.13   The remainder of this section contains information on actual schemes in LBC, which (as outlined above) have been used to inform the characteristics of the archetypes.

Camden Actual Scheme 1:

Developer	British Land, Crown Estate
Value Geography Area	Regents Park (12)
Address	Regents Place 360-373 Euston Road and 1 Osnaburgh Street, NW1 3BL
Other Mixed Use Areas	A1 Retail 702 gsm; B1 Offices 53,483 gsm
Total Units	151
Site Area	0.190 ha
Residential Density	795 dph
Off Street Parking Spaces	112
Storey	20
S.106 Contributions	£858,670
Previous/Existing Use	Predominantly Retail/Office
Type and Tenure Mix	**Private** 6 x studio 21 x 1 bed 26 x 2 bed 7 x 3 bed **Social Rented** 17 x 1 bed 23 x 2 bed 8 x 3 bed 8 x 4 bed 4 x 5 bed **Intermediate** 22 x 1 bed 7 x 2 bed 2 x 3 bed

Camden Actual Scheme 2:

Developer	Barratt West London
Value Geography Area	Primrose Hill/Chalk Farm (14)
Address	"The Lockhouse" 35 Oval Road NW1 7EA
Other Mixed Use Areas	Offices 1,670 gsm
Total Units	171 (115 Private, 52 Social Rented, 4 Intermediate)
Site Area	0.433 ha
Residential Density	395 dpm
Off Street Parking Spaces	69
Storey	8
S.106 Contributions	£994,170
Existing Use	B8 – Warehouse and Storage
Type and Tenure Mix	**Private** 4 x studio 58 x 1 bed flat 39 x 2 bed flat 14 x 3 bed flat **Social Rent** 19 x 1 bed flat 13 x 2 bed flat 10 x 3 bed flat 10 x 4 bed flat **Intermediate** 4 x 1 bed flat

Camden Actual Scheme 3:

Developer	Notting Hill Housing Group
Value Geography Area	Camden Town (16)
Address	100 Park Village East NW1 3SR
Other Mixed Use Areas	None
Total Units	41
Site Area	0.065 ha
Residential Density	631 dph
Off Street Parking Spaces	0
Storey	10
S.106 Contributions	£90,905
Previous/Existing Use	B1 Offices
Type and Tenure Mix	**Private** 13 x 1 bed flat 9 x 2 bed flat **Social Rent** 4 x 2 bed flat 3 x 3 bed flat 4 x 4 bed flat 2 x 5 bed flat **Intermediate** 4 x 2 bed flat 2 x 3 bed flat

Camden Actual Scheme 4:

Developer	Modern City Living/ Legal & General
Value Geography Area	Bloomsbury and Holborn (6)
Address	Central St Giles Court, 1-13 St Giles High Street, WC2H 8LB
Other Mixed Use Areas	Retail A1 825 gsm; Restaurant/Cafe/Public Ho etc A3 2,258 gsm; Offices 52,198 gsm; A1 Community Safety Office 75 gsm
Total Units	109
Site Area	0.118 ha
Residential Density	924 DPH
Off Street Parking Spaces	49
Storey	16
S.106 Contributions	
Previous/Existing Use	Office
Type and Tenure Mix	**Private** 30 x 1 bed flat 26 x 2 bed flat **Social Rented** 21 x 2 bed flat 6 x 3 bed flat 1 x 4 bed flat 1 x 5 bed flat **Intermediate** 18 x 1 bed flat 6 x 2 bed flat

Camden Actual Scheme 5:

Developer	Great Capital Ventures BV
Value Geography Area	Kentish Town (15)
Address	Star Wharf & Pratt Wharf, St Pancas & Somers Town, NW1 0QG
Other Mixed Use Areas	A1, A2
Total Units	64
Site Area	0.1369
Residential Density	467 dph
Off Street Parking Spaces	26
Storey	5
S.106 Contributions	£186,834
Previous/Existing Use	
Type and Tenure Mix	**Private** 3 x 1 bed flat 26 x 2 bed flat 7 x 3 bed **Social Rent** 7 x 1 bed flat 4 x 2 bed flat 5 x 3 bed flat 4 x 4 bed flat **Intermediate** 6 x 2 bed flat 2 x 3 bed flat

Camden Actual Scheme 6:

Developer	Dukelease Properties/Casacucinat Ltd
Value Geography Area	Kentish Town (15)
Address	Highgate Rise, 9 Fortress Road NW5 1AA Former Tally Ho PH
Other Mixed Use Areas	None
Total Units	33 (20 private, 7 social rented and 6 intermediate)
Site Area	0.077 ha
Residential Density	429 dph
Off Street Parking Spaces	0
Storey	6
S.106 Contributions	£117,679
Former/Existing Use	Public House
Type and Tenure Mix	**Private** 15 x 1 bed flat 3 x 2 bed flat 2 x 3 bed flat **Social Rented** 3 x 10 bed flat 4 x 3 bed flat **Intermediate** 2 x studio 4 x 1 bed flat

Camden Actual Scheme 7:

Developer	Galliard Homes
Value Geography Area	Belsize Park (18)
Address	"Winchester Place" 2-20 Winchester Road and 157a Fellows Road, NW3 3NT
Other Mixed Use Areas	Class A1 Retail 312 gsm, Class A2 Financial & Professional Services 104 gsm
Total Units	76 (51 private and 25 social rented units)
Site Area	0.255 ha
Residential Density	298 dph
Off Street Parking Spaces	41
Storey	8
S.106 Contributions	£446,033
Previous/Existing Use	Retail/Residential
Type and Tenure Mix	**Private** 21 x 1 bed flat 16 x 2 bed flat 10 x 3 bed flat 4 x 4 bed flat **Social Rented** 7 x 1 bed flat 5 x 2 bed flat 9 x 3 bed flat 1 x 4 bed flat 3 x 6 bed house

4. **Viability Model Workings and Assumptions**

4.1 This section of the report provides an overview of the structure of the viability model and the assumptions it uses.

Model Targets – What Defines Viability?

4.2 The model is based on the principles of Circle Developer. These have been translated into an excel based model with viability defined by the achievement of a target Internal Rate of Return (IRR). The IRR is the discount rate needed to reduce the Net Present Value (NPV) [1] of a particular scheme to zero.

4.3 The IRR target - the requirement for a scheme to be deemed viable - is set at 15% (though this can be varied within the model and altering is analysed as sensitivity). Before the onset of the credit crunch a 15% IRR was generally regarded by developers as the minimum needed to to proceed with a scheme (though under current market conditions this has increased on many schemes due to stricter and costlier credit terms imposed by lenders). It should also be noted that the report presents all the IRRs achieved on each hypothetical scheme so the effects of assuming a higher target can be identified.

4.4 The model also measures scheme profitability, as defined by scheme surplus divided by scheme cost (profit on cost) and scheme surplus divided by scheme revenue (profit on GDV). This differs from the IRR approach as it does not use a discount rate to attach a 'worth' to when costs or revenues arise. Nevertheless, it still provides a useful measure of profitability and many developers use these to decide whether a scheme is viable.

4.5 Whilst each measure is calculated by the model, for the purposes of this study we focus upon the target IRR to establish whether a scheme is viable, given that differential sales rates over time and the impact on scheme finances have an important impact on scheme viability. As well as examining different rates of return across schemes the model calculates the residual land values associated with the target rate of return and whether this is above alternative use values.

Model Inputs

4.6 The model is structured on the basis of a time series cash flow for a particular development. The main input into the model is the configuration of the scheme (its archetype), in terms of the number of dwellings/density, dwelling mix (size, type and tenure) and disposal period. The scheme archetypes, which have been developed to reflect a representative range of different schemes across the LBC, are described in detail in section 3 of the main report.

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[1] The net present value of a scheme is the sum of the present values of the individual amounts in the net income stream. Each future net income amount in the stream is discounted, meaning that it is divided by a number representing the opportunity cost of holding capital from now (year 0) until the year when income is received or the outgoing is spent. In the model the discount rate is currently set at an industry standard rate of 9%.

4.7 The other major inputs into the model are the assumptions around costs and values. DTZ have developed different 'value geographies' each of which has a different set of sales (£ psft) values. A full analysis of how the value geographies have been formulated for the LBC is contained in section 2. Each scheme therefore correlates to a specific set of inputs. These are as follows:

Revenue (£ per sqft) by unit type, size and tenure

4.8 For the **market** housing an average £ per sqft value is calculated for each value area (an average across the LSOAs in that area), as shown in the analysis of the value geographies in section 2.

4.9 For the revenue streams generated by the **affordable** housing we have applied a proportion to the market value of a unit which a developer would receive for a comparable unit of affordable housing with or without grant payment. The base case modelling assumes that grant is paid (refer to section 5).

4.10 DTZ's experience is that, on average and on a like for like basis, a developer would receive around 40% of market value for a social rented unit and 60% of market value for a shared ownership unit (without grant). With grant the figure on average rises to 60% of market value for a social rented unit and 80% on a shared ownership unit (an increase of 20% for both). This is presented using a simple illustration below.

Figure 4.1: Generation of Affordable Values Using Proportionate Approach

	Without Grant (%)	With Grant (%)	Without Grant (£)	With Grant (£)
Market Value of Flat in Value Geography (£ per sqft)	*100%*	*100%*	*£100*	*£100*
Shared Ownership Value Flat (£ per sqft)	60%	80%	£60	£80
Social Rent Value Flat (£ per sqft)	40%	60%	£40	£60

4.11 Within the sensitivity analysis we show the impact of valuing affordable revenues based on capitalising RSL rents for both areas[2] at a standard yield and adding an average grant payment of £100,000 per unit. The sensitivity analysis also models the impact of removing grant payment.

Unit Area Assumptions

4.12 The £ per sqft values (both market and affordable) are combined with assumptions on unit area sizes to generate total unit prices within the modelling process. The unit area assumptions, based upon DTZ's market knowledge and the experience of the client group, are shown in Figures 4.2 and 4.3 below. The notable step up in terms of size of unit from 3

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[2] RSL target rents are available for each Local Authority in England from the Dataspring database.

bedrooms to 4 and 5 bedrooms reflects that often large apartments have very large room sizes and additional rooms such as further living rooms, cinema spaces and gyms.

Figure 4.2: Sqft Unit Area Assumptions Used For Generating Revenue per Unit – Borough of Camden

Square Feet	Private	Shared Ownership	Social Rented
One bedroom flat	500	500	500
Two bedroom flat	750	700	750
Three bedroom flat	950	900	950
Four bedroom flat	1,300	1,100	1,150
Five bedroom flat	1,800	N/A	1,350
Three bedroom house	2,000	N/A	1,100
Four bedroom house	5,000	N/A	1,430
Five bedroom house	10,000	N/A	1,760

4.13   The output of this process provides the total revenue stream for each archetypal scheme, which is then subject to phasing and discounted cash flow analysis, as outlined in more detail below.

Build Costs

4.14   We have obtained data from the BCIS on average build costs (£ per sq ft) for the LBC. BCIS provide differential build cost values for new build and conversion and for different gross floor areas (GFA) per unit as shown in Figure 4.3. These have been matched to unit sizes using the process shown in Figure 4.4.

Figure 4.3: Camden Build Costs £ per Sqft (Source: BCIS/DTZ) 2008

Build Costs £ Per Sq Ft	New Build	Conversion	Listed Conversion
Up to 75m2 / 807sqft GFA per unit) **Flat**	£109	£104	£131
75 to 100m2 / 807 to 1,075sqft GFA per unit) **Flat**	£114	£108	£137
100 to 125m2 / 1,075 to 1,345 sqft GFA per unit) **Flat**	£122	£116	£146
Over 125m2 / 1,345 sqft GFA per unit) **Flat**	£140	£133	£169
Over 125m2 / 1,345 sqft GFA per unit) **Houses**	£108	£75	£130

Uplift for schemes 6+ storeys	33%

Figure 4.4: BCIS Unit Costs – Type and Size Matching Assumptions – Camden

BCIS £ psft	1 Bed Flat	2 Bed Flat	3 Bed Flat	4 Bed Flat	5 Bed Flat	3 Bed House	4 Bed House	5 Bed House
Up to 75m2 / 805 sqft GFA per unit) **Flats**	●	●						
75 to 100m2 / 805 to 1,075sqft GFA per unit) **Flats**			●					
100 to 125m2 / 1,075 to 1,345 sqft GFA per unit) **Flats**				●				
Over 125m2 / 1,345 sqft GFA per unit) **Flats**					●			
Over 125m2 / 1,345 sqft GFA per unit) **Houses**						●	●	●

4.15   However, at the reduced spatial level costs from BCIS tend to be low and a small number of particular schemes can skew the data, as the sample size it has at the Local Authority level is relatively small. BCIS costs also do not include the costs of external works. We have therefore examined the default build costs figures in the GLA Affordable Housing Toolkit. For the LBC these are markedly higher than the BCIS data. Data from recent applications also shows build costs to be notably higher than those from BCIS and closer to those contained in the Toolkit. The default build cost data from the Toolkit for the LBC is shown in Figure 4.5.

Figure 4.5: Build Costs (£ psm) From GLA Affordable Housing Toolkit

Build Costs From Toolkit	Camden £ psm	Camden £ psft
Flats 6 Storeys or Less	£1,850	£172
Flats 6 to 15 Storeys	£2,518	£234
Houses Up to 75m2	£1,377	£128
Houses Over 75m2	£1,377	£128

4.16   In light of the difference between the BCIS and Toolkit build cost data we have inflated the BCIS data by 35% to provide a more realistic set of build costs (these will also cover the costs of external works), which span the level in the Toolkit (see Figure 4.5). Applying the uplift to

the data provides the new build costs shown in Figure 4.6, which are incorporated into the viability modelling as the build costs for 2008.

Figure 4.6: Final Build Costs Used In Model For The LBC (£ psft)

Build Costs £ Per Sq Ft	Units Applied To	New Build	Conversion	Listed Conversion
(Up to 75m2 / 805 sqft GFA per unit) **Flats**	**Camden** 1 and 2 bed flats	£148	£140	£177
(75 to 100m2 / 805 to 1,075sqft GFA per unit) **Flats**	**Camden** 3 bed flats	£154	£146	£185
(100 to 125m2 / 1,075 to 1,345 sqft GFA per unit) **Flats**	**Camden** 4 bed flats	£164	£156	£197
(Over 125m2 / 1,345 sqft GFA per unit) **Flats**	**Camden** 5 bed flats	£190	£180	£228
(Over 125m2 / 1,345 sqft GFA per unit) **Houses**	**Camden** 3, 4 and 5 bed houses	£146	£101	£176
Uplift for schemes 6+ storeys	33%			

Figure 4.7: Final Build Costs Used In Model For The LBC (£ psm)

Build Costs £ Per Sq Ft	Applies To	New Build	Conversion	Listed Conversion
(Up to 75m2 / 805 sqft GFA per unit) **Flats**	**Camden** 1 and 2 bed flats	£1,590	£1,511	£1,908
(75 to 100m2 / 805 to 1,075sqft GFA per unit) **Flats**	**Camden** 3 bed flats	£1,655	£1,572	£1,986
(100 to 125m2 / 1,075 to 1,345 sqft GFA per unit) **Flats**	**Camden** 4 bed flats	£1,767	£1,679	£2,121
(Over 125m2 / 1,345 sqft GFA per unit) **Flats**	**Camden** 5 bed flats	£2,041	£1,939	£2,449

(Over 125m2 / 1,345 sqft GFA per unit) **Houses**	**Camden** 3, 4 and 5 bed houses	£1,576	£1,089	£1,891
Uplift for schemes 6+ storeys	33%			

4.17   We have retained the uplift from BCIS for costs associated with buildings over 5 storeys (33%) as this is in line with the uplift suggested by the Toolkit data (36% - the difference between £1,850 psm and £2,518 psm).

Build Costs Between Tenures and Net to Gross

4.18   The experience of DTZ and the LBC's planning team is that build costs within the study area differ between market and affordable units. Whilst there can be significant variability between tenure cost differentials, DTZ's experience suggests that for the base case it is appropriate to uplift the build costs on market units (those shown in Figure 4.7) by a further 5%.

4.19   DTZ has not used higher tenure cost differentials for the base case as where the affordable component is tenure blind or clustered, build costs will be broadly similar. This reflects the fact that although the cosmetic finishes on private housing is determined by the cost/value ratio of maximising revenue in the short term (because developers will generally have less interest in the longevity of the product) which may increase costs, an RSL will not require the same level of "cosmetic" finish but will require higher quality of basic construction aimed at minimising repairs and maintenance in the longer term (and so total costs will be similar).

4.20   The impact of greater tenure cost differentials, which are more relevant to prime areas, is then examined in the sensitivity analysis later in this report.

4.21   The above process provides £ per sqft build costs for the different type, size and tenure of units.

4.22   To convert build costs per sqft to build costs per unit, costs per sqft are multiplied by gross external areas for each type and size of unit, which are set out in Figure 4.8. Gross external build areas are used for calculating unit costs (as opposed to gross internal areas for unit values) as the cost of the entire building, including its ancillary areas, has to be borne by the developer.

4.23   Based upon DTZ's market knowledge, gross internal build areas are around 80% of the gross external area for flats and around 95% of the gross external area for houses. Based upon these assumptions the approach to calculating gross external build areas for the different type and sizes of unit is shown in Figure 4.8.

Figure 4.8: Gross Area Assumptions

Type and Size of Unit	Gross Internal Area (Sqft) (80% Flats, 95% Houses)	Gross External Area (Sqft)
One bedroom flat (sq ft)	500	625
Two bedroom flat (sq ft)	750	938
Three bedroom flat (sq ft)	950	1,187
Four bedroom flat (sqft)	1,300	1,625
Three bedroom house (sq ft)	2,000	2,100
Four bedroom house (sq ft)	5,000	5,250
Five bedroom house (sq ft)	10,000	10,500

4.24   Combining the relevant build cost per unit with the relevant gross external area assumption above therefore provides the total construction costs associated with each archetypal scheme, which is then subject to phasing and discounted cash flow analysis, as outlined in more detail below.

Further Build Cost Adjustments

4.25   The BCIS cost data is for 2008. However, the time period for the modelling is over the 2005 to 2008 period. We have therefore deflated our 2008 cost figures to 2005 by reversing the annual build cost inflation rate of 5.5% (the annual build cost inflation over 2005 to 2008 according to the BCIS index).

4.26   As shown in Figure 4.3, the BCIS shows that build costs increase by 33% for buildings above 6 storeys. However, DTZ's experience is that this uplift should be staggered, so that there is a 20% uplift of build costs at 6 storeys and above, and a further 10% uplift at 12 storeys and above. This assumption is incorporated into the modelling.

Additional Cost Components

4.27   The analysis above shows the way that build/construction costs within the model are generated based upon the particular scheme.

4.28 Construction costs tend to form the largest component of total development costs. In addition to construction costs a particular scheme will also incur the costs shown in Figure 4.9 - this documents the full range of cost components within the model. A brief commentary on how these cost components are calculated **on a nominal basis** (before adjustment to reflect phasing through the cash flow) is also shown.

Figure 4.9: Analysis of Model Cost Components

COST COMPONENT	BASIS UPON WHICH MODEL CALCULATES (NOMINAL BASIS)
Demolition costs	Assumed to amount to £220,000 per hectare of site size. This figure is informed by recent applications that show high variability of demolition costs, but that £2 per sqft across a whole site (there are 110,000 sqft in a hectare) would appear reasonable. Demolition costs are assumed not to be incurred for converted dwellings.
Construction Costs	As outlined above. Costs generated by configuration of scheme archetype and relevant build cost type.
Section 106 costs (non-affordable housing)	Assumed to amount to £8,000 for every unit (market and affordable), which is based upon DTZ's experience of non-affordable housing section 106 costs in central London.
Sales costs	Calculated at 3% of the total private sales revenue (excludes sales revenue from affordable units).
Land value / land price	Can either be an input or an output of model (see below on treatment as output). As an input it can either be obtained from Valuation Office data or can be assumed as a % of Gross Development Value (the total revenue generated by the schemes).
Interest	A standard finance rate of 6.5% is assumed and applied to the scheme's interest baring balance (costs less revenues), which reflects historic development finance rates.
Car parking costs	Assumed at £30,000 per car parking space (based upon underground ventilated car park build price) and 0.6 spaces per dwelling (which reflects required car parking standards in each authority).

Cash Flow and Phasing

4.29 In order to move from nominal costs and revenues to a time series cash flow the model phases these streams over the time period of delivery. To document this process and the assumptions employed a worked example[3] is shown below (Figure 4.10). The move from nominal values to the **real values as they appear in the cash flow** is explained in the third column.

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[3] The figures for the worked example are adapted from an anonymous historic scheme and used to illustrate the how the model works. The figures themselves are therefore purely illustrative.

4.30 Figure 4.10 sets out the costs associated with this hypothetical scheme, and how costs in the model move from a nominal level to the real level as they appear in the final cash flow. Revenues for the scheme are shown in Figure 4.11. Revenues are split between those generated by the sale of private units and those generated by sale of affordable units. A detailed analysis of how the revenue streams for private and affordable housing units are calculated is presented earlier in this section.

Figure 4.10: Worked Example of Cash Flow Costs

Cost	Nominal	Real	Nominal to Real Explanation	With Contingency Added
Demolition	£322,917	£325,714	Assumed to be incurred over first 2 quarters of development period (Yr 1). 5.5% build cost inflation per annum assumed (compounded over 2 quarters) in model. Demolition costs are only incurred on new build schemes.	£325,714 (no contingency)
Non Affordable Housing Section 106	£1,620,000	£1,620,000	Fixed payment in first quarter of development period. No inflation factor assumed.[4]	£1,620,000 (no contingency)
Construction	£20,345,685	£21,803,405	Assumed over years 2 to 4 (3 year build period for this particular scheme). 5.5% build cost inflation per annum assumed in model.	**£25,073,916** Inflated by 10% for professional fees and 5% for contingency
Sales Costs	£1,040,041	£1,120,238	Assumed to be incurred over years 3 to 5 (disposal period for this particular scheme). Sales costs equal to 3% of private unit revenue.	£1,120,238 (no contingency)
Land Price	£11,395,744	£12,052,423	Uplifted by acquisition on land costs (land purchaser costs such as legals and stamp duty) of 5.75%. Cost incurred in Yr 1.	£12,052,423 (no contingency)
Interest	£3,902,232	£3,902,232	Nominal level calculated on interest bearing balance over duration of scheme, so remains the same.	£3,902,232 (no contingency)

[4] Some section 106 payments will be due on completion, though for the purposes of the modelling we have assumed these are required on commencement (as most are).

Car Parking Costs	None	None	On schemes providing car parking these will be factored into the cash flow in year 1 at their nominal amount (number of spaces multiplied by cost per space of £30,000).	£0
Total Cash Flow Costs				**£44,094,523**

Figure 4.11: Worked Example of Cash Flow Revenues

Revenue	Nominal	Real	Nominal to Real Explanation
Private Units	£34,668,020	£37,295,913	For this worked example the nominal figure is inflated by a standard assumed uplift of 2.5% in house prices (and therefore revenue) over the course of the development. For the Camden modelling we will use the actual house price inflation experienced over the 2005 to 2008 period and apply this (working backwards) to the £ psft sales values.
Affordable	£10,914,956	£11,742,328	As affordable housing revenues are agreed at the outset of a build period they are not subject to house price inflation but are uplifted by build cost inflation, so that the real value of the revenue stream is not eroded.
Total		**£49,038,241**	

4.31   Adding together the costs and revenue streams in the cash flow generates the scheme surplus, which is expressed as a profit on cost. The model also calculates the scheme's internal rate of return (see above). For this particular worked example the scheme surplus of £4.94m equates to a profit on cost of 11.2% and an IRR of 13% (Figure 4.12), meaning that according to the viability target (15%) the scheme would not be viable.

Figure 4.12: Scheme Totals

Totals	£
Costs	£44,094,523
Revenue	£49,038,241

Surplus	£4,943,718
Profit On Cost	**11.2%**
IRR	**13%**

Residual Land Values

4.32 The worked example above takes land value as a (pre-determined) input into the scheme. However, for the purposes of this study land value will be assessed as a residual output of a scheme, which will then be compared with existing use value to determine whether the scheme would be viable. The process of calculating the residual land value within the model can be documented by first showing the effect of assuming a zero land value. This means that a scheme will generate a much inflated surplus due to the removal of a large component of total cost. This is illustrated in the worked example in Figure 4.13.

Figure 4.13: Model Outputs With and Without Land Value

	With Land Value Inputted			Without Land Value Inputted		
	Nominal	Real/Uplifted	With Contingency and Prof Fees	Nominal	Real/Uplifted	With Contingency and Prof Fees
Costs						
Demolition	£322,917	£325,714	£325,714	£322,917	£325,714	£325,714
Sec 106	£1,620,000	£1,620,000	£1,620,000	£1,620,000	£1,620,000	£1,620,000
Construction	£20,345,685	£21,803,405	*£25,073,916*	£20,345,685	£21,803,405	*£25,073,916*
Sales Costs	£1,040,041	£1,120,238	£1,120,238	£1,040,041	£1,120,283	£1,120,283
Land Value / Price	£11,395,744	£12,052,423	£12,052,423	£0	£0	£0
Interest	£3,902,232	£3,902,232	£3,902,232	£568,030	£568,030	£568,030
Total	£38,626,619	£40,824,012	**£44,094,523**	£28,707,897	£25,437,432	**£28,707,943**
Revenues						
Private Units	£34,668,020	£37,295,913	£37,295,913	£34,668,020	£37,295,913	£37,295,913
Affordable	£10,914,956	£11,742,238	£11,742,238	£10,914,956	£11,742,238	£11,742,238
Total	£45,582,976	**£49,038,241**	**£49,038,241**	£45,582,976	**£49,038,241**	**£49,038,241**
Surplus, Profit and IRR						
Surplus			£4,943,718			£20,330,298
Profit on Costs			11.2			71%
IRR			13%			84%

4.33 Figure 4.13 shows the modelling impact of removing the land value/cost. For the worked example the profit on costs and IRR rise dramatically, to 71% and 84% respectively. This is

due both to the removal of land costs and lower interest payments, as the interest baring balance is significantly reduced in the early stages of the project because of the absence of land cost. In order to generate a residual land value the goal seek function[5] is then used to determine by what level the land value would have to rise to (from zero) in order to achieve the target internal rate of return (15%). For the worked example this would equate to a residual land value of £11.38m as set out in Figure 4.14.

Figure 4.14: Calculation of Residual Land Value as an Output

	Final Cash Flow Without Land Value	Final Cash Flow With Land Value Calculated As A Residual
COSTS		
Demolition	£325,714	£325,714
Sec 106	£1,620,000	£1,620,000
Construction	£25,073,916	£25,073,916
Sales Costs	£1,120,238	£1,120,238
Land Value / Price	£0	**£11,386,836**
Interest	£568,030	£3,500,601
Total	**£28,707,943**	**£43,027,305**
REVENUES		
Private Units	£37,295,913	£37,295,913
Affordable	£11,742,238	£11,742,238
Total	**£49,038,241**	**£49,038,241**
RETURNS		
Surplus	£20,330,298	£6,010,936
Profit on Costs	71%	14%
IRR	**84%**	**15%**

4.34   The residual land values generated using this approach will then be expressed as a £ value per hectare and compared to data on existing use values and residential land valuations in each borough (from sources such as the Valuation Office) to determine viability. The process is then repeated in the modelling to examine the impact of different affordable housing levels.

Sales Rates

[5] Goal seek is a function in excel that allows one to find a specific value for a cell by adjusting the value of another cell. In terms of viability, as land price/cost rises the rate of return on a particular scheme drops as profitability is reduced. So goal seek is used within the model to find out by how much land cost can rise by (from £0) on a particular scheme until the rate of return is lowered to the target level. The resulting land cost is the land's residual value.

4.35 Variations in sales rates impact on scheme viability. The more difficult a market environment the less supply that can be absorbed and therefore the longer the disposal period. This impacts on scheme finances as a scheme's interest bearing balance takes longer to be offset by revenue streams from disposals (therefore interest payment costs rise and profitability is reduced). In the current market environment sales rates have slowed significantly. However, as the focus on this study is on the conditions in the housing market over the 2005 to 2008 period the build out and sales rates achieved over this period (generally around 1 unit sold per week / 50 per annum) is employed in the modelling.

Sales Values

4.36 The sales values employed in the modelling will reflect those that developers would have achieved over the 2005 to 2008 period. These £ psft sales values for each of the value areas, together with how they changed over the 2005 to 2008 period, are set out in the analysis of the value geographies in section 2.

4.37 The modelling therefore assumes that the 2005 to 2008 period is the time frame over which each archetypal scheme in each value area is developed and disposed to the market.

Additional Assumptions

4.38 There are a number of smaller additional assumptions in the model, the main ones being:

1. All residential units take one year to construct

2. Revenue within the cashflow is net of residential marketing and agents fees

3. Model assumes contractors prelims and insurance are accounted for within the residential build cost

4. Model assumes affordable revenues are received in parallel with construction expenditure and are subject to build cost inflation rather than market price inflation

5. Model assumes private revenue is received six months prior to completion

6. Marketing and sales fees are only applied to private residential schemes

7. Interest is calculated quarterly and in arrears. It is assumed that profit is taken from the sites when the cashflow is positive.

8. Cost inflation applies to build costs and demolition and site preparation costs

5.   The Viability Modelling Base Case

5.1   This section of the report sets out the base case modelling results using the approach documented in Section 4. A summary of the model workings and assumptions are shown in the diagram in Figure 5.1.

5.2   As discussed in Section 4 viability is assessed on the basis of a cash flow viability model. . For every scheme archetype in every value band a cash flow is run using the cost and revenue assumptions relevant to the particular scheme.[1]

5.3   It is important to reiterate the key assumptions and how they are dealt with in the modelling and the base case. These are shown in Figure 5.2.

5.4   The approach to the modelling has been to firstly generate a set of results using the base case assumptions. These results are the focus of this section of the report. A series of scenarios are then examined to show the impact on scheme viability of altering these assumptions.

5.5   The key base assumptions are as follows:

1.   That the target internal rate of return (IRR) is 15% - this is the threshold that defines whether a site is viable.

2.   That house prices grew on average by 43% (equivalent to 13% per annum) across the study area between 2005 to 2008. This is the average % house price change across all the value bands from 2005 to 2008 (as shown in the definition and analysis of the value bands in Figure 2.5).

3.   That the affordable housing contribution is based upon the **% floorspace** (not % units).

4.   That grant payment is made on schemes (given that over the 2005 to 2008 period most schemes received grant) and that as a result social rented units are valued at 60% of open market value (OMV) and shared ownership units are valued at 80% of OMV.

5.   That schemes are new build (not conversions).

5.6   The impact of changing each of these assumptions on viability is then examined in the sensitivity analysis.

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[1] The cost and revenue assumptions are determined by the scheme's value band and the mix assumptions by its archetype.

Figure 5.1: Viability Model Structure and Assumptions

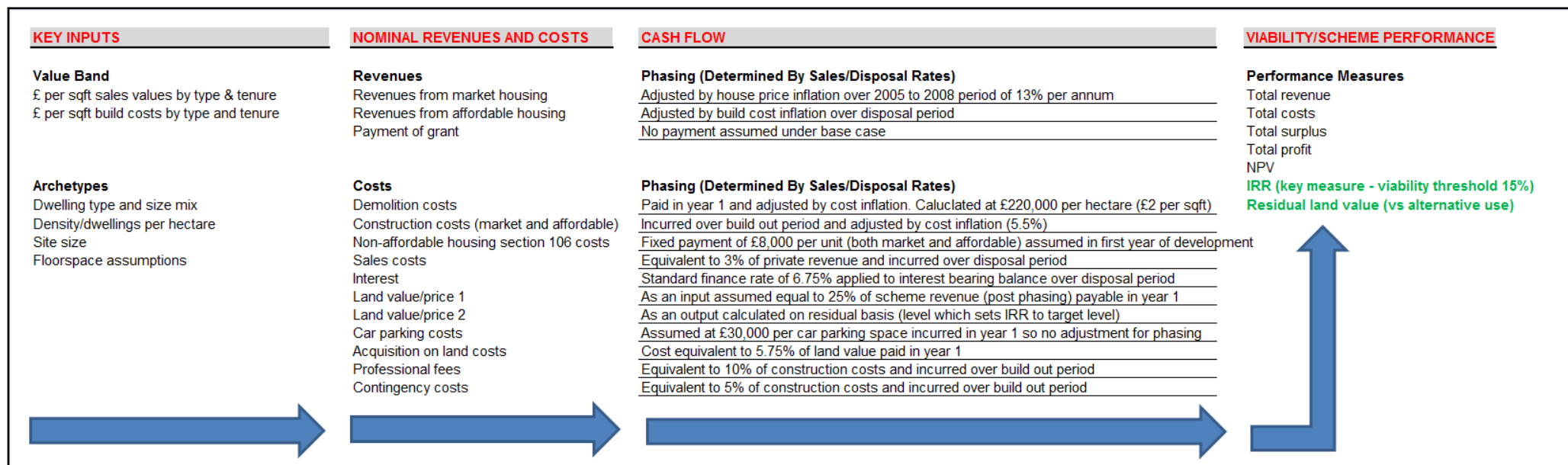| KEY INPUTS	NOMINAL REVENUES AND COSTS	CASH FLOW	VIABILITY/SCHEME PERFORMANCE
Value Band	**Revenues**	**Phasing (Determined By Sales/Disposal Rates)**	**Performance Measures**
£ per sqft sales values by type & tenure	Revenues from market housing	Adjusted by house price inflation over 2005 to 2008 period of 13% per annum	Total revenue
£ per sqft build costs by type and tenure	Revenues from affordable housing	Adjusted by build cost inflation over disposal period	Total costs
	Payment of grant	No payment assumed under base case	Total surplus
			Total profit
			NPV
Archetypes	**Costs**	**Phasing (Determined By Sales/Disposal Rates)**	**IRR (key measure - viability threshold 15%)**
Dwelling type and size mix	Demolition costs	Paid in year 1 and adjusted by cost inflation. Caluclated at £220,000 per hectare (£2 per sqft)	**Residual land value (vs alternative use)**
Density/dwellings per hectare	Construction costs (market and affordable)	Incurred over build out period and adjusted by cost inflation (5.5%)	
Site size	Non-affordable housing section 106 costs	Fixed payment of £8,000 per unit (both market and affordable) assumed in first year of development	
Floorspace assumptions	Sales costs	Equivalent to 3% of private revenue and incurred over disposal period	
	Interest	Standard finance rate of 6.75% applied to interest bearing balance over disposal period	
	Land value/price 1	As an input assumed equal to 25% of scheme revenue (post phasing) payable in year 1	
	Land value/price 2	As an output calculated on residual basis (level which sets IRR to target level)	
	Car parking costs	Assumed at £30,000 per car parking space incurred in year 1 so no adjustment for phasing	
	Acquisition on land costs	Cost equivalent to 5.75% of land value paid in year 1	
	Professional fees	Equivalent to 10% of construction costs and incurred over build out period	
	Contingency costs	Equivalent to 5% of construction costs and incurred over build out period	

Figure 5.2: Additional Detail on Key Base Case Model Assumptions

Market Revenues and Phasing

Market revenues are calculated based on the average £ per sq ft values that apply to the particular value band in question. This is derived by averaging sales value across all the Lower Super Output Areas (LSOAs) in each value geography. New build values are based upon DTZ's market knowledge, but these have been compared and contrasted with data from Hometrack which records average £ psft prices across existing and new build properties at a localised level. The values are combined with internal unit size assumptions and the scheme mix (determined by the archetype) to generate total market revenue streams. The total market revenue streams are then phased through the cash flow and are subject to adjustment according to the level of house price inflation experienced over the 2005 to 2008 period (which, as outlined in the analysis of the value areas, equated to 43% - equivalent to 13% per annum). Employing higher and lower price changes are examined later in this report as part of sensitivity testing. The phasing through the cash flow is determined by the build out and disposal rate, which over the 2005 to 2008 period has been documented by the house building industry at around 50 units per site per annum (so a 150 unit site will experience a 3 year disposal period), with market revenues assumed to be realised in the financial year following construction.

Affordable Revenues and Grant Payment

The tenure split between market housing and affordable housing is altered within the base case modelling to examine the impact this has on levels on viability. The affordable housing contribution is split 60% social rented and 40% shared ownership housing. It has been assumed that the developer receives payments for the affordable housing from the RSL linked to the market value of the dwelling. On the assumption that grant is available the RSLs are assumed to pay the developer 60% of market value for a social rented unit and 80% of market value for a shared ownership unit. These indicative values are based on DTZ's market experience prior to the market downturn, and it is acknowledged that in the current market conditions RSLs are unlikely to be willing or able to pay for affordable housing at this level because their ability and appetite for cross-subsidising affordable house purchase on s106 sites is much reduced. However new benchmarks have yet to be established of what RSLs will pay for affordable housing on s106 sites, and whether this will exceed the capitalised value of rents.

Phasing of Affordable Revenue

The revenue stream for affordable units is calculated by multiplying affordable unit numbers with the relevant sales values at the appropriate level of discount to market value. The model then phases this amount over the period of delivery, but does not alter the affordable revenue stream by house price inflation/falls, as it does with market housing revenues. Instead the affordable revenue is uplifted by construction cost inflation, which we have assumed over our modelling period to be to be 5.5%. This reflects the fact that a price is established at the outset for affordable units on a site and that this is not subsequently affected by the market conditions that prevail between the point of agreement and when the affordable revenue is realised (in parallel with construction). By applying construction cost inflation the real value of the revenue stream is kept constant and is not eroded by inflation.

Internal Rate Return (IRR) Target

The target IRR - the level above which a scheme is considered to be viable - is set at 15% in the modelling. The assumed level has been informed by DTZ's experience of past development projects and represents a minimum IRR required for development to proceed. The IRR approach has been employed due to the importance of cost and revenue timing and financing periods on viability, which other performance measures do not adequately capture. It is important to stress that the 15% threshold is only a proxy for viability. In practice the rate of return required on sites will vary and it is recognised that for certain schemes this will need to be higher than the assumed level. In presenting the results all IRRs generated across schemes and value bands have been shown so that the impact of assuming a higher IRR target can be identified.

Demolition Costs

Demolition costs are assumed to amount to £220,000 per hectare of site size. This figure is taken from historic schemes in the study area that show demolition costs at around £2 per sq ft across the whole site (there are 110,000 sq ft in a hectare).

Construction Costs

Construction costs are generated by the configuration of scheme archetype and the relevant 'value area' cost assumptions. A further adjustment is needed to reflect the fact that build costs differ between tenures, which for the base case has been set at 5% higher for market units in Camden. This reflects the considerations set out in Section 4.

Section 106 Costs (Non affordable housing)

Assumed to amount to £8,000 per unit, though in practice these costs can vary considerably from scheme to scheme.

Professional Fees and Contingency

Equivalent to 10% and 5% respectively of construction costs.

Land Values

When factored as an input into the cash flow land values are assumed at a proportion of a scheme's Gross Development Value (total gross scheme revenues post cash flow phasing). Land value within the modelling base case is first treated as an input and then examined in terms of the residual level that would generate the target internal rate of return.

Sales Costs and Interest

Sales costs are calculated at 3% of the total private sales revenue (excluding sales revenue from affordable units). A standard finance rate of 6.75% is assumed and applied to the scheme's interest bearing balance (costs less revenues), which reflects the credit conditions in the market over the 2005 to 2008 period.

Infrastructure Costs

No abnormal infrastructure costs (other than car parking costs – see section 4) have been built into the modelling given the variability of these between different sites. However, a facility is built into the model to input site specific infrastructure costs where these are known and if the model is used to examine specific schemes.

The Base Case Start Point – No Land Price and No Affordable Housing Contribution

5.7 Before the base case is examined it is useful to explore levels of viability if no land costs or affordable housing contributions are assumed. Using this as the start point helps to establish the maximum return achievable on an individual scheme before deductions for land costs or affordable housing are made (the tables in this section of the report refer to the archetypes in section 3 as set out in Figure 5.3).

Figure 5.3: Archetype Key

Archetype	Description	Number of Units	Site Size
A	High Rise, High Density	138	0.23
B	High Rise, High Density	114	0.19
C	High Rise, High Density	84	0.14
D	Mid Rise, Higher Density	105	0.35
E	Mid Rise, Higher Density	75	0.25
F	Mid Rise, Higher Density	60	0.2
G	Mid Rise, Lower Density	45	0.3
H	Mid Rise, Lower Density	34	0.23
I	Mid Rise, Lower Density	25	0.17
J	Low Rise, Lower Density	15	0.15
K	Low Rise, Lower Density	9	0.09
L	Low Rise, Lower Density	5	0.05

5.8 There is also an important interplay between land cost and affordable housing contributions. If affordable housing contributions are increased the residual value of the land will have to fall to maintain a viable margin and compensate for the reduction in net revenues caused by the increased affordable contribution. There is therefore a flexibility in these two variables that does not exist in the other largely fixed (and exogenously determined) components of a development's cash flow.

5.9 Figure 5.4 shows the IRRs for every scheme (assuming £0 land cost and 0% affordable housing contribution) and compares these with the 15% threshold that is assumed to represent development viability. Sites that are marked with a green traffic light exceed 15%, sites that are marked with an amber traffic light have an IRR between 12.5% and 15% and sites that are marked with a red traffic light have an IRR lower than 12.5%. This presentational format continues throughout the remainder of this report until otherwise stated.

5.10 The key messages from Figure 5.4 are that:

- Without land costs and with no affordable housing contribution every scheme is viable.

- The highest rates of return and levels of viability are in the highest value areas. This is because land costs are most expensive in these areas, so their removal produces a disproportionately greater impact on scheme profitability and rates of return.

Figure 5.4: Internal Rates of Return Across All Sites With Zero Land Value and No Affordable Housing Contribution – Borough of Camden

Archetype/Value Band	Bloomsbury and Holborn	Euston and Somerstown	Primrose Hill/Chalk Farm	Kentish Town	Camden Town	West Hampstead	Belsize Park	Hampstead Heath and Highgate	Frognal and Fitzjohn's	Clerkenwell and Hatton Garden	Average
A	91.8%	35.0%	119.9%	49.2%	50.9%	54.3%	98.4%	133.1%	106.1%	52.6%	75.3%
B	94.7%	34.6%	124.9%	49.5%	51.3%	54.8%	101.8%	139.2%	110.1%	53.1%	77.3%
C	98.6%	35.6%	130.6%	51.1%	52.9%	56.7%	106.1%	145.8%	114.9%	54.8%	80.4%
D	111.8%	47.1%	144.2%	63.1%	65.1%	68.9%	119.4%	159.5%	128.3%	67.0%	93.1%
E	117.0%	46.3%	153.4%	63.5%	65.6%	69.8%	125.5%	170.8%	135.5%	67.7%	96.7%
F	120.8%	47.9%	158.8%	65.6%	67.7%	72.0%	129.7%	176.9%	140.1%	69.9%	100.0%
G	111.8%	41.4%	148.5%	58.4%	60.5%	64.6%	120.4%	166.1%	130.5%	62.6%	91.7%
H	114.0%	42.3%	151.4%	59.6%	61.8%	66.0%	122.7%	169.4%	133.0%	63.9%	93.5%
I	116.4%	43.2%	154.9%	60.8%	63.0%	67.3%	125.4%	173.4%	135.9%	65.1%	95.5%
J	143.7%	63.8%	185.1%	83.2%	85.5%	90.3%	153.4%	204.9%	164.8%	87.9%	120.8%
K	145.5%	65.1%	187.1%	84.7%	87.0%	91.8%	155.3%	207.0%	166.7%	89.4%	122.5%
L	332.1%	177.4%	415.7%	214.0%	218.5%	227.6%	351.5%	456.3%	374.3%	223.0%	288.4%
Average	133.2%	56.7%	172.9%	75.2%	77.5%	82.0%	142.5%	191.9%	153.3%	79.8%	

5.11   Increasing the affordable housing contribution on a scheme reduces revenues (due to the assumed lower price for affordable units – see assumptions) thereby lowering profitability. This process is documented in Figure 5.5, which shows the impact on viability of keeping land value fixed at zero and raising the affordable housing contribution (based on floorspace) to 20%. Rates of return across almost all value areas[2] and schemes are reduced compared with the 0% contribution, though every scheme in Camden remains viable.

Figure 5.5: Internal Rates of Return Across All Sites With No Land Value and 20% Affordable Housing Floorspace Contribution – Borough of Camden

Archetype/Value Band	Bloomsbury and Holborn	Euston and Somerstown	Primrose Hill/Chalk Farm	Kentish Town	Camden Town	West Hampstead	Belsize Park	Hampstead Heath and Highgate	Frognal and Fitzjohn's	Clerkenwell and Hatton Garden	Average
A	87.1%	24.6%	120.2%	39.7%	41.5%	45.2%	94.8%	136.3%	103.8%	43.4%	69.4%
B	92.9%	25.4%	129.6%	41.4%	43.4%	47.3%	101.4%	147.6%	111.4%	45.4%	73.9%
C	102.6%	29.0%	143.5%	46.3%	48.4%	52.7%	112.0%	163.6%	123.1%	50.5%	82.1%
D	114.9%	39.6%	155.8%	57.5%	59.7%	64.1%	124.4%	175.8%	135.5%	61.9%	93.7%
E	128.1%	41.8%	177.3%	61.7%	64.2%	69.1%	139.3%	201.9%	152.7%	66.7%	104.3%
F	136.6%	45.1%	189.5%	66.1%	68.7%	73.9%	148.6%	216.2%	163.0%	71.3%	111.5%
G	124.8%	37.8%	175.4%	57.7%	60.2%	65.1%	136.3%	200.8%	150.0%	62.6%	101.0%
H	127.9%	38.9%	179.8%	59.1%	61.7%	66.8%	139.7%	206.1%	153.7%	64.2%	103.6%
I	131.3%	39.7%	185.3%	60.5%	63.1%	68.3%	143.5%	212.7%	158.2%	65.7%	106.4%
J	168.1%	64.0%	228.6%	87.7%	90.7%	96.7%	181.9%	259.2%	198.3%	93.7%	139.6%
K	170.9%	65.7%	232.0%	89.7%	92.7%	98.8%	184.8%	262.8%	201.4%	95.8%	142.1%
L	438.9%	194.8%	600.1%	246.7%	253.4%	266.8%	474.4%	686.4%	517.6%	260.1%	376.4%
Average	152.0%	53.9%	209.8%	76.2%	79.0%	84.6%	165.1%	239.1%	180.7%	81.8%	

[2] The exceptions to this pattern are the very highest value areas (eg Primrose Hill and Hampstead Heath), where making the affordable housing contribution marginally increases the IRR under zero land price conditions. This is due the assumption that affordable housing revenues are received more quickly than private revenues, which for the highest value areas offsets the smaller nominal revenue streams in terms of the impact on the IRR measure. This is, however, a distortion caused by the (unrealistic) assumption of £0 land price.

5.12 The impact of increasing the affordable housing contribution to 50% (whilst maintaining a £0 land cost) is shown in Figure 5.6. All of the Camden value bands remain viable. However the higher density schemes in Euston and Somerstown start to fall below the target viability rate.

Figure 5.6: Internal Rates of Return Across All Sites With No Land Value and 50% Affordable Housing Floorspace Contribution – Borough of Camden

Archetype/Value Band	Bloomsbury and Holborn	Euston and Somerstown	Primrose Hill/Chalk Farm	Kentish Town	Camden Town	West Hampstead	Belsize Park	Hampstead Heath and Highgate	Frognal and Fitzjohn's	Clerkenwell and Hatton Garden	Average
A	75.6%	1.5%	121.1%	17.9%	20.0%	24.2%	85.8%	144.5%	98.1%	22.1%	55.8%
B	88.5%	4.6%	142.1%	22.7%	25.0%	29.6%	100.4%	170.1%	114.8%	27.3%	66.5%
C	113.3%	13.6%	178.8%	34.7%	37.4%	42.9%	127.8%	213.5%	145.3%	40.2%	87.6%
D	123.0%	22.2%	187.0%	43.9%	46.7%	52.3%	137.3%	220.3%	154.5%	49.5%	96.5%
E	159.1%	30.7%	247.4%	57.1%	60.5%	67.4%	178.4%	295.0%	202.1%	64.0%	126.9%
F	182.2%	38.3%	284.2%	67.3%	71.1%	78.8%	204.4%	339.8%	231.6%	74.9%	146.7%
G	162.1%	29.1%	257.0%	55.8%	59.3%	66.5%	182.7%	309.0%	208.0%	62.9%	129.5%
H	168.2%	30.4%	267.8%	57.9%	61.5%	68.8%	189.7%	322.7%	216.2%	65.1%	134.7%
I	175.4%	31.2%	282.1%	59.5%	63.3%	70.9%	198.3%	341.5%	226.7%	67.1%	141.0%
J	241.1%	64.4%	365.4%	100.0%	104.6%	114.1%	268.2%	432.7%	301.4%	109.4%	197.3%
K	247.3%	67.2%	374.0%	103.5%	108.2%	117.9%	275.0%	442.6%	308.8%	113.0%	202.7%
L	751.6%	241.0%	1130.4%	337.0%	350.0%	376.6%	833.9%	1335.3%	935.1%	363.2%	627.9%
Average	207.3%	47.8%	319.8%	79.8%	84.0%	92.5%	231.8%	380.6%	261.9%	88.2%	

Land Value as an Input into the Process

5.13 The assumption of setting land cost at zero provides the start point for the analysis. The next logical questions are:

1. By how much can land value increase without undermining viability?

2. How does this differ between different affordable housing levels?

3. Would these land costs/prices provide sufficient incentive for the landowner to transact?

5.14 In order to address these questions analysis of residual land values is required (the residual land value is the land cost a scheme can support that is commensurate with the target rate of return). However, before residual values are examined it is useful to show how the profitability of schemes change when land costs are introduced (unlike residual values which assume that a consistent rate of return – in our case 15% - is achieved).

5.15 In order to account for the difference in land prices across the value areas we have assumed that land costs, when factored as an input into the cashflow, are equal to a proportion of a scheme's gross development value (its total gross revenue stream). By employing this assumption land costs become variable and automatically adjust to be highest in the highest value areas (given that schemes developed in these value areas achieve the highest sales values and therefore the greatest gross development values). Figure 5.7 shows the impact of introducing a land cost equal to 10%[3] of scheme GDV and keeping an affordable housing contribution of 50%.

5.16 Within Camden all value bands remain viable at an average level. However the highest density archetypes in Euston & Somerstown, Kentish Town, Camden Town, West Hampstead and Clerkenwell & Hatton Garden are reduced to a rate of return that is unviable. This is largely due to land values/costs being greatest for the highest density archetypes when assumed as a percentage of GDV (given higher overall unit numbers and therefore total sales volumes).

Figure 5.7: Internal Rates of Return With Land Value At 10% of Scheme GDV and Affordable Housing Floorspace Contribution of 50% - Borough of Camden

Archetype/Value Band	Bloomsbury and Holborn	Euston and Somerstown	Primrose Hill/Chalk Farm	Kentish Town	Camden Town	West Hampstead	Belsize Park	Hampstead Heath and Highgate	Frognal and Fitzjohn's	Clerkenwell and Hatton Garden	Average
A	30.6%	0.0%	45.3%	2.8%	4.0%	6.5%	34.3%	51.3%	38.4%	5.2%	19.9%
B	35.4%	0.0%	51.7%	5.1%	6.4%	9.0%	39.5%	58.4%	44.1%	7.7%	23.4%
C	45.2%	0.0%	63.7%	11.5%	13.0%	15.9%	49.9%	71.3%	55.0%	14.5%	31.0%
D	47.7%	4.7%	64.1%	16.7%	18.1%	20.8%	51.9%	70.8%	56.5%	19.4%	34.3%
E	57.7%	8.7%	76.6%	22.1%	23.7%	26.8%	62.5%	84.3%	67.8%	25.3%	42.4%
F	65.5%	12.8%	86.3%	27.1%	28.8%	32.1%	70.7%	94.8%	76.6%	30.5%	49.1%
G	63.3%	7.8%	86.4%	22.4%	24.2%	27.6%	69.0%	96.1%	75.5%	25.9%	46.2%
H	64.4%	8.4%	87.6%	23.2%	24.9%	28.4%	70.2%	97.3%	76.7%	26.7%	47.1%
I	65.3%	8.6%	88.8%	23.6%	25.4%	28.9%	71.2%	98.6%	77.8%	27.1%	47.8%
J	83.3%	26.7%	105.4%	42.2%	44.0%	47.6%	88.9%	114.5%	95.1%	45.8%	65.6%
K	84.6%	28.0%	106.6%	43.5%	45.4%	48.9%	90.2%	115.7%	96.4%	47.2%	67.0%
L	128.5%	76.5%	146.0%	92.0%	93.8%	97.2%	133.0%	152.8%	138.0%	95.5%	112.0%
Average	64.3%	15.2%	84.0%	27.7%	29.3%	32.5%	69.3%	92.2%	74.8%	30.9%	

[3] The 10% is a reasonable estimate of land cost as a percentage of gross development value based on the experience of DTZ's Residential Team. By fixing land value at a reasonable level it is possible to analyse how the profitability of schemes change according to the IRR.

5.17   Figure 5.8 shows the absolute land values that equate to 10% of GDV on each scheme and compares these with existing use values for land in London. This is purely for presentational purposes to illustrate how land value is modelled as an input and how the values used compare with VOA data. Data from the Valuation Office Agency (VOA) for 2008 shows that in London the average value of a hectare of industrial land was £2.4m. For B1 office the price per hectare ranged from £1m to £5.75m. We have deliberately not deflated these back to 2005 values in order to make the test of viability more rigorous.

5.18   An existing use range of between £2.4m per hectare and £5.75m per hectare (depending upon use class) is therefore delineated in Figure 5.8. The value per hectare of almost all schemes using the assumed 10% of GDV as land cost is greater than the £2.4m per hectare for industrial use, with most £ per hectare values also above the highest existing use value of £5.75m per hectare (the maximum in the B1 office range for London).

5.19   Also shown in Figure 5.8 for comparative purposes is the average value of residential land in LBC according to VOA data. However, these are not used within the viability testing as they reflect the values of sites that already have permission for residential redevelopment (and therefore already encapsulate the uplift in value from securing residential permission).

5.20   Yet some schemes would not provide a sufficient rate of return at these land values to incentivise development (as shown in Figure 5.7). It is therefore necessary to examine the land value that sets the internal rate of return to 15% at different affordable housing levels and to establish whether this is above or below the existing use value range.

Figure 5.8: Land Value (£ Hec) at 10% GDV and 50% Affordable Housing Floorspace Contribution[4]
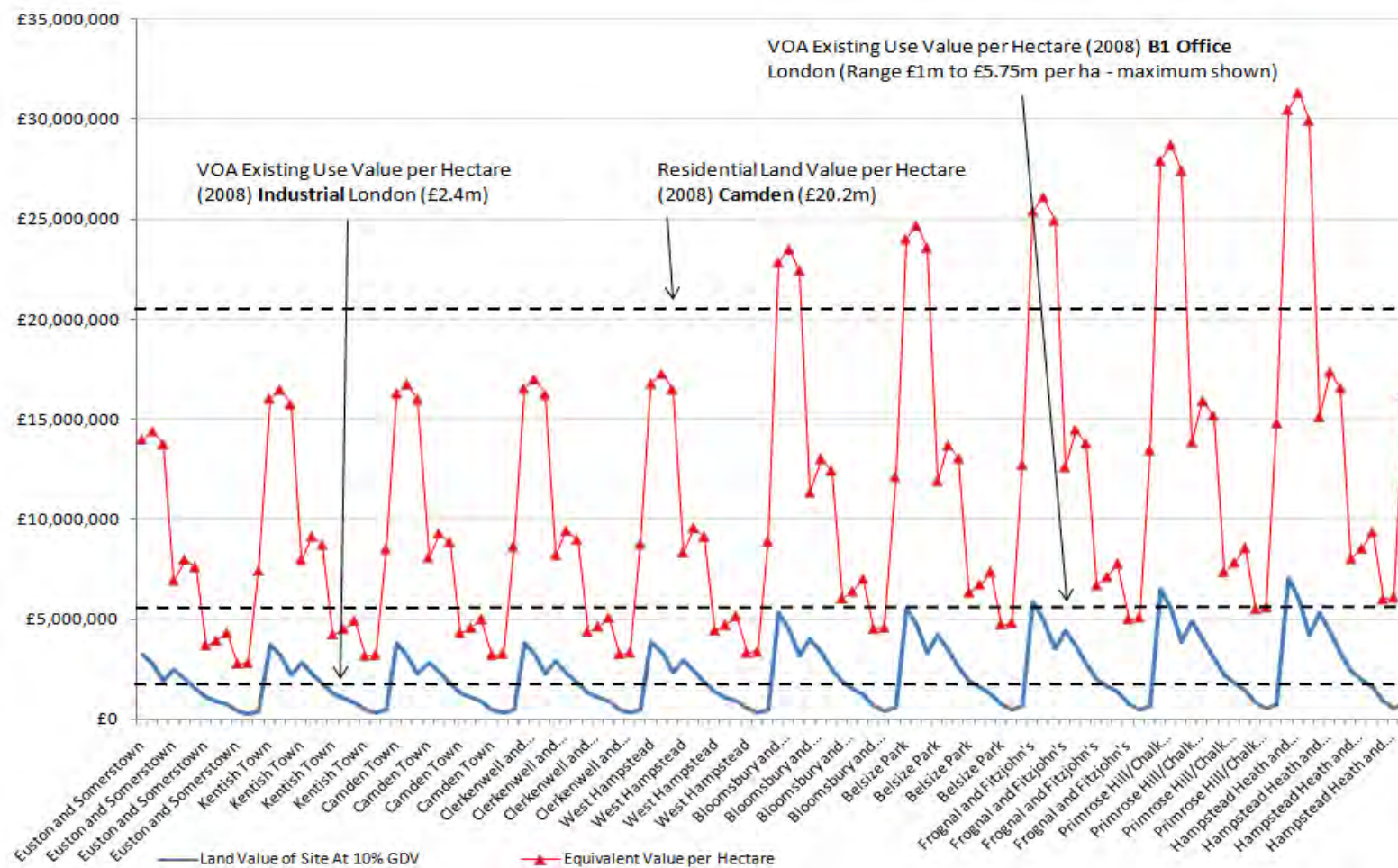
[4] Value areas arranged from lowest to highest and within each value area from smallest to largest archetype.

Residual Land Value Analysis

5.21   The analysis above provides an indication of the number of potential combinations of land values, affordable housing contributions and rates of return that could be modelled. It is therefore necessary to examine the land values that are commensurate with a fixed target rate of return (15%) for each scheme, how these change with different affordable housing contributions and whether the residual values generated are higher or lower than existing use values.

5.22   In theory if a site's residual value (at a given rate of return/profit margin) is above existing use value then it should be both viable and able to deliver that particular affordable housing contribution.[5] In practice the extent to which land value must exceed existing use value in order to incentivise development is the subject of much debate. However, for the purposes of the base case we assume that if a residual land value exceeds existing use value then it should (in theory) be viable.

5.23   In order to test different affordable levels we have modelled the impact on residual land values of stepped decreases in affordable housing contributions. The first tier is an affordable housing contribution of 50% of floorspace (which is applied to every site under analysis). We then examine the effects of reducing this contribution from 50% down to 0% in incremental 10% steps.

5.24   The traffic light analysis used so far in this report has illustrated the different IRRs produced under alternative land value and affordable housing assumptions. However, the residual land valuation approach uses a constant IRR at the target level of 15%, so there is no requirement to show how it varies.

5.25   Instead the focus of the analysis is on the £ per hectare residual value of each site and how this relates to existing use values. However, the traffic light system is still employed to show how the residual values compare to existing use values. The system now uses the following categorisation process:

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[5] However, if it is below existing use value the affordable housing contribution will need to fall, which, keeping margin constant, will have the effect of increasing the residual land value.

1. **Black Traffic Light – Wholly Unviable:** Residual £ per hectare value lower than £750k. As there is no developable greenfield land in the LBC it is reasonable to assume that the value of any hectare of land will have a minimum existing use value above £750,000 (except perhaps community use where values may be lower due to the relative lack of income). DTZ have therefore assumed that any residual value lower than £750,000 would mean the site would be wholly unviable and the residual value would be insufficient to incentivise the landowner to transact.

2. **Red Traffic Light – Viable at a Low Existing Use Value:** Residual £ per hectare value between £750k and £2.4m. This is the range between the minimum existing use value and the average value per hectare of industrial land in London in 2008 according to the VOA.

3. **Amber Traffic Light – Viable at a Medium Existing Use Value:** Residual £ per hectare value between £2.4m and £5.75m. This is the range between the average value of industrial land and the maximum value of B1 Office land per hectare in London according to the VOA in 2008.

4. **Green Traffic Light – Viable at a High Existing Use Value:** Residual £ per hectare value above £5.75m. This is the maximum value of B1 Office land per hectare in London according to the VOA in 2008.

5.26   Figure 5.9 shows the residual values (£ per hectare) of all sites under analysis using a 50% affordable housing floorspace contribution. The background shading used when the contribution is reduced to 40% and lower shows which sites have changed their viability status from the 50% contribution analysis (with the background colour indicating what this was when set at a 50% contribution level).

50% AFFORDABLE FLOORSPACE CONTRIBUTION

Figure 5.9: Residual Site Values (£s Per Hectare) With 50% Affordable Floorspace Contribution – Borough of Camden

Archetype/Value Band	Bloomsbury and Holborn	Euston and Somerstown	Primrose Hill/Chalk Farm	Kentish Town	Camden Town	West Hampstead	Belsize Park	Hampstead Heath and Highgate	Frognal and Fitzjohn's	Clerkenwell and Hatton Garden	Average
A	£ 44,154,426	£ -	£ 75,323,940	£ 2,182,851	£ 3,753,312	£ 6,853,298	£ 51,376,783	£ 91,153,112	£ 59,847,877	£ 5,319,993	£ 30,905,963
B	£ 50,223,295	£ -	£ 83,454,695	£ 5,570,765	£ 7,212,349	£ 10,561,351	£ 57,924,212	£ 100,269,896	£ 66,947,860	£ 8,819,389	£ 35,543,983
C	£ 56,902,665	£ -	£ 90,095,052	£ 12,380,588	£ 14,030,497	£ 17,364,404	£ 64,380,517	£ 106,496,158	£ 73,560,324	£ 15,646,520	£ 41,055,064
D	£ 30,663,657	£ 2,206,248	£ 46,991,448	£ 8,734,603	£ 9,542,186	£ 11,141,921	£ 34,386,770	£ 55,139,651	£ 38,795,351	£ 10,345,009	£ 22,815,777
E	£ 38,840,533	£ 4,927,200	£ 58,293,063	£ 12,697,755	£ 13,649,713	£ 15,641,578	£ 43,275,369	£ 68,004,566	£ 48,526,320	£ 14,670,734	£ 29,495,035
F	£ 39,628,290	£ 6,637,740	£ 58,634,143	£ 14,207,525	£ 15,139,187	£ 17,078,872	£ 44,063,333	£ 68,203,196	£ 49,204,713	£ 16,130,815	£ 30,591,963
G	£ 18,530,253	£ 2,107,767	£ 27,953,030	£ 5,868,182	£ 6,329,281	£ 7,294,697	£ 20,675,469	£ 32,649,804	£ 23,211,957	£ 6,824,422	£ 14,002,733
H	£ 19,842,250	£ 2,398,320	£ 29,850,339	£ 6,396,947	£ 6,890,494	£ 7,905,643	£ 22,125,882	£ 34,848,838	£ 24,831,577	£ 7,380,866	£ 15,032,386
I	£ 21,762,497	£ 2,700,856	£ 32,720,056	£ 7,081,082	£ 7,625,513	£ 8,707,168	£ 24,298,354	£ 38,227,355	£ 27,267,861	£ 8,167,758	£ 16,527,268
J	£ 16,671,442	£ 4,410,707	£ 23,711,421	£ 7,222,252	£ 7,570,800	£ 8,264,709	£ 18,271,304	£ 27,221,412	£ 20,162,611	£ 7,918,344	£ 13,289,401
K	£ 17,074,555	£ 4,641,455	£ 24,222,422	£ 7,491,596	£ 7,868,436	£ 8,580,939	£ 18,726,465	£ 27,768,492	£ 20,662,123	£ 8,224,803	£ 13,661,365
L	£ 58,416,089	£ 25,538,471	£ 77,197,369	£ 33,092,500	£ 34,034,910	£ 35,919,119	£ 62,720,097	£ 86,712,160	£ 67,824,533	£ 34,977,128	£ 49,355,418
Average	£ 34,392,496	£ 4,630,730	£ 52,370,581	£ 10,243,887	£ 11,137,223	£ 12,942,808	£ 38,518,713	£ 61,391,220	£ 43,403,592	£ 12,035,482	

5.27 Under a 50% affordable housing floorspace contribution the analysis shows that:

- Within Camden all schemes in Bloomsbury and Holborn, Primrose Hill/Chalk Farm, West Hampstead, Belsize Park, Hampstead Heath & Highgate and Frognal & Fitzjohn's are viable and exceed the highest existing use value per hectare.

- In Euston & Somerstown schemes are mostly viable but only at a low or medium existing use value.

40% AFFORDABLE FLOORSPACE CONTRIBUTION

Figure 5.10: Residual Site Values (£s Per Hectare) With 40% Affordable Floorspace Contribution – Borough of Camden

Archetype/Value Band	Bloomsbury and Holborn	Euston and Somerstown	Primrose Hill/Chalk Farm	Kentish Town	Camden Town	West Hampstead	Belsize Park	Hampstead Heath and Highgate	Frognal and Fitzjohn's	Clerkenwell and Hatton Garden	Average
A	£ 55,375,322	£ -	£ 89,289,830	£ 9,818,748	£ 11,467,190	£ 14,917,246	£ 63,101,722	£ 106,200,739	£ 72,232,800	£ 13,227,302	£ 39,602,809
B	£ 60,377,081	£ -	£ 96,069,938	£ 12,403,214	£ 14,231,228	£ 17,787,116	£ 68,518,679	£ 113,883,624	£ 78,152,986	£ 16,011,386	£ 43,403,205
C	£ 64,049,784	£ 3,440,368	£ 98,903,574	£ 17,396,434	£ 19,133,436	£ 22,593,373	£ 72,131,749	£ 116,418,689	£ 81,572,054	£ 20,866,304	£ 47,427,340
D	£ 35,170,012	£ 4,933,585	£ 52,526,386	£ 11,821,050	£ 12,741,731	£ 14,468,585	£ 39,117,501	£ 61,178,882	£ 43,780,528	£ 13,606,242	£ 26,830,890
E	£ 42,769,346	£ 7,233,612	£ 63,165,872	£ 15,393,532	£ 16,411,528	£ 18,444,609	£ 47,416,209	£ 73,345,423	£ 52,917,266	£ 17,428,650	£ 32,978,839
F	£ 42,777,849	£ 8,470,663	£ 62,374,298	£ 16,293,117	£ 17,333,246	£ 19,297,580	£ 47,271,428	£ 72,296,772	£ 52,599,983	£ 18,315,794	£ 33,316,017
G	£ 20,015,413	£ 3,002,122	£ 29,780,854	£ 6,908,233	£ 7,395,745	£ 8,367,584	£ 22,237,150	£ 34,647,963	£ 24,860,911	£ 7,882,247	£ 15,325,778
H	£ 21,424,654	£ 3,347,368	£ 31,730,226	£ 7,476,743	£ 7,983,810	£ 9,051,288	£ 23,791,440	£ 36,980,700	£ 26,595,961	£ 8,533,491	£ 16,434,561
I	£ 23,537,568	£ 3,730,993	£ 34,927,255	£ 8,293,268	£ 8,854,978	£ 10,009,109	£ 26,181,316	£ 40,648,362	£ 29,264,926	£ 9,413,629	£ 18,107,351
J	£ 17,834,475	£ 5,092,425	£ 25,148,513	£ 8,016,287	£ 8,377,604	£ 9,122,812	£ 19,496,320	£ 28,795,837	£ 21,461,525	£ 8,737,835	£ 14,321,299
K	£ 18,201,840	£ 5,336,534	£ 25,608,813	£ 8,294,056	£ 8,663,215	£ 9,400,746	£ 19,871,109	£ 29,284,864	£ 21,919,060	£ 9,032,133	£ 14,665,269
L	£ 70,168,810	£ 31,576,151	£ 92,163,904	£ 40,457,907	£ 41,562,718	£ 43,771,046	£ 75,213,861	£ 103,374,821	£ 81,194,083	£ 42,667,120	£ 59,529,309
Average	£ 39,308,513	£ 6,346,985	£ 58,474,122	£ 13,547,716	£ 14,513,036	£ 16,435,924	£ 43,695,707	£ 68,088,056	£ 48,879,340	£ 15,476,844	

5.28   Under a 40% affordable housing floorspace contribution the analysis shows that:

- Every scheme in each value band across Camden is viable at a high existing use value apart from schemes in Euston & Somerstown.

- Within Camden there are only two schemes that are wholly unviable, which are in Euston & Somerstown. However at a 40% affordable housing contribution 10 schemes in the value band are viable at a medium or high exiting use value.

- All schemes in Camden Town and Clerkenwell and Hatton Garden are viable at a high existing use value under a 40% contribution.

DTZ

30% AFFORDABLE FLOORSPACE CONTRIBUTION

Figure 5.11: Residual Site Values (£s Per Hectare) With 30% Affordable Floorspace Contribution – Borough of Camden

Archetype/Value Band	Bloomsbury and Holborn	Euston and Somerstown	Primrose Hill/Chalk Farm	Kentish Town	Camden Town	West Hampstead	Belsize Park	Hampstead Heath and Highgate	Frognal and Fitzjohn's	Clerkenwell and Hatton Garden	Average
A	£ 66,663,122	£ 2,904,311	£ 103,248,997	£ 17,565,653	£ 19,341,005	£ 23,070,476	£ 74,953,505	£ 121,443,150	£ 84,722,522	£ 21,247,422	£ 49,079,137
B	£ 70,575,288	£ 4,174,044	£ 108,688,473	£ 19,401,332	£ 21,287,024	£ 25,135,040	£ 79,242,261	£ 127,685,247	£ 89,477,771	£ 23,127,700	£ 52,261,362
C	£ 71,180,803	£ 7,817,177	£ 107,676,258	£ 22,389,419	£ 24,195,021	£ 27,779,998	£ 79,706,093	£ 126,068,311	£ 89,582,376	£ 25,992,456	£ 53,817,759
D	£ 39,668,782	£ 7,656,851	£ 58,062,237	£ 14,998,384	£ 15,908,435	£ 17,716,694	£ 43,835,136	£ 67,217,369	£ 48,748,602	£ 16,814,769	£ 30,836,390
E	£ 46,754,129	£ 9,503,956	£ 68,107,124	£ 18,096,227	£ 19,158,284	£ 21,272,590	£ 51,616,066	£ 78,759,308	£ 57,364,865	£ 20,217,287	£ 36,497,864
F	£ 45,828,822	£ 10,293,102	£ 66,116,817	£ 18,466,850	£ 19,483,940	£ 21,515,533	£ 50,480,482	£ 76,391,740	£ 55,996,486	£ 20,500,241	£ 36,037,294
G	£ 21,499,361	£ 3,877,587	£ 31,609,690	£ 7,932,505	£ 8,435,376	£ 9,436,693	£ 23,796,060	£ 36,647,495	£ 26,507,771	£ 8,936,887	£ 16,643,291
H	£ 23,007,967	£ 4,289,965	£ 33,669,575	£ 8,589,114	£ 9,125,444	£ 10,196,322	£ 25,458,029	£ 39,112,205	£ 28,361,607	£ 9,661,452	£ 17,844,200
I	£ 25,313,960	£ 4,801,206	£ 37,137,896	£ 9,501,433	£ 10,079,607	£ 11,292,511	£ 28,066,751	£ 43,072,627	£ 31,264,695	£ 10,703,200	£ 19,692,918
J	£ 18,999,246	£ 5,771,517	£ 26,587,679	£ 8,808,143	£ 9,179,582	£ 9,961,891	£ 20,723,315	£ 30,372,153	£ 22,762,801	£ 9,583,192	£ 15,356,415
K	£ 19,329,772	£ 6,015,840	£ 26,993,691	£ 9,076,261	£ 9,457,986	£ 10,220,453	£ 21,055,084	£ 30,797,931	£ 23,176,074	£ 9,839,406	£ 15,669,077
L	£ 85,567,685	£ 39,560,524	£ 112,028,508	£ 50,109,039	£ 51,424,389	£ 54,051,751	£ 91,574,168	£ 125,226,113	£ 98,686,352	£ 52,738,668	£ 72,895,266
Average	£ 44,532,411	£ 8,888,840	£ 64,993,912	£ 17,077,863	£ 18,089,674	£ 20,137,496	£ 49,208,912	£ 75,232,804	£ 54,720,993	£ 19,113,557	

5.29 Under a 30% affordable housing contribution the analysis shows that:

- Every scheme in Euston & Somerstown is viable at a high or medium existing use value with a 30% affordable housing contribution.

20% AFFORDABLE FLOORSPACE CONTRIBUTION

Figure 5.12: Residual Site Values (£s Per Hectare) With 20% Affordable Floorspace Contribution – Borough of Camden

Archetype/Value Band	Bloomsbury and Holborn	Euston and Somerstown	Primrose Hill/Chalk Farm	Kentish Town	Camden Town	West Hampstead	Belsize Park	Hampstead Heath and Highgate	Frognal and Fitzjohn's	Clerkenwell and Hatton Garden	Average
A	£ 78,098,864	£ 9,755,519	£ 117,420,787	£ 25,461,217	£ 27,409,270	£ 31,281,824	£ 86,939,027	£ 136,860,824	£ 97,846,219	£ 29,349,992	£ 59,281,702
B	£ 80,922,634	£ 10,287,301	£ 121,511,840	£ 26,508,418	£ 28,527,741	£ 32,549,270	£ 90,109,791	£ 141,705,229	£ 100,938,620	£ 30,541,840	£ 61,444,571
C	£ 78,612,247	£ 12,201,100	£ 116,469,542	£ 27,371,156	£ 29,237,976	£ 33,153,304	£ 87,308,714	£ 135,758,393	£ 97,612,002	£ 31,253,000	£ 60,279,526
D	£ 44,188,640	£ 10,385,810	£ 63,634,769	£ 18,116,748	£ 19,065,266	£ 21,076,672	£ 48,570,768	£ 73,294,421	£ 53,944,858	£ 20,107,241	£ 34,884,511
E	£ 50,801,932	£ 11,917,385	£ 73,129,173	£ 20,831,492	£ 21,934,651	£ 24,126,676	£ 55,874,666	£ 84,261,558	£ 61,868,658	£ 23,033,285	£ 40,073,127
F	£ 48,894,211	£ 12,164,993	£ 69,877,981	£ 20,592,694	£ 21,643,722	£ 23,742,527	£ 53,704,754	£ 80,505,626	£ 59,409,279	£ 22,693,742	£ 38,767,685
G	£ 22,992,467	£ 4,786,017	£ 33,451,132	£ 8,960,982	£ 9,478,828	£ 10,508,666	£ 25,364,854	£ 38,661,014	£ 28,165,275	£ 9,994,833	£ 17,970,084
H	£ 24,602,647	£ 5,218,010	£ 35,711,671	£ 9,688,464	£ 10,241,906	£ 11,345,187	£ 27,135,750	£ 41,259,044	£ 30,134,773	£ 10,794,245	£ 19,266,627
I	£ 27,110,945	£ 5,859,747	£ 39,375,594	£ 10,718,193	£ 11,369,975	£ 12,590,874	£ 29,974,934	£ 45,525,952	£ 33,288,663	£ 11,980,612	£ 21,295,466
J	£ 20,178,703	£ 6,489,850	£ 28,044,322	£ 9,604,001	£ 10,026,430	£ 10,811,189	£ 21,965,881	£ 31,966,263	£ 24,079,777	£ 10,418,901	£ 16,406,138
K	£ 20,458,644	£ 6,697,747	£ 28,386,713	£ 9,862,697	£ 10,257,016	£ 11,044,489	£ 22,294,863	£ 32,320,152	£ 24,440,202	£ 10,650,969	£ 16,682,168
L	£ 105,828,898	£ 50,031,242	£ 138,004,990	£ 62,793,963	£ 64,381,443	£ 67,549,158	£ 113,088,012	£ 154,009,094	£ 121,981,369	£ 65,966,573	£ 90,478,713
Average	£ 50,224,236	£ 12,149,560	£ 72,084,876	£ 20,875,835	£ 21,964,519	£ 24,148,320	£ 55,194,335	£ 83,010,631	£ 61,142,475	£ 23,065,436	

5.30   Under a 20% affordable housing floorspace contribution the analysis shows that:

- All schemes in Euston & Somerstown are now viable at a high existing use value except for archetype G and H which are viable at a medium existing use value.

- Outside of Euston and Somerstown all schemes are viable at a high existing use value.

10% AFFORDABLE FLOORSPACE CONTRIBUTION

Figure 5.13: Residual Site Values (£s Per Hectare) With 10% Affordable Floorspace Contribution – Borough of Camden

Archetype/Value Band	Bloomsbury and Holborn	Euston and Somerstown	Primrose Hill/Chalk Farm	Kentish Town	Camden Town	West Hampstead	Belsize Park	Hampstead Heath and Highgate	Frognal and Fitzjohn's	Clerkenwell and Hatton Garden	Average
A	£ 89,522,289	£ 16,593,654	£ 131,599,000	£ 33,284,286	£ 35,332,594	£ 39,687,311	£ 99,370,032	£ 152,260,796	£ 110,741,354	£ 37,592,860	£ 69,512,782
B	£ 91,282,173	£ 16,423,114	£ 134,379,220	£ 33,582,187	£ 35,702,748	£ 39,911,936	£ 100,978,309	£ 155,731,144	£ 112,914,049	£ 37,813,158	£ 70,662,332
C	£ 85,849,734	£ 16,526,828	£ 125,255,112	£ 32,480,539	£ 34,461,662	£ 38,411,927	£ 94,910,913	£ 145,457,462	£ 105,639,658	£ 36,439,124	£ 66,727,703
D	£ 48,703,833	£ 13,146,883	£ 69,214,340	£ 21,327,058	£ 22,347,948	£ 24,387,608	£ 53,298,079	£ 79,378,001	£ 59,013,968	£ 23,368,180	£ 38,941,135
E	£ 54,859,136	£ 14,271,628	£ 78,170,612	£ 23,562,765	£ 24,704,809	£ 27,104,813	£ 60,143,409	£ 89,784,951	£ 66,383,264	£ 25,840,935	£ 43,658,659
F	£ 51,963,155	£ 14,009,682	£ 73,629,457	£ 22,720,007	£ 23,803,469	£ 25,960,836	£ 56,932,821	£ 84,623,305	£ 62,826,237	£ 24,883,691	£ 41,494,832
G	£ 24,487,408	£ 5,679,839	£ 35,295,736	£ 9,987,959	£ 10,520,301	£ 11,577,918	£ 26,935,565	£ 40,678,140	£ 29,825,033	£ 11,050,388	£ 19,295,849
H	£ 26,199,165	£ 6,199,796	£ 37,678,406	£ 10,787,082	£ 11,357,082	£ 12,492,183	£ 28,814,243	£ 43,409,730	£ 31,909,836	£ 11,925,546	£ 20,685,834
I	£ 28,997,643	£ 6,934,585	£ 41,613,628	£ 11,997,586	£ 12,629,630	£ 13,891,449	£ 31,888,731	£ 47,986,078	£ 35,318,646	£ 13,261,295	£ 22,916,870
J	£ 21,361,532	£ 7,189,321	£ 29,505,216	£ 10,444,484	£ 10,850,778	£ 11,662,751	£ 23,209,388	£ 33,565,308	£ 25,393,423	£ 11,256,881	£ 17,457,662
K	£ 21,588,641	£ 7,378,373	£ 29,781,830	£ 10,649,942	£ 11,056,838	£ 11,869,304	£ 23,490,656	£ 33,844,837	£ 25,706,149	£ 11,463,313	£ 17,691,998
L	£ 134,646,973	£ 64,784,679	£ 174,629,907	£ 80,855,763	£ 82,856,993	£ 86,858,231	£ 143,795,786	£ 194,554,102	£ 154,654,017	£ 84,857,836	£ 115,388,015
Average	£ 56,621,807	£ 15,761,532	£ 80,062,705	£ 25,139,972	£ 26,302,071	£ 28,651,356	£ 61,980,661	£ 91,772,821	£ 68,360,469	£ 27,479,434	

5.31   Under a 10% affordable housing floorspace contribution the analysis shows that:

- All schemes across Camden are viable at a high existing use value.

0% AFFORDABLE FLOORSPACE CONTRIBUTION

Figure 5.14: Residual Site Values (£s Per Hectare) With 0% Affordable Floorspace Contribution – Borough of Camden

Archetype/Value Band	Bloomsbury and Holborn	Euston and Somerstown	Primrose Hill/Chalk Farm	Kentish Town	Camden Town	West Hampstead	Belsize Park	Hampstead Heath and Highgate	Frognal and Fitzjohn's	Clerkenwell and Hatton Garden	Average
A	£ 101,625,061	£ 23,602,856	£ 146,075,747	£ 41,501,757	£ 43,727,814	£ 48,162,615	£ 111,835,170	£ 168,770,919	£ 123,930,576	£ 45,948,459	£ 80,092,126
B	£ 101,862,033	£ 22,649,471	£ 147,530,507	£ 40,758,186	£ 43,206,941	£ 47,753,806	£ 112,504,369	£ 170,053,015	£ 124,852,548	£ 45,481,097	£ 80,135,729
C	£ 93,127,653	£ 20,990,741	£ 134,544,004	£ 37,532,736	£ 39,586,694	£ 43,675,658	£ 102,553,302	£ 155,216,254	£ 113,706,553	£ 41,634,677	£ 73,238,235
D	£ 53,251,792	£ 15,911,492	£ 74,848,698	£ 24,516,375	£ 25,587,683	£ 27,726,944	£ 58,306,361	£ 85,504,451	£ 64,133,914	£ 26,657,930	£ 43,038,401
E	£ 59,010,858	£ 16,668,950	£ 83,334,391	£ 26,342,974	£ 27,654,863	£ 30,080,002	£ 64,510,447	£ 95,442,345	£ 71,000,928	£ 28,867,731	£ 47,350,237
F	£ 55,053,240	£ 15,861,629	£ 77,398,827	£ 24,855,154	£ 25,968,782	£ 28,185,543	£ 60,183,177	£ 88,769,342	£ 66,261,315	£ 27,079,076	£ 44,235,297
G	£ 25,996,673	£ 6,580,248	£ 37,158,873	£ 11,021,667	£ 11,568,289	£ 12,719,452	£ 28,521,362	£ 42,715,644	£ 31,591,216	£ 12,162,625	£ 20,650,878
H	£ 27,811,515	£ 7,160,726	£ 39,665,725	£ 11,894,402	£ 12,480,633	£ 13,647,035	£ 30,509,597	£ 45,582,979	£ 33,702,687	£ 13,064,935	£ 22,115,344
I	£ 30,845,753	£ 8,018,857	£ 43,887,446	£ 13,257,373	£ 13,909,645	£ 15,210,336	£ 33,836,489	£ 50,489,832	£ 37,382,505	£ 14,560,721	£ 24,551,794
J	£ 22,563,526	£ 7,900,533	£ 30,993,046	£ 11,269,876	£ 11,690,057	£ 12,529,666	£ 24,473,559	£ 35,193,906	£ 26,730,673	£ 12,110,002	£ 18,524,889
K	£ 22,727,751	£ 8,062,609	£ 31,188,817	£ 11,443,517	£ 11,863,070	£ 12,700,712	£ 24,696,549	£ 35,382,611	£ 26,982,801	£ 12,282,156	£ 18,709,804
L	£ 177,447,156	£ 86,910,010	£ 229,122,504	£ 107,658,117	£ 110,246,562	£ 115,418,593	£ 189,294,055	£ 255,438,906	£ 203,340,710	£ 112,833,436	£ 152,474,217
Average	£ 64,276,918	£ 20,026,510	£ 89,645,715	£ 30,171,011	£ 31,457,586	£ 33,984,197	£ 70,102,036	£ 102,380,017	£ 76,968,036	£ 32,723,570	

5.32   Figure 5.14 show that viability increases further across all schemes in Camden when the affordable housing contribution is reduced to zero, with residual land values increasing further above the highest existing use value threshold.

Base Case Summary

5.33 The matrix below (Figure 5.15) summarises the results from the residual land value analysis in Figures 5.9 to 5.14 above. They show how average viability changes in each value area as the affordable housing target is incrementally lowered from 50% to 0%.

5.34 On an average value band level we have used the following assumptions to determine viability:

1. **Green Traffic Light – Viable at a High Existing Use Value:** More than 6[6] archetypes in a value area have a green light.

2. **Red Traffic Light – Viable at a Low Existing Use Value:** More than 6 archetypes in a value area have a green or red light.

3. **Amber Traffic Light – Viable at a Medium Existing Use Value:** More than 6 archetypes in a value area have a green, red or amber light.

4. **Black Traffic Light – Wholly Unviable:** 6 or more archetypes in a value area have a black light.

5.35 Residential development in every Camden value band is viable across almost all affordable housing contributions tested. The only exception is Euston & Somerstown, which is only viable at 50% at a low existing use value and only viable at 40% with a medium existing use value.

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[6] There are 12 archetypes in total so more than 6 represents the majority.

Figure 5.15: Borough of Camden Summary Viability Matrix

	Bloomsbury and Holborn	Euston and Somerstown	Primrose Hill/Chalk Farm	Kentish Town	Camden Town	West Hampstead	Belsize Park	Hampstead Heath and Highgate	Frognal and Fitzjohn's	Clerkenwell and Hatton Garden	Average
50%	🟢	🔴	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢
40%	🟢	🟡	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢
30%	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢
20%	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢
10%	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢
0%	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢

6. Threshold Analysis

6.1. The London Borough of Camden proposes that affordable housing contributions will only be sought for schemes that have capacity for 10 or more additional dwellings. Any site which is able to accommodate 1,000 sq m or more (gross) of additional residential floorspace is deemed to have the capacity for at least 10 dwellings.

6.2. Part of the brief for this study is to consider the appropriateness of the proposed threshold of 10 or more additional dwellings/ 1,000 sqm of additional gross floorspace. Whether the proposed threshold is appropriate depends on a number of considerations:

- First it is appropriate to consider the relevant planning context, in this case the guidance contained in PPS3 and the London Plan

- Second, it is necessary to consider the viability of the proposed threshold in terms of:

  a) Whether schemes just above the 1,000 sqm threshold could contribute affordable housing
  b) Whether schemes at 1,000 sq m but under 10 units could contribute affordable housing
  c) Whether schemes below 1,000 sq m could contribute affordable housing

  This is examined from the perspective of other viability commentaries, the DTZ model, and the Camden experience.

- Thirdly, the practicality of the proposed threshold needs to be examined, in terms of:

  a) whether it is administratively practical to seek a contribution from schemes just above 1,000 sq m, and whether this would deliver a significant amount of affordable housing without other adverse consequences.
  b) whether it is administratively practical to seek a contribution from schemes below 1,000 sq m, and whether this would deliver a significant amount of affordable housing without other adverse consequences.

6.3. This section is structured around examination of each of these topics. It follows on from the base case analysis which shows that under most circumstances a 50% target would be economically viable (especially for the 5 dwelling archetype L) in Camden. The threshold analysis is therefore conducted against this backdrop; it explores the practical considerations of setting an appropriate threshold, as well as providing a more detailed examination of the implications for smaller schemes of the proposed 10 unit/1,000 sqm threshold.

Planning Policy Context

6.4. PPS3 provides national guidance on the appropriate threshold at which affordable housing policies should apply. The current guidance indicates that the norm in terms of affordable housing thresholds should be set at schemes with at least 15 dwellings. However, PPS3 also states that *'Local Planning Authorities can set lower minimum thresholds, where viable and practical'.*

6.5.   The GLA position on the appropriate threshold in London is set out in 2007 in the London Plan Further Alterations[1]. This states that *'A norm threshold of 10 would be the optimum threshold for London as a whole. Whilst a norm less than 10 could be considered, it is not thought to be practicable.'* The same document states that *'a threshold of 10 is viable and practical in London.'*

6.6.   It is worth noting that in part the rationale for the GLA policy of seeking to promote a 10 unit threshold is to encourage greater policy consistency across London as a whole. The position as of March 2007 was that some 9 London Boroughs operated thresholds of 10 units and 19 Boroughs operated a threshold of 15 units (though at least two of these were seeking to reduce their threshold to 10 units).

6.7.   The GLA state that this has led to *"a confusing and inequitable distribution of affordable housing development in London"* and that *"such varying thresholds act as an encouragement to developers to focus medium size developments on areas where the affordable housing threshold is higher."* It is the GLA's view that this has led to a sub-optimal pattern of development, with differential thresholds between Boroughs being an *"inappropriate driver of the tenure mix of development"*.

6.8.   The GLA also make the case that reducing the threshold to 10 units uniformly across London would make a significant contribution to London's affordable housing requirements. The GLA estimate that if the proportion of affordable housing delivered between April 2004 and September 2006 on scheme of 15 or more units were delivered on sites of 10-14 units this would increase the annual affordable permissions figure by about 1,225 homes a year, a 16% increase on current affordable output of 7,650 homes a year.

6.9.   Subsequently the consolidated London Plan published in February 2008, which reflects the recommendations from Examinations in Public of the Early Alterations and Further Alterations further clarifies GLA policy has been published. Policy 3A.11 states that '*Boroughs should normally require affordable housing provision on a site which has the capacity to provide 10 or more homes...'*

6.10.   Policy 3A.11 goes further stating that '*Boroughs are encouraged to seek a lower threshold through the DPD process where this can be justified in accordance with government guidance'*. This new indication to Boroughs in the February 2008 London Plan is why this section gives consideration to the possibility of lowering the threshold below sites capable of providing 10 additional units of residential accommodation.

The Impact on Viability

6.11.   PPS3 makes it clear that while authorities have discretion to reduce the threshold from the national indicative figure of 15 units, it is important to demonstrate that this is '*viable and practical.'*

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[1] http://www.london.gov.uk/london-plan-eip/2007statements/matter6/mayoroflondon.pdf

GLA Assessment of Viability and Thresholds

6.12. The GLA comments in the London Plan Further Alterations on the viability issue. It is worth stating the GLA document in full on this point. '*One concern raised during consultation related to how a reduction of the threshold will bear on the viability of smaller schemes. This issue was considered in a GLA/GOL study which concluded that "market values do not appear to be directly or consistently influenced by scheme size" and that "individual schemes can more accurately be assessed on a site specific basis."*

6.13. The GLA concluded therefore that, as long as schemes are assessed on their individual cost and revenue profile, a threshold of 10 units anywhere in London should not undermine viability. The London Plan Further Alterations states '*in accordance with Policy 3A.8, the application of an affordable housing requirement to any scheme, including schemes of 10 homes, is dependent on such a requirement being reasonable having taken account of individual site costs, the availability of public subsidy and other scheme requirements. It follows that, if the Mayor's guidance is operated appropriately, the reduction in the threshold should not have a negative impact on development viability and overall housing output.*

6.14. Further, the GLA point out that in all of the Boroughs operating a threshold of 10 units where sufficient time had elapsed to allow analysis of development trends (8 Boroughs in all – Westminster being excluded since it have only recently introduced a threshold of 10 units at the time of reporting) all but one Borough had exceeded their London Plan housing targets. In these Boroughs net additions of self contained homes (referred to as conventional supply net output) over the three years 2003-4 to 2005-6 ranged from 106% of target to 233% of target, an average across all 8 boroughs of 126% of target. This was higher than the London-wide average of 119%.

DTZ Assessment of Viability and Thresholds

6.15. DTZ have investigated the threshold issue through the viability model used as part of this study. We would agree with the GLA's assessment – based on previous work undertaken at the London-wide level – that there is no clear basis to presume that market values are consistently affected by scheme size. Indeed we would confidently state that the variability in market values between the different geographies in Camden is a much more important factor in viability than scheme size.

6.16. Moreover, just as scheme values do not vary in any consistent way with scheme size, there seems no basis for automatically assuming that small schemes in any consistent pattern face higher costs. As implied in the GLA assessment viability depends greatly on the particular characteristics of small schemes and assessment will be required of scheme revenues and costs of each particular scheme in order to assess what it can contribute to affordable housing provision.

6.17. The modelling undertaken for this study provides insight to the viability of small schemes. The key questions that need to be answered are whether schemes above the threshold can make a meaningful contribution in terms of affordable housing provision (at least 10%) and remain viable. It is also pertinent to ask if schemes below the threshold could make a contribution, though this does not imply that a lower threshold should be set, since other considerations come into play.

6.18.   It must be acknowledged, however, that the modelling approach used in this study has some limitations when assessing the viability of small schemes.   The model runs off standard revenues per sqm (adjusted by value area) and standard build costs per sqm (adjusted for the differences in costs of flatted schemes of different heights and houses). Many other costs are estimated as a percentage of build costs, while some costs are linked to the number of units or site size. This approach means that small schemes are likely to display much the same patterns of viability as larger schemes.

6.19.   This approach is justified in that there is no evidence that site costs or revenues vary systematically with scheme size, across different value geographies, and the extent of any such variation. Even if there was grounds for thinking that revenues and costs might vary in a systematic way with scheme size, these effects are likely to be dwarfed by the impact that location has on revenues and the impact of site specific factors have on costs.

6.20.   However it should be acknowledged that the sort of generic cost and revenue assumptions applied in the model are likely to be more robust for larger schemes than smaller schemes, because the costs and revenues are applied across a greater number of units for larger schemes and extreme elements are balanced across the scheme as a whole; and that it is possible that small schemes may frequently display greater variability in cost and revenues than larger schemes.

6.21.   The analysis from the model cannot therefore prove categorically that a specific threshold policy is viable. It is useful therefore to look at actual experience in securing affordable housing on schemes close to the existing threshold (10 units) or on schemes of 10-14 units (as the GLA have done – see above). Similarly, it is important to examine whether schemes just above 1,000 sqm, schemes at 1,000 sqm with less than 10 homes, and schemes below 1,000 sqm could in theory support affordable housing.

The Modelling Approach in Outline

6.22.   The approach taken reflects the broad approach taken in this study to modelling viability. The approach adopted is as follows:

- The focus is on those scheme archetypes which entail development of less than 15 units, most of which entail development of more than 1,000 sq m external floorspace, even where they deliver fewer than 10 units (LB Camden receives a number of applications for schemes for large floorspace units)

- These archetypes are tested in terms of whether they could support a 10% or 20% affordable housing contribution; this broadly is the level of contribution that the LBC would expect to secure under its emerging policies which apply a sliding scale in terms of expected affordable housing provision, with smaller schemes expected to contribute a smaller proportion of affordable housing than larger schemes (see Section 7 for an explanation of the proposed sliding scales).

- Viability is assessed in the same way as the base case by examining residual land values and assessing how these relate to existing use values. The tables are colour coded in a way consistent with that presented in Section 5. The rest of this sub-section presents the analysis of viability.

The Scheme Archetypes and Viability

6.23.   The gross internal and gross external floorspaces of each of the smallest archetypes in Camden are shown in Figure 6.1. Given differential sizes between market and affordable units, the total (gross sqm) area changes according to the affordable housing contribution level being sought.

6.24.   In order to demonstrate that schemes just above the threshold could support affordable housing viability has been assessed for each archetype with both a 10% and a 20% affordable housing contribution. These are the maximum levels of affordable housing that would be sought in the LBC for schemes of between 1,000 sqm and 2,000 sqm under the proposed sliding scale (see Section 7).

Figure 6.1: Gross Sqm of Camden's Smallest Archetypes

Archetype	Reference	Units	% Contribution	Gross Internal Sqm	Gross External Sqm
J	Low Rise, Lower Density	15	20%	1,118	1,397
J	Low Rise, Lower Density	15	10%	1,123	1,404
K	Low Rise, Lower Density	9	20%	675	843
K	Low Rise, Lower Density	9	10%	677	845
L	Low Rise, Lower Density	5	20%	1,548	1,625
L	Low Rise, Lower Density	5	10%	1,859	1,951

6.25.   The results of the viability modelling for these archetypes are shown in Figure 6.2. The analysis shows that all of these archetypes remain viable even with a 20% affordable housing contribution, with the test being that they could generate a residual land value higher than existing highest value uses across all the Camden value geographies.

6.26.   This result is not surprising given the findings presented in Section 5 which shows broadly that levels of affordable housing higher than 20% could widely be delivered across the two authorities. As noted above the modelling drives off revenues and build costs which are applied on a sqm basis, with many other cost items set as a percentage of build costs, or on basis on a cost per unit. Viability does not therefore depend in any significant way on scheme size.

6.27.   Some key points to note with regard to schemes around the threshold are worth noting in particular:

–   The fact that the modelling indicates that archetype L show would remain viable with a contribution of 20% in Camden indicates that a threshold of 1,000 sqm applied to a scheme of under 10 dwellings is viable (at least under certain circumstances).

–   The modelling also indicates that archetype K could often deliver 20% affordable housing. In Camden this archetype falls below the proposed threshold, and indicates that a lower threshold would potentially be viable in some circumstances.

6.28.   The above analysis therefore shows viability for schemes greater than 1,000 sqm but under 10 units (archetype L) and schemes under 1,000 sqm and under 10 dwellings (archetype K).

Figure 6.2: Camden Viability Modelling Results – Smallest Camden Archetypes Providing Affordable Housing Contribution of 10% and 20%

Archetype	Description	Units	AH %	Bloomsbury and Holborn	Euston and Somerstown	Primrose Hill/Chalk Farm	Kentish Town	Camden Town	West Hampstead	Belsize Park	Hampstead Heath and Highgate	Frognal and Fitzjohn's	Clerkenwell and Hatton Garden	Average
J	Low Rise, Lower Density	15	20%	£ 20,178,703	£ 6,489,850	£ 28,044,322	£ 9,604,001	£ 10,026,430	£ 10,811,189	£ 21,965,881	£ 31,966,263	£ 24,079,777	£ 10,418,901	£ 16,406,138
			10%	£ 21,361,532	£ 7,189,321	£ 29,505,216	£ 10,444,484	£ 10,850,778	£ 11,662,751	£ 23,209,388	£ 33,565,308	£ 25,393,423	£ 11,256,881	£ 17,457,662
K	Low Rise, Lower Density	9	20%	£ 20,458,644	£ 6,697,747	£ 28,386,713	£ 9,862,697	£ 10,257,016	£ 11,044,489	£ 22,294,863	£ 32,320,152	£ 24,440,202	£ 10,650,969	£ 16,682,168
			10%	£ 21,588,641	£ 7,378,373	£ 29,781,830	£ 10,649,942	£ 11,056,838	£ 11,869,304	£ 23,490,656	£ 33,844,837	£ 25,706,149	£ 11,463,313	£ 17,691,998
L	Low Rise, Lower Density	5	20%	£ 105,828,898	£ 50,031,242	£ 138,004,990	£ 62,793,963	£ 64,381,443	£ 67,549,158	£ 113,088,012	£ 154,009,094	£ 121,981,369	£ 65,966,573	£ 90,478,713
			10%	£ 134,646,973	£ 64,784,679	£ 174,629,907	£ 80,855,763	£ 82,856,993	£ 86,858,231	£ 143,795,786	£ 194,554,102	£ 154,654,017	£ 84,857,836	£ 115,388,015

The Proposed Threshold and Viability

6.29. The results of the viability modelling would support the GLA assessment that there is no evidence that establishing a threshold of 10 units/1,000 sqm is inconsistent with viability. The modelling shows that schemes at or slightly above the proposed threshold could deliver at least 20% affordable housing in all value areas within LBC.

6.30. It is only where smaller schemes bear significant fixed costs that the inability of small schemes to spread these costs across a large number of units or larger development floorspace that viability is likely to be significantly worse than larger schemes. It is difficult to model these site specific issues (eq abnormal infrastructure requirements, contamination issues, the cost of service provision and car parking costs).

6.31. Conversion of listed buildings are also predominantly small schemes; and it is well appreciated that such conversions can face higher costs of working sensitively within the fabric of valued and historic buildings. As with other site specific issues identified the additional costs associated with conversion of listed buildings cannot be readily modelled.

6.32. These considerations reinforce the GLA conclusion that it will be important to assess individual scheme revenues and costs in determining the actual affordable housing contribution that should be sought from a particular scheme. But there is no inherent reason on viability grounds why a threshold of 10 units or 1,000 sqm gross external floorspace should not be adopted.

6.33. This conclusion is supported by the evidence that in the recent past there have been schemes of modest size where agreement has been reached for the delivery of affordable housing. In the London Borough of Camden there have been schemes somewhat above the threshold that have delivered significant levels of affordable housing in the period April 2005 and March 2008 (see Figure 6.3). If schemes somewhat above the 15 unit threshold can deliver affordable housing at the levels indicated, schemes of 10-14 units should be able to deliver the lower percentage to be sought under LB Camden's proposed sliding scale.

Figure 6.3: London Borough of Camden Residential Permissions Granted 2005 to 2008[2]

Post Code	Street	Date Decision Issued	Net Residential Units	Affordable Units No. (%)[3]	Market Units
NW5 1AA	Fortress Rd	09.09.05	33	13 (40%)	**20**
NW5 3BA	Spring Place	17.05.05	21	9 (43%)	**12**
W1T 2SD	Whitfield St	07.01.08	22	11 (50%)	**11**

Source: Camden Borough Council

[2] All of the schemes in Figure 6.3 involved affordable housing on site, all were triggered by the 15 unit threshold applying prior to 2008 London Plan Further Alterations

[3] Assumes that the percentage is based on units and not floorspace.

The Practicality of the Proposed Threshold

6.34. PPS3 indicates that adoption of a lower threshold than the national norm of 15 units should take into account not only viability issues but also the practicality of applying a lower threshold. In terms of practicality, consideration needs to be given to the benefits of applying a lower threshold in terms of securing more affordable housing than would otherwise be the case; versus the administrative costs of bringing a larger number of schemes within the net of affordable housing policies and any unintended consequences such as reducing the overall delivery of housing, deterring developers and causing delays in the planning system.

6.35. In terms of the administrative costs of a reduced threshold it is important that LB Camden have indicated their acceptance that they will need to examine the viability of all schemes where the developer wishes to provide a lower level of affordable housing than set out in policy. Yet the time involved in assessing small schemes is not likely to be proportionately less than that involved in assessing larger schemes. The unit cost of administration per affordable housing unit secured is therefore likely to be greater for small schemes than for larger schemes.

6.36. Therefore it is very probable that there is a point at which the costs of reduced thresholds would outweigh the benefits given the staff time that a large number of small schemes will take up (possibly to the detriment of larger schemes) or the delay in the processing of applications. This applies even if schemes below the threshold could, on the basis of a viability assessment, make a contribution to affordable housing provision.

6.37. The administrative burden (in terms of additional staff time) would be compounded by the differential determination periods for minor and major applications. Under the 'Town and Country Planning (General Development Procedure) Order' authorities effectively have 8 weeks to determine a minor application (generally defined as 9 dwellings or fewer) and 13 weeks for a major application (generally defined as 10 or more dwellings, or over 0.5 hectares if numbers are unknown). If the threshold were to be reduced below 10 units a number of schemes (say those between 7 and 9 units if the threshold were reduced to 7 units) would have to make an affordable housing contribution, yet they would still be defined as minor applications according to 'the Order'. These schemes would therefore be subject to the lower 8 week determination period, placing significant additional administrative burden on the authority in terms of having to deal with an application comprising affordable housing within the shorter determination period.

6.38. Consideration also needs to be given to the industry response to lowering the threshold on schemes. It is clear that in many areas there are small housebuilders/developers who will only undertake schemes that fall below the threshold for affordable housing provision. They simply do not wish to handle the additional complexity involved in delivery of affordable housing.

6.39. Reducing thresholds therefore runs the risk that this section of the industry will withdraw from the market or reduce the scale of activities to the detriment of competition and housing completions. However within Camden the values involved in even small residential developments would suggest that most of those undertaking small schemes will have a relatively high degree of sophistication, though this may reduce in lower priced parts of the study area, such as mid and lower priced value areas lying outside the central zone.

6.40. Moreover if some developers in central London withdrew from the market as a result of the administrative burden associated with the introduction of affordable housing requirements on smaller schemes, rather than fundamental viability issues, it is likely that they would be replaced by others who would learn the new rules of the game and how to engage with the authority. This is more likely in the competitive context of central London than in most other areas.

6.41. It is also important to acknowledge the practical challenges in the central London context of providing mixed tenure developments on small sites. The high specification of market developments in both exterior design and the common parts, resulting from the desire to create exclusive, high value developments mean that neither developers nor affordable housing providers would accept shared entrances for market and affordable housing.

6.42. In practice separate entrances for on-site affordable housing become harder in design terms to deliver on small sites. Issues may arise from mixed tenure developments on small sites because of the high service charges that would be applied to the affordable homes on that site, driven by the high cost of servicing and maintaining a high quality development.

6.43. These considerations may mean it is impractical to provide on-site affordable housing, though this is the presumption in PPS3, on smaller sites. The solution may be to agree off-site provision, but again the practicability of this is likely to be more problematic with small schemes (eg if they were expected to provide one or two units offsite). These issues could however be addressed by taking commuted sums to fund affordable housing elsewhere in lieu of direct provision.

Contribution to Overall Housing Completions by Scheme Size

6.44. In addressing the issue of the appropriate level at which to set the threshold for affordable housing contributions, it is relevant to consider how schemes of different size contribute to the overall delivery of new housing. This helps inform an assessment of both the benefits of reducing the threshold at which affordable housing policies apply, and give a guide to the likely administrative costs.

6.45. In the **London Borough of Camden** between 2005 and 2008 some 31 schemes were approved for schemes of between 10 and 14 units. These 31 schemes would deliver 382 units, 9% of all the units approved in the period (see Figure 6.4).

6.46. Assuming that these delivered between 10% and 20% affordable housing contribution, these schemes would have delivered 38 to 76 new units of affordable homes. In DTZ's view the additional administrative costs entailed in dealing with 31 additional schemes is commensurate with the possibility of securing an additional 38 to 76 units of affordable housing.

6.47. It is clear that there would be diminishing returns to the authority if it sought to reduce the threshold beyond the proposed 10 units/1,000 sqm level. Some 89% of residential schemes receiving planning permission between 2005 and 2008 comprised less than 10 units. These 695 schemes did generate 17% of total units approved, but the average size of these schemes is 1.07 units implying that the vast majority of schemes must be comprised of only one unit.

6.48.   It is clear that reducing the threshold below the 10 units/1,000 sqm level would bring about a big increase in workload entailed in assessing scheme viability, with comparatively modest return in terms of additional affordable housing procured. This would be particularly the case since the difficulties of on-site and off-site delivery of affordable housing increase as site size falls.

Figure 6.4: Borough of Camden Proposed Residential Units by Size of Scheme 2005 to 2008

Scheme Size (Total Net Res Units)	Total No of Schemes	Total Net Units	Schemes as % of total	Units as a % of total
<= 9 units	695	744	89%	17%
10 to 14 units	31	382	4%	9%
15 to 24 units	10	193	1%	4%
25 to 49 units	34	309	4%	7%
50+units	14	2,679	2%	62%
Total	**784**	**4,307**	**100%**	**100%**

6.49.   The approach to securing contributions on these smaller sites below 10 units/1000 sqm, if this was to be considered in future, would probably demand a different approach based entirely on securing contributions in lieu of affordable housing provision. A payment in lieu system could potentially apply to all schemes if no threshold existed, but given that 695 schemes would involve 744 additional units (see Figure 6.4) Camden would likely negotiate for some payment in lieu from the 744 additional units. Whilst it is not possible to predict what the output of additional affordable housing would be, it is possible to expect that:

- A standard payment would be unlikely to work in many cases unless the payment in lieu is set very low

- Achieving anything significant would require submission and assessment of a viability appraisal for most schemes - this would potentially be a major burden on the authority in terms of process and delay

- Many small developers would not be equipped to deal with such a process and could well avoid small residential schemes in Camden

Conclusions

6.50.   The proposals set by LB Camden for a threshold at which affordable housing policies to apply on sites capable of accommodating an additional 10 dwellings or an additional 1,000 sqm (gross) housing floorspace are consistent with the evidence in the London Plan Further Alterations [4], the document that forms the basis of the consolidated London Plan policy 3A.11. This document states that London as a whole meets the PPS3 test under which local authorities can set a threshold of less than 15 units provided it is viable and practical.

[4] It was the Further Alterations evidence that commented that a 10 unit threshold was viable and practical in London.

6.51.   The 1000 sqm threshold is also consistent with the London Plan policy 3A.11 which states that boroughs should normally require affordable housing provision on a site which has the capacity to provide 10 or more homes.

6.52.   DTZ have used the viability model employed in this study to assess the viability of the smaller development archetypes, which entail developments of between 5 and 15 units. The modelling shows that in terms of the smaller archetypes all of these schemes could deliver a minimum of 20% affordable housing across all the value geographies in LB Camden.

6.53.   The modelling therefore indicates that the 10 unit/1000 sqm threshold is consistent with viability, though it is acknowledged there must be arrangement to review the viability of individual sites as schemes are brought forward. The broad conclusion on viability is further supported by analysis of schemes awarded planning permission that are just above the existing threshold where affordable housing contributions on sites of 10-14 units have been achieved.

6.54.   Examination of data on planning approvals indicate that a threshold of 10 units/1000 sqm will bring a manageable number of schemes in Camden within the scope of affordable housing policies and deliver a valuable number of additional affordable housing units in the long run. The neighbouring City of Westminster has been operating a threshold of 10 units since 2006 without difficulty.

6.55.   The modelling of the 9 unit archetype K shows that such a scheme would generally be viable in LB Camden with a 20% affordable housing contribution in areas with high existing use values. On the basis of the analysis conducted on archetype K, therefore, it would seem that a contribution from a 9 unit / sub -1000sqm scheme would be viable across Camden at a high existing use value.

6.56.   There is no policy proposal to reduce viability below the 10 unit/1000 sqm threshold. The analysis shows that while schemes below the threshold might well be able to make a contribution to affordable housing provision, reductions in the threshold would probably add significantly to the administrative costs of the system, for relatively modest gains.

6.57.   Moreover there are good grounds for thinking that it would become increasingly difficult to secure either on-site or off-site provision of affordable housing units in connection with schemes of less than 10 units. Such a requirement for affordable housing may also deter some developers from bringing forward schemes, particularly in locations outside the central area.

6.58.   It is therefore likely that if affordable housing policies were to be extended to these smaller schemes a more satisfactory arrangement would be to investigate a system of standard payments in lieu of affordable housing provision. It has not been part of this commission to examine the feasibility of such a scheme, though we would draw attention to the points made (bullet points 1 to 3 under para 6.49) relating to the drawbacks of a payment in lieu system in Camden. Careful consideration would need to be given to the administrative costs of operating such a scheme and the impact on the industry, relative to the benefits.

7. Sliding Scale Analysis

7.1. The previous section set out the rationale for the proposal by the London Borough of Camden and the City of Westminster to seek affordable housing contributions on all schemes that have capacity for 10 or more additional dwellings. The overall conclusion reached was that schemes with a capacity of 10-20 units should be able in general to deliver at least 10% affordable housing.

7.2. This section moves from considering the appropriateness of the threshold proposed by LBC to consideration of the actual levels of affordable housing that will be sought from schemes above the threshold. LBC intends to apply a sliding scale where as the capacity of the scheme for additional units increases, higher percentage levels of affordable housing will be required. Scheme size is to be measured in terms of capacity and overall floorspace.

The Policy Proposals

7.3. The London Borough of Camden intend to apply a sliding scale with regard to affordable housing contributions. Schemes of 10 units/1,000 sqm gross external floorspace will be expected to provide 10% affordable housing. This will increase with scheme size up to a maximum of 50% of affordable housing which will be required of schemes with capacity of 50 or more units[1].

7.4. This policy can be simply described: all schemes with capacity for between 10 and 50 units will be expected to provide the same percentage level of affordable housing as there is unit capacity.

- Thus a 10 unit scheme or a 1,000 sq m scheme (which is considered to have capacity for 10 units or more) is expected to provide 10% affordable housing

- A 20 unit scheme or a 2,000 sq m scheme (which is considered to have capacity for 20 units or more) is expected to provide 20% affordable housing

- A 30 unit scheme or a 3,000 sq m scheme (which is considered to have capacity for 30 units or more) is expected to provide 30% affordable housing, etc

- A scheme of 50 units or more or a scheme comprising 5,000 sq m or more is expected to provide 50% affordable housing.

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[1] Schemes providing 50 or more units, or having additional residential floorspace of 5,000 sq m or more (gross)

7.5   LBC has proposed the adoption of this sliding scale in relation to affordable housing policies in order to seek to ensure that developers have an incentive to bring forward smaller schemes above the threshold. In considering the appropriateness of the sliding scale there are four key issues to be considered

–   The overall rationale for applying lower affordable housing quotas to smaller schemes

–   The impact of the sliding scale on small schemes

–   The gradient of the scale; that is how fast the percentage requirement of affordable housing increases to point at which the full affordable housing quota applies

–   The impact on viability, and more specifically whether the proposed policy will provide incentive to develop smaller schemes.

The Rationale for the Sliding Scale

7.6.   It has been a common feature of housing delivery in many authorities, including Camden, that large numbers of applications are submitted for residential development that fall just below the threshold at which affordable housing policies start to be applied. The reason for this is obvious. The application of affordable housing policies has a significant negative effect on scheme revenues. It makes a material difference to scheme profitability whether the scheme falls just outside the threshold or just within it.

7.7.   The higher the overall quota of affordable housing sought, the more severe such threshold effects are and the more residential developers, particularly of smaller sites, will seek to circumvent policy, or be deterred from development. LBC's proposed policy makes every effort to discourage threshold abuse, by setting the threshold not solely in terms of units but in terms of site capacity, to avoid the building of small numbers of large units; and by relating proposed affordable housing requirements to the gross external floorspace of development.

7.8.   But there remains substantial scope for landowners and residential developers to adjust their proposals for smaller schemes to bring them in under the threshold. Such adaptations might include boosting the component of non-residential use or introducing non-residential uses into what would otherwise have been pure residential schemes. Given policies that favour mixed use developments and the mixed use characteristics of many parts of the Borough these schemes would often be policy compliant.

7.9.   Developers could also adjust their land acquisition policies and work with landowners to ensure that sites they buy provide developments that fall below the affordable housing thresholds. It is hard to prevent this sort of behaviour even if the entirety of the land that might come forward over time would enable a more substantive development scheme to be undertaken. The incentive for such response to affordable housing policies is all the greater if affordable housing requirements placed on schemes at or close to the threshold is set at a high level.

7.10.   It is also likely that if affordable housing requirements are placed on small schemes at a high level some such schemes may be deterred, and land will continue in its existing use, or be developed for other uses.

7.11.   In all of this it is preferable from the perspective of LBC to secure a modest affordable housing contribution from smaller schemes above the threshold, than to apply a policy that will seek a high proportion of affordable housing, but deliver less because development is deterred, or the industry adjusts in such a way to bring forward more schemes that fall just under the threshold.

7.12.   Figure 6.4 shows the proportion of permissions on small sites in LBC. This shows that over the period 2005 to 2008 some 9% of all new homes in the Borough were permitted in schemes of 10-14 units, with a further 4% coming from schemes of 14-24 units, and 7% from schemes of 25-49 units; 62% of new homes permitted in schemes of 50 or more units.

7.13.   This pattern of housing delivery provides strong justification for the sliding scale. It is important that the 20% on new homes delivered by small and medium sized developments (10-49 units) is not jeopardised. At the same time it is worth noting that, if past patterns of development are replicated in future, the maximum affordable housing quota proposed (50% - subject to viability testing) would be applied to schemes delivering the majority (c60%) of new homes.

The Impact of the Sliding Scale on Small Schemes

7.14.   LBC's proposed policy will be to introduce a requirement for 10% affordable housing on sites with a capacity of 1,000 sqm of residential development. The impact that this has on residential development viability can be illustrated by means of a worked example. Table 7.1 compares the Residual Land Value (RV) associated with two schemes in the Belsize Park area of Camden (Value Area 18, see Figure 2.2).

7.15.   Scheme A comprises a development of 800 sqm[2] which would not have to make a contribution to affordable housing. This is compared with Scheme B of 1,200 sqm[3] in the same area which is required to deliver some affordable housing.   The impact of providing 17% affordable housing (as proposed by LBC) and 50%, which LBC proposes will only be sought on schemes of 5,000 m2 or more, is examined.

Figure 7.1:   Residual Land Values on Small Schemes with and without Affordable Housing

	Scheme A (800 sq m)		Scheme B (1,200 sq m)	
	Scheme RV	RV/Hectare	Scheme RV	RV/Hectare
No affordable housing	£1,751,000	£21,890,000	£2,619,000	£15,406,000
17% affordable housing	£1,585,000	£19,808,000	£2,357,000	£13,862,000
50% affordable housing	£1,256,000	£15,698,000	£1,863,000	£10,957,000

[2] 800 sq m, 8 units –100dph, 0.08 ha

[3] 1,200 sq m, 17 units –100dph, 0.17 ha

7.16. The example presented in Table 7.1 shows quite clearly how introducing the full target rate of affordable housing of 50% would be a very significant disincentive to landowners and developers from bringing forward small sites just above the threshold. With a 50% affordable housing requirement the scheme residual value of the 1,200 sqm scheme would be £1.86m compared to £1.75m for the 800 sq m scheme with no affordable housing, and RV per hectare would have fallen from £21.89m for the 800 sq m scheme to £10.96m for the 1,200 sq m scheme.

7.17. The larger scheme with 50% affordable housing therefore still delivers a higher overall scheme RV than the smaller scheme that is not required to provide affordable housing, but the overall additional value to the landowner is only around £110,000. There would be a strong incentive for the landowner to try to find a mechanism to keep the residential component of their scheme below the affordable housing threshold, and generate additional value from non-residential uses or to find a way to split the site.

7.18. In contrast, with the affordable housing requirement set at 17%, the larger scheme delivers an uplift of over £1/2 million over the smaller scheme with no affordable housing. While there is no formula to say how landowners will respond to financial incentives, the higher land value of the somewhat larger scheme at 17% affordable housing, suggests a substantially reduced incentive to formulate schemes below the threshold level.

7.19. Phasing-in the provision of affordable housing on small schemes, with schemes of 1,000 sqm being expected to provide 10% affordable housing, substantially reduces the incentive for formulating schemes below the threshold and the risk that schemes will simply not proceed. However Table 7.1 shows that while the introduction of a sliding scale starting at 10% substantially helps to reduce the threshold effect, it does not eliminate it. The Residual Value (RV) associated with the 1,200 sqm scheme, with a requirement for 17% housing has a lower RV per hectare than the 800 sqm scheme that falls below the affordable housing threshold.

7.20. But it is quite likely that for small schemes it will be that overall scheme RV is of more relevance to the landowner/developer since very small parcels of land may have limited marketability. The absolute sum that can be realised from a small plot of land is likely to be the more important influence on the decision making of the landowner rather than the value per hectare.

7.21. This is particularly so since measures taken by land owners and developers to bring schemes in below the threshold are not without cost; such action may sterilise part of the site; the introduction of non-residential uses to the scheme may not, in fact, be attractive. Therefore the fact that scheme RV is greater for the 1,200 sqm scheme than the 800 sqm scheme may well provide sufficient motivation to proceed, subject to Existing Use Value, despite the apparent RV per hectare being lower than for the 800 sqm scheme.

7.22. To summarise, in DTZ's view, a 50% affordable housing requirement applied to small schemes would generate very strong incentives for the development industry to find ways of splitting relatively small sites that would fall within the 50% threshold, in order to advance schemes that would fall below the threshold. Given the planned change in policy to base the threshold on the capacity of sites rather than the number of units proposed, this would probably be done through either introducing other uses or sales to different parties. This would result in sub-optimal patterns of development. The principle of the sliding scale is therefore sensible as a means to ensure that development is not deterred in its entirety, and

to ensure that small sites, where manipulation of land ownerships and development proposals mean that it would be feasible to come in with schemes below the threshold, in fact make some contribution to affordable housing provision.

The Gradient of the Sliding Scale

7.23. A further consideration that requires comment is the overall gradient of the sliding scale; that is the speed at which affordable housing requirements are increased as scheme size increases. The gradient of the sliding scale is determined by:

– the size of scheme at which affordable housing requirement comes into play and the percentage level of affordable housing required (the threshold)

– the size of scheme at which the full affordable housing requirement set by policy comes into play and remains constant thereafter; that is the top of the sliding scale.

7.24. LBC envisage their sliding scale being applied, starting with a 10% affordable housing requirement, to schemes with the capacity for 10 units or schemes with fewer units but providing 1,000 sq m Gross External Area (GEA).With the affordable housing requirement increasing in a straight line up to schemes with a capacity for 50 units or schemes with fewer units but providing 5,000 sq m GEA. Such schemes will be expected to provide 50% affordable housing requirement.

7.25. The logic of starting with an affordable housing requirement of 10% on schemes with a capacity for 10 units, is twofold:

– As set out above it is at this smallest scale of development that the application of an affordable housing requirement has potentially the greatest distorting effect since a direct comparison can be made of the profitability of developing a scheme just below the threshold, with one at the threshold, and it is apparent how provision of affordable housing dilutes value. It is appropriate therefore to set the affordable housing requirement at the lowest practicable level for schemes at the threshold.

– For practical reasons a 10% affordable housing quota is the minimum level that it is sensible to apply such a quota. Crudely when the threshold is set for schemes capable of delivering 1,000 sqm, which is assumed to have the capacity for delivery of 10 units, then a 10% quota is equivalent to the provision of one unit in the scheme. A lower percentage level of affordable housing would imply always taking payments in lieu. While in practice payments in lieu may commonly be accepted on such small schemes, at least the quota provides the option of there being on site provision of an affordable home.

7.26. Turning to the issue of the gradient of the sliding scale, and hence implicitly the scheme size at which the maximum level of affordable housing contribution comes into play, the key consideration is to ensure that the structure does not act as a disincentive to develop larger schemes. There has to be sufficient incentive for developers to seek to pursue larger schemes, rather than find ways to restrict scheme size in order to maximise returns.

7.27. There is evidence that too steep an increase in any sliding scale is very likely to provide a disincentive to develop larger schemes within the threshold. Figure 7.2 shows how the sliding scale proposed by LBC will work, and the percentage of affordable housing that will be sought for schemes of different sizes. The Figure sets out the amount of affordable and market

floorspace associated with each development. The final column shows the additional market floorspace associated with each 'rung' in the ladder compared to the previous 'rung'

7.28.   Figure 7.2 shows that the sliding scale proposed by LBC ensures that at every step up the sliding scale above the initial threshold, a larger scheme ensures that there is a larger amount of floorspace for open market sale, though by the time the upper end of the sliding scale is reached this is very modest in relation to the overall scheme size. Assuming all other factors remained unchanged, the gradient associated with the proposed sliding scale maintains an incentive for development of larger schemes.

Figure 7.2: LBC Sliding Scale with Full Affordable Requirement at 5,000 sqm: Impact on Volume of Market Floorspace

Gross External Area (sq m)	AH contribution	AH floorspace (sq m)	Market Housing floorspace (sq m)	Addition to Market Housing Floorspace (sq m)
500	0%		500	
750	0%		750	250
1,000	10%	100	900	150
1,250	12.5%	156	1,094	194
1,500	15%	225	1,275	181
1,750	17.5%	306	1,444	169
2,000	20%	400	1,600	156
2,250	22.5%	506	1,744	144
2,500	25%	625	1,875	131
2,750	27.5%	756	1,994	119
3,000	30%	900	2,100	106
3,250	32.5%	1,056	2,194	94
3,500	35%	1,225	2,275	81
3,750	37.5%	1,406	2,344	69
4,000	40%	1,600	2,400	56
4,250	42.5%	1,806	2,444	44
4,500	45%	2,025	2,475	31
4,750	47.5%	2,256	2,494	19
5,000	50%	2,500	2,500	6

7.29.   The pattern of additional market floorspace associated with the sliding scale proposed by LBC can be contrasted with a sliding scale that adopts a much steeper gradient, whereby the maximum affordable housing requirement comes into force for schemes with a capacity of 2,000 sqm of residential development and more. Figure 7.3 shows that such a sliding scale would result in the reduction of the amount of market floorspace available on schemes of over 1,700 sq m compared to a scheme of 1,600 sq m. Notwithstanding the revenue generated from affordable housing, developers would very probably be deterred from bringing forward schemes towards the upper end of such a sliding scale.

7.30.   DTZ conclude that the gradient of a sliding scale for affordable housing provision has to be given careful consideration. The proposals being bought forward by LBC maintain an incentive to develop larger schemes throughout all parts of the scale above the threshold,

though it will not entirely eliminate the incentive to bring forward schemes at different points in time to reduce the overall level of affordable housing provision. The risk of threshold abuse is likely to bear most on schemes of just less 1,000 sq m and just less than 5,000 sqm, though there is incentive both to build out smaller schemes, or to leap frog and build above the threshold.

Figure 7.3: Alternative Sliding Scale with Full Affordable Requirement at 2,000 sqm: Impact on Volume of Market Floorspace

Gross External Area (sq m)	AH contribution	AH floorspace (sq m)	Market Housing floorspace (sq m)	Change in Market Housing Floorspace (sq m)
500	0%		500	
750	0%		750	250
1,000	10%	100	900	150
1,100	14%	154	946	46
1,200	18%	216	984	38
1,300	22%	286	1,014	30
1,400	26%	364	1,036	22
1,500	30%	450	1,050	14
1,600	34%	544	1,056	6
1,700	38%	646	1,054	-2
1,800	42%	756	1,044	-10
1,900	46%	874	1,026	-18
2,000	50%	1,000	1,000	-26

The Viability of the Schemes Subject to the Sliding Scale

7.31. A number of the scheme archetypes developed for the purpose of this study entail developments with a gross external floorspace of less than 5,000 sq m, and therefore are schemes that will be subject to the sliding scale arrangements. The viability of these schemes – Archetypes F, G, H, I, J, K and L – have been examined using the appraisal model.

7.32. Figure 7.4 summarises the number of units and gross floorspace associated with the archetypal schemes for Camden. For each archetype DTZ has tested viability at two or three different levels of affordable housing provision as shown in Figures 7.4. The levels of affordable housing contribution tested have been selected depending on the archetype to reflect where it would sit within the overall policy requirement.

7.33. Thus large schemes have been tested at 50%, 40% and 30% affordable housing requirements since this covers all the policy requirements that might apply in Camden. The smallest schemes have been tested in terms of an affordable housing requirement of 10% and 20% since this covers the range of policy options that would apply to these schemes under the proposed sliding scale.

Figure 7.4: Meshing of Sliding Scale and Development Archetypes - Camden

Archetype	Description	Units	% AF Contribution To Be Tested	Gross Internal Sqm	Gross External Sqm
F	Mid Rise, Higher Density	60	50%	3,991	4,989
			40%	3,998	4,998
			30%	4,005	5,006
G	Mid Rise, Lower Density	40	50%	2,950	3,688
			40%	2,958	3,698
			30%	2,966	3,708
H	Mid Rise, Lower Density	34	50%	2,403	3,004
			40%	2,409	3,011
			30%	2,416	3,020
I	Mid Rise, Lower Density	25	50%	1,944	2,430
			30%	1,962	2,453
			20%	1,971	2,464
J	Low Rise, Lower Density	15	50%	1,102	1,378
			20%	1,118	1,398
			10%	1,123	1,404
K	Low Rise, Lower Density	9	50%	671	839
			20%	675	844
			10%	677	846
			0%	678	848
L	Low Rise, Lower Density	5	50%	1,033	1,291
			20%	1,548	1,935
			10%	1,859	2,324

7.34.   The results of the sliding scale analysis for the Borough of Camden are presented in Figures 7.5 and 7.6 overleaf. It is important to understand how the results are presented.

–   A green traffic light indicates that a scheme is viable at the level of affordable housing contribution indicated *assuming a high existing use value* (see Section 5)

–   An amber traffic light indicates that a scheme is viable at the level of affordable housing contribution indicated *assuming a medium existing use value*

–   A red traffic light indicates that a scheme is viable at the level of affordable housing contribution indicated *assuming a low existing use value*

–   A black traffic light indicates that a scheme is not viable.

–   The green and amber background cell shading indicates the highest level of affordable housing requirement tested that is consistent with viability.

7.35.   The results for Camden under the base case assumptions can be summarised as follows:

–   In all areas except one development would remain viable at the highest levels of affordable housing proposed by the sliding scale and at the highest existing use values.

–   This would also be true of a flat 50% affordable housing target, but schemes with 50% affordable housing would only come forward if it was not possible to achieve a higher land value by reducing the scheme size below the 1,000 sq m threshold and producing 100%

market housing. For sites where a below-threshold scheme is plausible, the land value is likely to rise to reflect this, and existing use values will cease to be a reliable test of viability.

- The only exception is Euston and Somerstown, where development viability is generally weaker, though the majority of sites would remain viable at a medium existing use value at the highest levels of affordable housing proposed under Camden's sliding scale policy.

7.36. This study does not seek to determine precisely how land values might rise where owners perceive that a below-threshold housing scheme is plausible, but the study does explore the impact that higher land values would have. Figure 7.6 shows the results of the sliding scale analysis when existing use land values are doubled (as per Sensitivity Test 1 in Section 8). This clearly demonstrates that when existing land use values are revised upwards from the base case position, the sliding scale approach enables housing development to remain viable in many areas where a development with 50% affordable housing would not be viable.

7.37. Overall the analysis shows that schemes that would be subject to LBC's proposed sliding scale would be viable at the rates that would be applied under the sliding scale. The only area where this does not universally apply is in the Euston and Somerstown area where the anticipated levels of affordable housing may not be consistent with viability on sites with high existing use or alternative development values.

7.38. The pretty uniform picture of viability across the Borough means that there is no need to seek to develop different affordable housing policies for different parts of the Borough. Rather variability in viability over time and in terms of the revenues and costs of individual schemes will need to be addressed through individual assessments that examine the particular characteristics of the scheme to determine what contribution can be delivered within the constraints posed by viability.

Figure 7.5: Sliding Scale Analysis for the Borough of Camden – Affordable Housing Contribution Based on % Floorspace

Archetype	Description	Units	% AF Contribution To Be Tested	Gross External Area Sqm	Sliding Scale Target (%)	Bloomsbury and Holborn	Euston and Somerstown	Primrose Hill/Chalk Farm	Kentish Town	Camden Town	West Hampstead	Belsize Park	Hampstead Heath and Highgate	Frognal and Fitzjohn's	Clerkenwell and Hatton Garden
	Mid Rise, Higher Density		50%	4,989		£ 39,628,290	£ 6,637,740	£ 58,634,143	£ 14,207,525	£ 15,139,187	£ 17,078,872	£ 44,063,333	£ 68,203,196	£ 49,204,713	£ 16,130,815
			40%	4,998		£ 42,777,849	£ 8,470,663	£ 62,374,298	£ 16,293,117	£ 17,333,246	£ 19,297,580	£ 47,271,428	£ 72,296,772	£ 52,599,983	£ 18,315,794
F		60	30%	5,006	50%	£ 45,828,822	£ 10,293,102	£ 66,116,817	£ 18,466,850	£ 19,483,940	£ 21,515,533	£ 50,480,482	£ 76,391,740	£ 55,996,486	£ 20,500,241
	Mid Rise, Lower Density		50%	3,688		£ 18,530,253	£ 2,107,767	£ 27,953,030	£ 5,868,182	£ 6,329,281	£ 7,294,697	£ 20,675,469	£ 32,649,804	£ 23,211,957	£ 6,824,422
			40%	3,698		£ 20,015,413	£ 3,002,122	£ 29,780,854	£ 6,908,233	£ 7,395,745	£ 8,367,584	£ 22,237,150	£ 34,647,963	£ 24,860,911	£ 7,882,247
G		40	30%	3,708	40%	£ 21,499,361	£ 3,877,587	£ 31,609,690	£ 7,932,505	£ 8,435,376	£ 9,436,693	£ 23,796,060	£ 36,647,495	£ 26,507,771	£ 8,936,887
	Mid Rise, Lower Density		50%	3,004		£ 19,842,250	£ 2,398,320	£ 29,850,339	£ 6,396,947	£ 6,890,494	£ 7,905,643	£ 22,125,882	£ 34,848,838	£ 24,831,577	£ 7,380,866
			40%	3,011		£ 21,424,654	£ 3,347,368	£ 31,730,226	£ 7,476,743	£ 7,983,810	£ 9,051,288	£ 23,791,440	£ 36,980,700	£ 26,595,961	£ 8,533,491
H		34	30%	3,020	34%	£ 23,007,967	£ 4,289,965	£ 33,669,575	£ 8,589,114	£ 9,125,444	£ 10,196,322	£ 25,458,029	£ 39,112,205	£ 28,361,607	£ 9,661,452
	Mid Rise, Lower Density		50%	2,430		£ 21,762,497	£ 2,700,856	£ 32,720,056	£ 7,081,082	£ 7,625,513	£ 8,707,168	£ 24,298,354	£ 38,227,355	£ 27,267,861	£ 8,167,758
			30%	2,453		£ 25,313,960	£ 4,801,206	£ 37,137,896	£ 9,501,433	£ 10,079,607	£ 11,292,511	£ 28,066,751	£ 43,072,627	£ 31,264,695	£ 10,703,200
I		25	20%	2,464	25%	£ 27,110,945	£ 5,859,747	£ 39,375,594	£ 10,718,193	£ 11,369,975	£ 12,590,874	£ 29,974,934	£ 45,525,952	£ 33,288,663	£ 11,980,612
	Low Rise, Lower Density		50%	1,378		£ 16,671,442	£ 4,410,707	£ 23,711,421	£ 7,222,252	£ 7,570,800	£ 8,264,709	£ 18,271,304	£ 27,221,412	£ 20,162,611	£ 7,918,344
			20%	1,398		£ 20,178,703	£ 6,489,850	£ 28,044,322	£ 9,604,001	£ 10,026,430	£ 10,811,189	£ 21,965,881	£ 31,966,263	£ 24,079,777	£ 10,418,901
J		15	10%	1,404	15%	£ 21,361,532	£ 7,189,321	£ 29,505,216	£ 10,444,484	£ 10,850,778	£ 11,662,751	£ 23,209,388	£ 33,565,308	£ 25,393,423	£ 11,256,881
	Low Rise, Lower Density		50%	839		£ 17,074,555	£ 4,641,455	£ 24,222,422	£ 7,491,596	£ 7,868,436	£ 8,580,939	£ 18,726,465	£ 27,768,492	£ 20,662,123	£ 8,224,803
			20%	844		£ 20,458,644	£ 6,697,747	£ 28,386,713	£ 9,862,697	£ 10,257,016	£ 11,044,489	£ 22,294,863	£ 32,320,152	£ 24,440,202	£ 10,650,969
			10%	846		£ 21,588,641	£ 7,378,373	£ 29,781,830	£ 10,649,942	£ 11,056,838	£ 11,869,304	£ 23,490,656	£ 33,844,837	£ 25,706,149	£ 11,463,313
K		9	0%	848	0%	£ 22,727,751	£ 8,062,609	£ 31,188,817	£ 11,443,517	£ 11,863,070	£ 12,700,712	£ 24,696,549	£ 35,382,611	£ 26,982,801	£ 12,282,156
	Low Rise, Lower Density		50%	1,291		£ 58,416,089	£ 25,538,471	£ 77,197,369	£ 33,092,500	£ 34,034,910	£ 35,919,119	£ 62,720,097	£ 86,712,160	£ 67,824,533	£ 34,977,128
			20%	1,935		£ 105,828,898	£ 50,031,242	£ 138,004,990	£ 62,793,963	£ 64,381,443	£ 67,549,158	£ 113,088,012	£ 154,009,094	£ 121,981,369	£ 65,966,573
L		5	10%	2,324	16%*	£ 134,646,973	£ 64,784,679	£ 174,629,907	£ 80,855,763	£ 82,856,993	£ 86,858,231	£ 143,795,786	£ 194,554,102	£ 154,654,017	£ 84,857,836

Green shading indicates, for each archetype, the highest affordable housing contribution viable under the sliding scale proposals at the highest existing use value range. Where an archetype is not viable at the highest existing use value under each test the next lowest existing use value is highlighted.

*Archetype L consists of 5 large dwellings with a combined GEA of 1,600 sq m, thus having a sliding scale target of 16%.

Figure 7.6: Sliding Scale Analysis for the Borough of Camden with Existing Use Values doubled – Affordable Housing Contribution Based on % Floorspace

Archetype	Description	Units	% AF Contribution To Be Tested	Gross External Area Sqm	Sliding Scale Target (%)	Bloomsbury and Holborn	Euston and Somerstown	Primrose Hill/Chalk Farm	Kentish Town	Camden Town	West Hampstead	Belsize Park	Hampstead Heath and Highgate	Frognal and Fitzjohn's	Clerkenwell and Hatton Garden
	Mid Rise, Higher Density		50%	4,989		£ 39,628,290	£ 6,637,740	£ 58,634,143	£ 14,207,525	£ 15,139,187	£ 17,078,872	£ 44,063,333	£ 68,203,196	£ 49,204,713	£ 16,130,815
			40%	4,998		£ 42,777,849	£ 8,470,663	£ 62,374,298	£ 16,293,117	£ 17,333,246	£ 19,297,580	£ 47,271,428	£ 72,296,772	£ 52,599,983	£ 18,315,794
F		60	30%	5,006	50%	£ 45,828,822	£ 10,293,102	£ 66,116,817	£ 18,466,850	£ 19,483,940	£ 21,515,533	£ 50,480,482	£ 76,391,740	£ 55,996,486	£ 20,500,241
	Mid Rise, Lower Density		50%	3,688		£ 18,530,253	£ 2,107,767	£ 27,953,030	£ 5,868,182	£ 6,329,281	£ 7,294,697	£ 20,675,469	£ 32,649,804	£ 23,211,957	£ 6,824,422
			40%	3,698		£ 20,015,413	£ 3,002,122	£ 29,780,854	£ 6,908,233	£ 7,395,745	£ 8,367,584	£ 22,237,150	£ 34,647,963	£ 24,860,911	£ 7,882,247
G		40	30%	3,708	40%	£ 21,499,361	£ 3,877,587	£ 31,609,690	£ 7,932,505	£ 8,435,376	£ 9,436,693	£ 23,796,060	£ 36,647,495	£ 26,507,771	£ 8,936,887
	Mid Rise, Lower Density		50%	3,004		£ 19,842,250	£ 2,398,320	£ 29,850,339	£ 6,396,947	£ 6,890,494	£ 7,905,643	£ 22,125,882	£ 34,848,838	£ 24,831,577	£ 7,380,866
			40%	3,011		£ 21,424,654	£ 3,347,368	£ 31,730,226	£ 7,476,743	£ 7,983,810	£ 9,051,288	£ 23,791,440	£ 36,980,700	£ 26,595,961	£ 8,533,491
H		34	30%	3,020	34%	£ 23,007,967	£ 4,289,965	£ 33,669,575	£ 8,589,114	£ 9,125,444	£ 10,196,322	£ 25,458,029	£ 39,112,205	£ 28,361,607	£ 9,661,452
	Mid Rise, Lower Density		50%	2,430		£ 21,762,497	£ 2,700,856	£ 32,720,056	£ 7,081,082	£ 7,625,513	£ 8,707,168	£ 24,298,354	£ 38,227,355	£ 27,267,861	£ 8,167,758
			30%	2,453		£ 25,313,960	£ 4,801,206	£ 37,137,896	£ 9,501,433	£ 10,079,607	£ 11,292,511	£ 28,066,751	£ 43,072,627	£ 31,264,695	£ 10,703,200
I		25	20%	2,464	25%	£ 27,110,945	£ 5,859,747	£ 39,375,594	£ 10,718,193	£ 11,369,975	£ 12,590,874	£ 29,974,934	£ 45,525,952	£ 33,288,663	£ 11,980,612
	Low Rise, Lower Density		50%	1,378		£ 16,671,442	£ 4,410,707	£ 23,711,421	£ 7,222,252	£ 7,570,800	£ 8,264,709	£ 18,271,304	£ 27,221,412	£ 20,162,611	£ 7,918,344
			20%	1,398		£ 20,178,703	£ 6,489,850	£ 28,044,322	£ 9,604,001	£ 10,026,430	£ 10,811,189	£ 21,965,881	£ 31,966,263	£ 24,079,777	£ 10,418,901
J		15	10%	1,404	15%	£ 21,361,532	£ 7,189,321	£ 29,505,216	£ 10,444,484	£ 10,850,778	£ 11,662,751	£ 23,209,388	£ 33,565,308	£ 25,393,423	£ 11,256,881
			50%	839		£ 17,074,555	£ 4,641,455	£ 24,222,422	£ 7,491,596	£ 7,868,436	£ 8,580,939	£ 18,726,465	£ 27,768,492	£ 20,662,123	£ 8,224,803
	Low Rise, Lower Density		20%	844		£ 20,458,644	£ 6,697,747	£ 28,386,713	£ 9,862,697	£ 10,257,016	£ 11,044,489	£ 22,294,863	£ 32,320,152	£ 24,440,202	£ 10,650,969
			10%	846		£ 21,588,641	£ 7,378,373	£ 29,781,830	£ 10,649,942	£ 11,056,838	£ 11,869,304	£ 23,490,656	£ 33,844,837	£ 25,706,149	£ 11,463,313
K		9	0%	848	0%	£ 22,727,751	£ 8,062,609	£ 31,188,817	£ 11,443,517	£ 11,863,070	£ 12,700,712	£ 24,696,549	£ 35,382,611	£ 26,982,801	£ 12,282,156
	Low Rise, Lower Density		50%	1,291		£ 58,416,089	£ 25,538,471	£ 77,197,369	£ 33,092,500	£ 34,034,910	£ 35,919,119	£ 62,720,097	£ 86,712,160	£ 67,824,533	£ 34,977,128
			20%	1,935		£ 105,828,898	£ 50,031,242	£ 138,004,990	£ 62,793,963	£ 64,381,443	£ 67,549,158	£ 113,088,012	£ 154,009,094	£ 121,981,369	£ 65,966,573
L		5	10%	2,324	16%*	£ 134,646,973	£ 64,784,679	£ 174,629,907	£ 80,855,763	£ 82,856,993	£ 86,858,231	£ 143,795,786	£ 194,554,102	£ 154,654,017	£ 84,857,836

Green shading indicates, for each archetype, the highest affordable housing contribution viable under the sliding scale proposals at the highest existing use value range. Where an archetype is not viable at the highest existing use value under each test the next lowest existing use value is highlighted.

*Archetype L consists of 5 large dwellings with a combined GEA of 1,600 sq m, thus having a sliding scale target of 16%.

Overall Conclusion

7.39.　There is a strong policy rationale for developing a sliding scale for application of affordable housing requirements. Without such a sliding scale there are very strong incentives for landowners and developers to manipulate development schemes to bring them in below the threshold at which affordable housing policies apply.　Seeking a small affordable housing requirement on small sites, ensures that there are incentives for developing small schemes just above the threshold, and will help to maintain development volumes, and discourage threshold abuse.

7.40.　The principle of a sliding scale is therefore sound.　However the way in which a sliding scale escalates to the point at which the highest rate of affordable housing provision is sought, can also have perverse effects on incentives, discouraging larger developments.　Put simply if the gradient is too steep, this deters development of larger schemes within the sliding scale range. The proposals put forward by LBC avoid this trap, ensuring that despite escalating affordable housing requirements, larger schemes always deliver more market housing for sale than small schemes.

7.41.　Testing of the application of the proposed sliding scale to those scheme archetypes to which would apply in Camden indicate that these schemes will be viable with the proposed level of affordable housing provision even where existing land values are generally high. The exception to this rule is in the Euston and Somerstown area where schemes would only be viable in terms of the affordable housing requirement associated with sliding scale, where land values at medium existing use values.

8. Sensitivity Analysis

8.1. The base case and sliding scale approach (documented in sections 5 and 7) is used to analyse the sensitivity of development viability to changes in the key modelling assumptions used under the base case.

8.2. The sensitivities examined in this section of the report are as follows:

1. Doubling the existing use value ranges

2. Using fixed average sales values for the 2005-2008 period with no inflation

3. An uplift of 50% on market unit build costs

4. Employing a higher target rate of return of 20%

5. The impact of removing grant payment on affordable units

6. The impact of paying capitalised rents plus grant for social rented units, rather than the assumed discount to open market value approach

7. Having the affordable housing mix set at 100% social rented (as opposed to the 60:40 split social rented:shared ownership under the base case).

8.3. These sensitivity tests are considered to be the most reasonable adjustments to make to the base case assumptions set out in section 4. They represent a more challenging environment for delivering affordable housing. Each of the changes to the assumptions has been considered separately in order to clearly identify their effects; however it is worth noting that were they to be combined then the impact would be far more damaging on viability.

8.4. The results of each of the sensitivities using the sliding scale approach are shown in Figures 8.1 to 8.7. Key points to emerge from the analysis are:

Sensitivity 1 – Doubling of Existing Use Values (Figure 8.1)

- Existing use values will vary significantly across the study area. Whilst we have used consistent existing use value ranges within the base case it is likely that in practice the existing use of certain sites, particularly in the prime areas, will exceed the specified ranges. The value of a site may also be inflated to an alternative development value where there is significant potential for a more intensive use other than residential (or for a residential scheme below the threshold). We have therefore modelled the impact on the results of doubling the highest existing use value ranges (so for example the wholly unviable range increases from £750,000 per hectare under the base case to £1.5m per hectare under this sensitivity and the highest exiting use value threshold increases from £5.75m per hectare to £11.5m per hectare).

- The results show that doubling the existing use value ranges does not fundamentally alter the pattern of viability in Camden, with prime areas continuing to remain viable at the new highest existing use value threshold (£11.5m).

- Viability in Kentish Town, Camden Town, West Hampstead and Clerkenwell and Hatton Garden is reduced, with many schemes in these areas only viable at the new medium existing use value range. In Euston and Somerstown many schemes are also now only viable at the new lower existing use values.

- However, it should be noted that increasing the existing use value ranges is generally more relevant to the highest priced and prime value areas and it is in these areas where viability remains unchanged by the higher existing use values. In the lower value areas the lower existing use value ranges under the base case will generally be the most relevant (though land values for alternative forms of uses will also have an impact on viability within these areas).

- The results imply that in the prime areas of Camden existing use values will need to be more than double the base case ranges in order to impact significantly on the economics of development viability.

Sensitivity 2 - Using Fixed Average Sales Values for the 2005-2008 Period With No Inflation (Figure 8.2)

- As set out in section 2 of the report, the modelling uses the average level of house price growth across the study area between 2005 and 2008 (43%) and applies it to our base 2005 values in each value area. Factoring house price inflation into the modelling has a material impact on the viability of larger schemes, especially in a rising market where phasing of units can be delayed to achieve higher sales values.

- It is therefore important to test a more conservative sales value position. This sensitivity does not apply any house price inflation but instead uses the average sales value achieved over the study period in each value area.

- The results show that using average values and no house price inflation does not have a significant impact upon the pattern of viability across Camden. The prime value areas especially remain unchanged with development being viable at high existing use values.

- Outside of these areas there are a small number of high rise and mid-rise schemes that now have reduced viability. These tend to be in the margins of viability under the base case and are located in Euston and Somerstown, Kentish Town, Camden Town, West Hampstead and Clerkenwell and Hatton Garden

Sensitivity 3 - An Uplift of 50% On Market Unit Build Costs (figure 8.3)

- Under the base case build costs on all mid and high rise schemes are uplifted by between 20% and 30% in order to reflect the higher costs of developments above 5 storeys (see section 4). Therefore, these schemes are affected the most by adding a further 50% to the build costs of private units.

- The results show that all of the high rise, high density sites in Euston and Somerstown, Kentish Town, Camden Town, West Hampstead and Clerkenwell and Hatton Garden become wholly unviable. The vast majority of the remaining schemes in these value

areas become less viable as well. In Euston and Somerstown only archetype L remains viable at a high existing use value.

- However, in the prime value areas all schemes remain viable at a high existing use value. This suggests that in the higher priced value areas of Camden build costs could rise significantly above those assumed under the base case without fundamentally undermining viability.

- This analysis also suggests that in a situation where there are rising build costs affordable housing contributions would need to be lowered on some sites (particularly high rise high density), though current building cost forecasts (such as those prepared by BCIS) anticipate that build costs will fall over coming years.

Sensitivity 4 – Employing a Higher Target Rate of Return of 20% (Figure 8.4)

- The focus of the base case modelling is on the residual value that sets a scheme's internal rate of return (IRR) to 15%. Increasing the target return causes residual values to fall as the additional margin must be funded out of land value.

- The sensitivity analysis suggests that increasing the target IRR to 20% has a relatively limited impact on the results. Although across Camden a decline in viability is evident compared with the base case (in terms of lower residual land values), the overall level of viability in each of value area remains broadly unchanged. There are a small number of sites in the non-prime areas that were marginally viable in the base case that become viable only at a lower existing use value.

- The sensitivity analysis therefore suggests that a higher target IRR of 20% does not have a significant effect on the results or the support they offer for proposed sliding scale policy in Camden.

Sensitivity 5 - The Impact of Removing Grant Payment on Affordable Units (Figure 8.5)

- The impact of removing grant payment is modelled as a sensitivity by increasing the discount to open market value assumed for affordable housing revenues.[1]

- Removing grant payment deteriorates viability across Camden in the non-prime areas. In Euston and Somerstown, Kentish Town, Camden Town, West Hampstead and Clerkenwell and Hatton Garden a number of high rise, high density and mid rise, low density schemes experience reduced viability. For these schemes lower contributions to affordable housing would be required if grant payments were not available.

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[1] As outlined in the modelling assumptions in Section 4, when no grant payment is made social rented revenues are assumed to amount to 40% of open market (£ psft) value and shared ownership revenues are assumed to amount to 60% of open market (£ psft) values of an equivalent market unit.

Sensitivity 6 – Impact of Paying Capitalised Rents[2] Plus Grant for Social Rented Units Rather Than the Assumed Discount to Open Market Value (Figure 8.6)

- In the current market conditions and with current constraints on funding it is possible that RSLs may be forced to move to paying the capital value of net rental income streams for social rented units. However, historically (and over the study period 2005 to 2008) RSLs have paid very much more than capitalised rents for affordable housing, at levels equivalent to the discount to open market value assumed under the base case (see section 4).

- It is also generally accepted that developers would be highly unlikely to deal at the values that capitalised RSL rents plus grant equate to. For example, in Hampstead Heath and Highgate the value of a two bed social rented flat is only 26% of the value of the equivalent private rented unit using this method of valuation. In Euston and Somerstown, where sales values and viability is lowest under the base case, the value is still only 45% of the private rented unit's value.

- These values are notably lower than our base case assumption (under the base case the value of social rented units with grant is 60% of the value of private units). Nevertheless, it is useful to highlight the impact of affordable revenues being valued on the basis of capitalised RSL target rents plus grant.

- In Euston and Somerstown, Kentish Town, Camden Town, West Hampstead and Clerkenwell and Hatton Garden the impact on viability is significant. Development of all 'High Rise, High Density' archetypes (A-C) becomes wholly unviable.

- In Kentish Town, Camden Town, West Hampstead and Clerkenwell and Hatton Garden the majority of the remaining archetypes move to being viable only at low or medium existing use values. In Euston and Somerstown all developments are wholly unviable apart from the low rise schemes.

- However, development across the rest of Camden remains viable at high existing use values under this sensitivity.

- The implication is that if RSLs move to paying only the capitalised rents plus grant for social rented units in the future, schemes across a large part of the study area would need to make a smaller affordable housing contribution in order to remain economically viable at a high existing use value.

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[2] Target RSL rents have been taken from Dataspring for each Borough and capitalised at an 8% yield. This is slightly higher than the 7% used in the GLA toolkit (7%) to capitalise net rents. Using this higher yield compensates for the target rents being marginally higher than net rents. Grant payment is assumed at £100,000 per unit.

Sensitivity 7 - Having the Affordable Housing Mix Set at 100% Social Rented (As Opposed to the 60:40 Split Social Rented:Shared Ownership Under the Base Case) (Figure 8.7)

- Altering the assumed affordable housing mix to comprise 100% social rented units has a limited impact on viability in Camden. As with sensitivity 4 there are a small number of sites located in the non-prime areas that were marginally viable in the base case, but are now viable at a lower existing use value than before.

Figure 8.1: Sensitivity 1 - Doubling the existing use value ranges

Archetype	Description	Units	AH %	Bloomsbury and Holborn	Euston and Somerstown	Primrose Hill/Chalk Farm	Kentish Town	Camden Town	West Hampstead	Belsize Park	Hampstead Heath and Highgate	Frognal and Fitzjohn's	Clerkenwell and Hatton Garden	Average
A			50%	£ 44,154,426	£ -	£ 75,323,940	£ 2,182,851	£ 3,753,312	£ 6,853,298	£ 51,376,783	£ 91,153,112	£ 59,847,877	£ 5,319,993	£ 33,850,671
A	High Rise, High Density	138	40%	£ 55,375,322	£ -	£ 89,289,830	£ 9,818,748	£ 11,467,190	£ 14,917,246	£ 63,101,722	£ 106,200,739	£ 72,232,800	£ 13,227,302	£ 43,417,201
A			30%	£ 66,663,122	£ 2,904,311	£ 103,248,997	£ 17,565,653	£ 19,341,005	£ 23,070,476	£ 74,953,505	£ 121,443,150	£ 84,722,522	£ 21,247,422	£ 53,516,016
B			50%	£ 50,223,295	£ -	£ 83,454,695	£ 5,570,765	£ 7,212,349	£ 10,561,351	£ 57,924,212	£ 100,269,896	£ 66,947,860	£ 8,819,389	£ 38,921,779
B	High Rise, High Density	114	40%	£ 60,377,081	£ -	£ 96,069,938	£ 12,403,214	£ 14,231,228	£ 17,787,116	£ 68,518,679	£ 113,883,624	£ 78,152,986	£ 16,011,386	£ 47,566,923
B			30%	£ 70,575,288	£ 4,174,044	£ 108,688,473	£ 19,401,332	£ 21,287,024	£ 25,135,040	£ 79,242,261	£ 127,685,247	£ 89,477,771	£ 23,127,700	£ 56,879,418
C			50%	£ 56,902,665	£ -	£ 90,095,052	£ 12,380,588	£ 14,030,497	£ 17,364,404	£ 64,380,517	£ 106,496,158	£ 73,560,324	£ 15,646,520	£ 44,845,998
C	High Rise, High Density	84	40%	£ 64,049,784	£ 3,440,368	£ 98,903,574	£ 17,396,434	£ 19,133,436	£ 22,593,373	£ 72,131,749	£ 116,418,689	£ 81,572,054	£ 20,866,304	£ 51,650,577
C			30%	£ 70,575,288	£ 4,174,044	£ 108,688,473	£ 19,401,332	£ 21,287,024	£ 25,135,040	£ 79,242,261	£ 127,685,247	£ 89,477,771	£ 23,127,700	£ 56,879,418
D			50%	£ 30,663,657	£ 2,206,248	£ 46,991,448	£ 8,734,603	£ 9,542,186	£ 11,141,921	£ 34,386,770	£ 55,139,651	£ 38,795,351	£ 10,345,009	£ 24,794,684
D	Mid Rise, Higher Density	105	40%	£ 35,170,012	£ 4,933,585	£ 52,526,386	£ 11,821,050	£ 12,741,731	£ 14,468,585	£ 39,117,501	£ 61,178,882	£ 43,780,528	£ 13,606,242	£ 28,934,450
D			30%	£ 39,668,782	£ 7,656,851	£ 58,062,237	£ 14,998,384	£ 15,908,435	£ 17,716,694	£ 43,835,136	£ 67,217,369	£ 48,748,602	£ 16,814,769	£ 33,062,726
E			50%	£ 38,840,533	£ 4,927,200	£ 58,293,063	£ 12,697,755	£ 13,649,713	£ 15,641,578	£ 43,275,369	£ 68,004,566	£ 48,526,320	£ 14,670,734	£ 31,852,683
E	Mid Rise, Higher Density	75	40%	£ 42,769,346	£ 7,233,612	£ 63,165,872	£ 15,393,532	£ 16,411,528	£ 18,444,609	£ 47,416,209	£ 73,345,423	£ 52,917,266	£ 17,428,650	£ 35,452,605
E			30%	£ 46,754,129	£ 9,503,956	£ 68,107,124	£ 18,096,227	£ 19,158,284	£ 21,272,590	£ 51,616,066	£ 78,759,308	£ 57,364,865	£ 20,217,287	£ 39,084,984
F			50%	£ 39,628,290	£ 6,637,740	£ 58,634,143	£ 14,207,525	£ 15,139,187	£ 17,078,872	£ 44,063,333	£ 68,203,196	£ 49,204,713	£ 16,130,815	£ 32,892,781
F	Mid Rise, Higher Density	60	40%	£ 42,777,849	£ 8,470,663	£ 62,374,298	£ 16,293,117	£ 17,333,246	£ 19,297,580	£ 47,271,428	£ 72,296,772	£ 52,599,983	£ 18,315,794	£ 35,703,073
F			30%	£ 45,828,822	£ 10,293,102	£ 66,116,817	£ 18,466,850	£ 19,483,940	£ 21,515,533	£ 50,480,482	£ 76,391,740	£ 55,996,486	£ 20,500,241	£ 38,507,401
G			50%	£ 18,530,253	£ 2,107,767	£ 27,953,030	£ 5,868,182	£ 6,329,281	£ 7,294,697	£ 20,675,469	£ 32,649,804	£ 23,211,957	£ 6,824,422	£ 15,144,486
G	Mid Rise, Lower Density	40	40%	£ 20,015,413	£ 3,002,122	£ 29,780,854	£ 6,908,233	£ 7,395,745	£ 8,367,584	£ 22,237,150	£ 34,467,963	£ 24,860,911	£ 7,882,247	£ 16,509,822
G			30%	£ 21,499,361	£ 3,877,587	£ 31,609,690	£ 7,932,505	£ 8,435,376	£ 9,436,693	£ 23,796,060	£ 36,647,495	£ 26,507,771	£ 8,936,887	£ 17,867,942
H			50%	£ 19,842,250	£ 2,398,320	£ 29,850,339	£ 6,396,947	£ 6,890,494	£ 7,905,643	£ 22,125,882	£ 34,848,838	£ 24,831,577	£ 7,380,866	£ 16,247,116
H	Mid Rise, Lower Density	34	40%	£ 21,424,654	£ 3,347,368	£ 31,730,226	£ 7,476,743	£ 7,983,810	£ 9,051,288	£ 23,791,440	£ 36,980,700	£ 26,595,961	£ 8,533,491	£ 17,691,568
H			30%	£ 23,007,967	£ 4,289,965	£ 33,669,575	£ 8,589,114	£ 9,125,444	£ 10,196,322	£ 25,458,029	£ 39,112,205	£ 28,361,607	£ 9,661,452	£ 19,147,168
I			30%	£ 25,313,960	£ 4,801,206	£ 37,137,896	£ 9,501,433	£ 10,079,607	£ 11,292,511	£ 28,066,751	£ 43,072,627	£ 31,264,695	£ 10,703,200	£ 21,123,389
I	Mid Rise, Lower Density	25	20%	£ 27,110,945	£ 5,859,747	£ 39,375,594	£ 10,718,193	£ 11,369,975	£ 12,590,874	£ 29,974,934	£ 45,525,952	£ 33,288,663	£ 11,980,612	£ 22,779,549
I			10%	£ 28,997,643	£ 6,934,585	£ 41,613,628	£ 11,997,586	£ 12,629,630	£ 13,891,449	£ 31,888,731	£ 47,986,078	£ 35,318,646	£ 13,261,295	£ 24,451,927
J	Low Rise, Lower Density	15	20%	£ 20,178,703	£ 6,489,850	£ 28,044,322	£ 9,604,001	£ 10,026,430	£ 10,811,189	£ 21,965,881	£ 31,966,263	£ 24,079,777	£ 10,418,901	£ 17,358,532
J			10%	£ 21,361,532	£ 7,189,321	£ 29,505,216	£ 10,444,484	£ 10,850,778	£ 11,662,751	£ 23,209,388	£ 33,565,308	£ 25,393,423	£ 11,256,881	£ 18,443,908
K	Low Rise, Lower Density	9	10%	£ 21,588,641	£ 7,378,373	£ 29,781,830	£ 10,649,942	£ 11,056,838	£ 11,869,304	£ 23,490,656	£ 33,844,837	£ 25,706,149	£ 11,463,313	£ 18,682,988
K			0%	£ 22,563,526	£ 7,900,533	£ 30,993,046	£ 11,269,876	£ 11,690,057	£ 12,529,666	£ 24,473,559	£ 35,193,906	£ 26,730,673	£ 12,110,002	£ 19,545,484
L	Low Rise, Lower Density	5	20%	£ 105,828,898	£ 50,031,242	£ 138,004,990	£ 62,793,963	£ 64,381,443	£ 67,549,158	£ 113,088,012	£ 154,009,094	£ 121,981,369	£ 65,966,573	£ 94,363,474
L			10%	£ 134,646,973	£ 64,784,679	£ 174,629,907	£ 80,855,763	£ 82,856,993	£ 86,858,231	£ 143,795,786	£ 194,554,102	£ 154,654,017	£ 84,857,836	£ 120,249,429

Figure 8.2: Sensitivity 2 - Using Fixed Average Sales Values for the 2005-2008 Period With No Inflation

Archetype	Description	Units	AH %	Bloomsbury and Holborn	Euston and Somerstown	Primrose Hill/Chalk Farm	Kentish Town	Camden Town	West Hampstead	Belsize Park	Hampstead Heath and Highgate	Frognal and Fitzjohn's	Clerkenwell and Hatton Garden	Average
A			50%	£ 38,391,343	£ -	£ 60,079,825	£ -	£ 329,218	£ 2,869,812	£ 39,966,561	£ 73,014,866	£ 46,962,473	£ 1,607,043	£ 26,030,336
A	High Rise, High Density	138	40%	£ 64,036,939	£ -	£ 88,432,925	£ 9,199,707	£ 10,844,256	£ 14,260,879	£ 62,276,353	£ 105,229,802	£ 71,459,153	£ 12,580,894	£ 43,686,202
A			30%	£ 73,026,059	£ 1,512,774	£ 100,642,280	£ 15,938,130	£ 17,720,278	£ 21,355,925	£ 72,625,620	£ 118,571,553	£ 82,375,574	£ 19,461,603	£ 52,322,980
B			50%	£ 43,615,972	£ -	£ 65,587,569	£ 1,837,025	£ 3,165,144	£ 5,941,816	£ 44,589,360	£ 79,116,939	£ 51,913,452	£ 4,572,606	£ 29,857,386
B	High Rise, High Density	114	40%	£ 73,354,780	£ 255,941	£ 100,487,316	£ 14,833,647	£ 16,648,737	£ 20,256,749	£ 72,205,953	£ 118,652,917	£ 82,135,822	£ 18,457,283	£ 51,728,914
B			30%	£ 79,523,290	£ 5,431,846	£ 111,630,177	£ 20,914,693	£ 22,788,473	£ 26,736,551	£ 81,647,271	£ 130,843,035	£ 92,108,767	£ 24,814,038	£ 59,643,814
C			50%	£ 24,608,579	£ -	£ 69,966,637	£ 8,216,879	£ 9,501,035	£ 12,180,865	£ 49,627,226	£ 83,121,520	£ 56,743,145	£ 10,866,686	£ 32,243,583
C	High Rise, High Density	84	40%	£ 37,963,420	£ 8,897,800	£ 109,895,579	£ 23,607,149	£ 25,414,354	£ 29,174,768	£ 81,622,070	£ 128,566,561	£ 91,701,636	£ 27,336,209	£ 56,417,955
C			30%	£ 79,523,290	£ 5,431,846	£ 111,630,177	£ 20,914,693	£ 22,788,473	£ 26,736,551	£ 81,647,271	£ 130,843,035	£ 92,108,767	£ 24,814,038	£ 59,643,814
D			50%	£ 30,674,094	£ 1,550,318	£ 37,848,330	£ 6,825,876	£ 7,527,053	£ 8,843,503	£ 27,595,049	£ 44,399,771	£ 31,250,679	£ 8,186,123	£ 20,470,080
D	Mid Rise, Higher Density	105	40%	£ 49,101,890	£ 6,546,924	£ 55,922,147	£ 13,748,898	£ 14,639,465	£ 16,408,871	£ 41,964,900	£ 64,850,827	£ 46,962,077	£ 15,526,402	£ 32,567,240
D			30%	£ 52,495,321	£ 8,961,357	£ 60,802,416	£ 16,479,079	£ 17,404,190	£ 19,338,257	£ 46,110,030	£ 70,174,253	£ 51,394,309	£ 18,323,663	£ 36,148,288
E			50%	£ 31,435,137	£ 4,081,927	£ 45,957,220	£ 10,190,384	£ 10,950,010	£ 12,461,817	£ 34,126,113	£ 53,547,693	£ 38,336,469	£ 11,707,356	£ 25,279,413
E	Mid Rise, Higher Density	75	40%	£ 51,166,081	£ 11,030,041	£ 70,896,093	£ 19,726,614	£ 20,800,847	£ 23,011,719	£ 53,957,692	£ 81,735,821	£ 60,024,292	£ 21,869,334	£ 41,421,853
E			30%	£ 53,567,590	£ 12,973,327	£ 75,111,425	£ 21,988,112	£ 23,094,595	£ 25,419,811	£ 57,535,053	£ 86,358,682	£ 63,831,057	£ 24,291,492	£ 44,417,114
F			50%	£ 14,387,937	£ 5,741,239	£ 46,175,176	£ 11,653,160	£ 12,386,710	£ 13,847,789	£ 34,786,618	£ 53,524,164	£ 38,746,375	£ 13,118,416	£ 24,436,758
F	Mid Rise, Higher Density	60	40%	£ 25,346,329	£ 13,515,056	£ 72,695,946	£ 22,114,293	£ 23,180,292	£ 25,302,881	£ 55,983,940	£ 83,433,785	£ 61,848,329	£ 24,243,320	£ 40,766,417
F			30%	£ 26,469,281	£ 14,942,615	£ 75,647,788	£ 23,769,126	£ 24,861,949	£ 27,031,865	£ 58,511,186	£ 86,665,136	£ 64,532,331	£ 25,951,212	£ 42,838,249
G			50%	£ 15,442,728	£ 1,676,662	£ 21,698,028	£ 4,597,051	£ 4,960,402	£ 5,683,794	£ 16,033,862	£ 25,312,700	£ 18,056,722	£ 5,322,739	£ 11,878,469
G	Mid Rise, Lower Density	40	40%	£ 27,117,260	£ 6,229,694	£ 36,311,278	£ 10,624,378	£ 11,170,799	£ 12,262,361	£ 27,860,128	£ 41,814,932	£ 30,864,779	£ 11,716,832	£ 21,597,244
G			30%	£ 28,321,637	£ 6,888,992	£ 37,702,697	£ 11,395,858	£ 11,955,221	£ 13,072,615	£ 29,045,090	£ 43,249,307	£ 32,122,246	£ 12,514,176	£ 22,626,784
H			50%	£ 35,727,829	£ 1,923,004	£ 23,199,031	£ 5,038,019	£ 5,424,768	£ 6,195,943	£ 17,202,415	£ 27,060,279	£ 19,277,972	£ 5,810,823	£ 14,686,008
H	Mid Rise, Lower Density	34	40%	£ 64,420,096	£ 6,783,853	£ 38,756,585	£ 11,425,569	£ 11,996,065	£ 13,187,776	£ 29,708,081	£ 44,542,023	£ 32,952,134	£ 12,607,100	£ 26,637,928
H			30%	£ 81,199,053	£ 7,488,567	£ 40,238,802	£ 12,239,610	£ 12,821,781	£ 14,052,226	£ 30,977,934	£ 46,167,030	£ 34,293,892	£ 13,457,700	£ 29,293,659
I			30%	£ 31,222,503	£ 8,324,398	£ 44,313,554	£ 13,556,608	£ 14,206,354	£ 15,497,941	£ 34,155,582	£ 50,847,268	£ 37,728,951	£ 14,854,219	£ 26,470,738
I	Mid Rise, Lower Density	25	20%	£ 32,620,653	£ 9,128,754	£ 46,047,427	£ 14,497,659	£ 15,161,155	£ 16,480,170	£ 35,630,590	£ 52,749,664	£ 39,299,673	£ 15,822,119	£ 27,743,786
I			10%	£ 34,022,869	£ 9,934,217	£ 47,785,771	£ 15,437,556	£ 16,115,831	£ 17,463,875	£ 37,109,714	£ 54,656,792	£ 40,869,871	£ 16,791,384	£ 29,018,788
J	Low Rise, Lower Density	15	20%	£ 23,652,811	£ 8,583,286	£ 32,299,748	£ 12,038,669	£ 12,467,638	£ 13,323,799	£ 25,627,108	£ 36,588,991	£ 27,996,867	£ 12,896,042	£ 20,547,496
J			10%	£ 24,568,923	£ 9,114,723	£ 33,436,551	£ 12,661,421	£ 13,101,134	£ 13,978,817	£ 26,594,271	£ 37,836,892	£ 29,024,048	£ 13,540,291	£ 21,385,707
K	Low Rise, Lower Density	9	10%	£ 24,868,049	£ 9,332,962	£ 33,714,033	£ 12,865,954	£ 13,304,561	£ 14,178,749	£ 26,862,868	£ 38,105,142	£ 29,298,277	£ 13,742,192	£ 21,627,279
K			0%	£ 25,735,969	£ 9,852,026	£ 34,784,545	£ 13,463,971	£ 13,912,576	£ 14,806,951	£ 27,775,795	£ 39,281,495	£ 30,266,537	£ 14,360,269	£ 22,424,013
L	Low Rise, Lower Density	5	20%	£ 119,936,404	£ 58,405,730	£ 155,014,512	£ 72,503,916	£ 74,259,325	£ 77,769,239	£ 127,836,654	£ 172,497,924	£ 137,488,041	£ 76,014,445	£ 107,172,619
L			10%	£ 150,347,938	£ 74,120,897	£ 193,669,391	£ 91,642,525	£ 93,811,796	£ 98,147,495	£ 160,114,365	£ 215,209,033	£ 172,038,663	£ 95,980,155	£ 134,508,226

Figure 8.3: Sensitivity 3 - An Uplift of 50% On Market Unit Build Costs

Archetype	Description	Units	AH %	Bloomsbury and Holborn	Euston and Somerstown	Primrose Hill/Chalk Farm	Kentish Town	Camden Town	West Hampstead	Belsize Park	Hampstead Heath and Highgate	Frognal and Fitzjohn's	Clerkenwell and Hatton Garden	Average
A			50%	£ 28,871,292	£ -	£ 54,850,535	£ -	£ -	£ -	£ 30,595,521	£ 70,408,790	£ 39,188,903	£ -	£ 21,662,060
A	High Rise, High Density	138	40%	£ 34,448,163	£ -	£ 64,321,985	£ -	£ -	£ -	£ 38,178,682	£ 81,109,745	£ 47,307,966	£ -	£ 25,807,210
A			30%	£ 40,071,163	£ -	£ 73,915,889	£ -	£ -	£ -	£ 45,723,662	£ 91,930,764	£ 55,459,189	£ -	£ 29,980,623
B			50%	£ 37,413,708	£ -	£ 62,209,134	£ -	£ -	£ -	£ 36,512,170	£ 78,784,595	£ 45,528,087	£ -	£ 25,161,758
B	High Rise, High Density	114	40%	£ 40,634,525	£ -	£ 70,209,649	£ -	£ -	£ -	£ 42,684,084	£ 87,924,825	£ 52,324,904	£ -	£ 28,494,787
B			30%	£ 43,852,153	£ -	£ 78,319,819	£ -	£ -	£ -	£ 48,942,078	£ 97,183,463	£ 59,164,055	£ -	£ 31,863,145
C			50%	£ 21,584,223	£ -	£ 70,660,473	£ -	£ -	£ -	£ 45,048,283	£ 87,222,070	£ 54,031,207	£ -	£ 26,656,253
C	High Rise, High Density	84	40%	£ 24,234,717	£ -	£ 75,541,571	£ -	£ -	£ -	£ 48,667,910	£ 92,917,201	£ 58,089,320	£ -	£ 28,746,699
C			30%	£ 43,852,153	£ -	£ 78,319,819	£ -	£ -	£ -	£ 48,942,078	£ 97,183,463	£ 59,164,055	£ -	£ 31,863,145
D			50%	£ 28,244,710	£ -	£ 37,896,019	£ -	£ 481,309	£ 2,113,745	£ 25,290,192	£ 45,958,729	£ 29,754,606	£ 1,297,259	£ 16,911,917
D	Mid Rise, Higher Density	105	40%	£ 29,984,412	£ -	£ 41,564,645	£ 934,714	£ 1,776,005	£ 3,543,153	£ 28,166,270	£ 50,277,980	£ 32,923,948	£ 2,661,613	£ 19,087,404
D			30%	£ 31,749,308	£ -	£ 45,231,650	£ 2,222,006	£ 3,142,586	£ 4,942,327	£ 31,031,150	£ 54,476,577	£ 36,092,703	£ 4,050,090	£ 21,197,970
E			50%	£ 29,929,076	£ -	£ 47,679,421	£ 2,108,329	£ 3,100,461	£ 5,037,468	£ 32,656,250	£ 57,308,813	£ 37,979,975	£ 4,081,525	£ 21,853,914
E	Mid Rise, Higher Density	75	40%	£ 30,992,164	£ -	£ 50,365,369	£ 2,612,940	£ 3,612,661	£ 5,642,739	£ 34,611,127	£ 60,466,438	£ 40,191,887	£ 4,647,121	£ 23,180,027
E			30%	£ 32,055,568	£ -	£ 53,083,726	£ 3,092,833	£ 4,164,727	£ 6,255,121	£ 36,594,440	£ 63,652,101	£ 42,298,350	£ 5,218,751	£ 24,507,344
F			50%	£ 13,597,378	£ -	£ 48,908,390	£ 4,397,204	£ 5,378,941	£ 7,284,479	£ 34,251,453	£ 58,352,572	£ 39,350,780	£ 6,301,822	£ 21,614,530
F	Mid Rise, Higher Density	60	40%	£ 14,079,140	£ -	£ 50,668,939	£ 4,530,381	£ 5,542,562	£ 7,518,553	£ 35,475,054	£ 60,470,804	£ 40,768,934	£ 6,501,317	£ 22,387,796
F			30%	£ 14,560,607	£ -	£ 52,429,415	£ 4,649,724	£ 5,706,262	£ 7,752,604	£ 36,698,802	£ 62,586,959	£ 42,186,469	£ 6,700,602	£ 23,159,372
G			50%	£ 14,583,316	£ -	£ 23,006,336	£ 941,727	£ 1,423,041	£ 2,358,688	£ 15,725,934	£ 27,738,718	£ 18,316,803	£ 1,896,741	£ 10,487,282
G	Mid Rise, Lower Density	40	40%	£ 15,092,141	£ -	£ 23,830,217	£ 961,507	£ 1,460,112	£ 2,430,184	£ 16,290,881	£ 28,732,919	£ 18,968,588	£ 1,950,354	£ 10,859,842
G			30%	£ 15,601,125	£ -	£ 24,654,453	£ 981,143	£ 1,495,002	£ 2,501,505	£ 16,854,074	£ 29,727,573	£ 19,619,900	£ 2,003,978	£ 11,232,027
H			50%	£ 20,478,179	£ -	£ 24,584,591	£ 1,134,034	£ 1,644,468	£ 2,642,603	£ 16,858,002	£ 29,548,997	£ 19,590,457	£ 2,148,938	£ 11,717,138
H	Mid Rise, Lower Density	34	40%	£ 30,261,498	£ -	£ 25,461,463	£ 1,151,839	£ 1,680,614	£ 2,714,975	£ 17,452,494	£ 30,617,451	£ 20,235,964	£ 2,202,623	£ 13,032,003
H			30%	£ 41,078,772	£ -	£ 26,337,253	£ 1,169,483	£ 1,716,601	£ 2,787,289	£ 18,046,732	£ 31,676,140	£ 20,934,583	£ 2,256,346	£ 14,454,431
I			30%	£ 13,451,576	£ -	£ 24,418,133	£ -	£ -	£ 350,221	£ 15,942,479	£ 29,932,564	£ 18,946,426	£ -	£ 9,514,624
I	Mid Rise, Lower Density	25	20%	£ 15,239,883	£ -	£ 26,900,398	£ -	£ 146,235	£ 1,311,907	£ 17,873,191	£ 32,775,657	£ 21,090,084	£ 728,081	£ 11,211,786
I			10%	£ 18,241,404	£ -	£ 30,872,813	£ 1,289,853	£ 1,923,282	£ 3,188,577	£ 21,181,814	£ 37,270,711	£ 24,607,260	£ 2,549,472	£ 13,915,140
J	Low Rise, Lower Density	15	20%	£ 13,561,621	£ 479,715	£ 21,071,243	£ 3,481,593	£ 3,847,273	£ 4,612,170	£ 15,264,721	£ 24,800,561	£ 17,323,366	£ 4,237,617	£ 10,867,988
J			10%	£ 15,653,906	£ 1,487,281	£ 23,792,581	£ 4,747,051	£ 5,152,234	£ 5,959,465	£ 17,488,681	£ 27,813,315	£ 19,740,498	£ 5,556,461	£ 12,739,147
K	Low Rise, Lower Density	9	10%	£ 15,973,471	£ 1,733,543	£ 24,088,320	£ 4,998,689	£ 5,403,357	£ 6,228,915	£ 17,837,765	£ 28,224,476	£ 20,046,525	£ 5,803,788	£ 13,033,885
K			0%	£ 16,476,523	£ 1,780,943	£ 24,855,353	£ 5,151,092	£ 5,568,669	£ 6,420,076	£ 18,400,581	£ 29,120,333	£ 20,680,564	£ 5,978,368	£ 13,443,250
L	Low Rise, Lower Density	5	20%	£ 99,330,376	£ 46,023,443	£ 129,996,362	£ 58,238,065	£ 59,760,519	£ 62,801,133	£ 106,285,847	£ 145,287,595	£ 114,519,552	£ 61,281,589	£ 88,352,448
L			10%	£ 115,304,060	£ 45,511,525	£ 155,433,496	£ 61,582,019	£ 63,578,513	£ 67,565,992	£ 124,390,857	£ 175,427,918	£ 135,136,764	£ 65,573,262	£ 100,950,441

Figure 8.4: Sensitivity 4 - Employing a Higher Target Rate of Return of 20%

Archetype	Description	Units	AH %	Bloomsbury and Holborn	Euston and Somerstown	Primrose Hill/Chalk Farm	Kentish Town	Camden Town	West Hampstead	Belsize Park	Hampstead Heath and Highgate	Frognal and Fitzjohn's	Clerkenwell and Hatton Garden	Average
A			50%	£ 41,729,189	£ -	£ 63,520,419	£ -	£ -	£ 2,704,510	£ 42,121,688	£ 77,442,978	£ 49,708,778	£ 1,360,269	£ 27,567,005
A	High Rise, High Density	138	40%	£ 50,049,345	£ -	£ 74,867,861	£ 4,931,222	£ 6,405,972	£ 9,408,124	£ 51,947,588	£ 89,978,395	£ 60,047,986	£ 7,853,523	£ 35,403,113
A			30%	£ 58,428,408	£ -	£ 86,651,298	£ 11,303,588	£ 12,966,898	£ 16,167,811	£ 61,839,706	£ 102,690,587	£ 70,507,936	£ 14,569,259	£ 43,366,660
B			50%	£ 48,663,146	£ -	£ 71,509,342	£ 1,700,329	£ 3,147,855	£ 6,185,628	£ 48,484,667	£ 86,463,072	£ 56,653,155	£ 4,683,797	£ 32,572,497
B	High Rise, High Density	114	40%	£ 54,563,006	£ -	£ 81,792,306	£ 7,392,268	£ 8,927,264	£ 12,149,367	£ 57,204,699	£ 97,807,017	£ 66,002,990	£ 10,591,799	£ 39,466,469
B			30%	£ 60,455,903	£ -	£ 92,183,714	£ 13,135,360	£ 14,890,316	£ 18,257,618	£ 66,327,520	£ 109,312,527	£ 75,470,454	£ 16,576,013	£ 46,484,340
C			50%	£ 26,108,893	£ -	£ 78,712,851	£ 8,296,322	£ 9,751,425	£ 12,815,584	£ 55,488,720	£ 93,646,157	£ 63,709,348	£ 11,319,310	£ 35,745,187
C	High Rise, High Density	84	40%	£ 29,922,885	£ -	£ 85,967,359	£ 12,425,781	£ 13,987,592	£ 17,140,027	£ 61,672,774	£ 101,558,721	£ 70,299,376	£ 15,520,122	£ 40,609,789
C			30%	£ 60,455,903	£ -	£ 92,183,714	£ 13,135,360	£ 14,890,316	£ 18,257,618	£ 66,327,520	£ 109,312,527	£ 75,470,454	£ 16,576,013	£ 46,484,340
D			50%	£ 33,736,160	£ 588,125	£ 40,786,748	£ 6,439,266	£ 7,200,337	£ 8,659,810	£ 29,525,488	£ 48,182,286	£ 33,499,761	£ 7,931,251	£ 21,654,923
D	Mid Rise, Higher Density	105	40%	£ 37,042,128	£ 2,855,986	£ 45,345,076	£ 9,059,072	£ 9,826,985	£ 11,349,616	£ 33,467,691	£ 53,211,629	£ 37,667,889	£ 10,590,794	£ 25,041,687
D			30%	£ 40,306,008	£ 5,115,731	£ 50,061,585	£ 11,626,791	£ 12,489,929	£ 14,122,543	£ 37,406,861	£ 58,242,027	£ 41,825,415	£ 13,307,028	£ 28,450,392
E			50%	£ 34,947,410	£ 3,026,860	£ 51,406,236	£ 10,101,671	£ 10,979,120	£ 12,721,235	£ 37,857,790	£ 60,314,790	£ 42,640,166	£ 11,852,698	£ 27,584,798
E	Mid Rise, Higher Density	75	40%	£ 37,395,299	£ 4,886,045	£ 55,392,064	£ 12,260,638	£ 13,168,805	£ 15,044,454	£ 41,252,127	£ 64,700,425	£ 46,243,271	£ 14,071,175	£ 30,441,430
E			30%	£ 39,843,051	£ 6,790,003	£ 59,430,380	£ 14,436,343	£ 15,445,216	£ 17,365,233	£ 44,695,093	£ 69,147,499	£ 49,898,172	£ 16,405,542	£ 33,345,653
F			50%	£ 16,360,223	£ 4,725,872	£ 52,312,448	£ 11,668,615	£ 12,531,694	£ 14,246,920	£ 38,953,598	£ 60,905,340	£ 43,661,417	£ 13,391,457	£ 26,875,758
F	Mid Rise, Higher Density	60	40%	£ 17,563,883	£ 6,173,574	£ 55,333,482	£ 13,364,569	£ 14,250,795	£ 16,008,997	£ 41,542,024	£ 64,209,985	£ 46,401,983	£ 15,132,568	£ 28,998,186
F			30%	£ 18,768,221	£ 7,684,850	£ 58,356,006	£ 15,054,700	£ 15,963,137	£ 17,853,752	£ 44,131,252	£ 67,517,102	£ 49,143,484	£ 16,930,351	£ 31,140,286
G			50%	£ 17,501,870	£ 1,239,913	£ 25,035,294	£ 4,710,012	£ 5,140,418	£ 5,994,548	£ 18,339,354	£ 29,366,671	£ 20,683,562	£ 5,568,789	£ 13,358,043
G	Mid Rise, Lower Density	40	40%	£ 18,777,255	£ 1,956,868	£ 26,518,355	£ 5,533,692	£ 5,975,408	£ 6,884,233	£ 19,606,795	£ 30,988,874	£ 22,026,889	£ 6,414,549	£ 14,468,292
G			30%	£ 20,053,365	£ 2,656,478	£ 28,002,108	£ 6,354,862	£ 6,807,561	£ 7,754,018	£ 20,873,966	£ 32,612,087	£ 23,366,502	£ 7,293,576	£ 15,577,452
H			50%	£ 38,887,547	£ 1,474,237	£ 26,715,980	£ 5,162,298	£ 5,621,210	£ 6,534,168	£ 19,640,734	£ 31,355,044	£ 22,136,976	£ 6,078,678	£ 16,360,687
H	Mid Rise, Lower Density	34	40%	£ 53,066,826	£ 2,239,422	£ 28,297,766	£ 6,041,738	£ 6,513,444	£ 7,450,255	£ 20,991,453	£ 33,085,475	£ 23,568,488	£ 6,983,114	£ 18,823,798
H			30%	£ 68,748,105	£ 2,988,059	£ 29,880,751	£ 6,919,043	£ 7,403,058	£ 8,399,919	£ 22,342,983	£ 34,816,495	£ 25,000,933	£ 7,884,571	£ 21,438,392
I			30%	£ 22,165,153	£ 3,388,473	£ 32,953,659	£ 7,705,653	£ 8,240,954	£ 9,305,465	£ 24,599,936	£ 38,307,637	£ 27,575,503	£ 8,774,372	£ 18,301,680
I	Mid Rise, Lower Density	25	20%	£ 23,630,984	£ 4,255,995	£ 34,776,388	£ 8,699,684	£ 9,250,019	£ 10,343,239	£ 26,142,678	£ 40,307,876	£ 29,222,571	£ 9,798,005	£ 19,642,744
I			10%	£ 25,100,769	£ 5,115,955	£ 36,604,599	£ 9,693,763	£ 10,258,837	£ 11,434,115	£ 27,689,860	£ 42,307,680	£ 30,874,521	£ 10,821,186	£ 20,990,128
J	Low Rise, Lower Density	15	20%	£ 17,769,409	£ 5,294,399	£ 24,874,440	£ 8,158,730	£ 8,512,455	£ 9,215,904	£ 19,400,437	£ 28,500,092	£ 21,333,186	£ 8,864,907	£ 15,192,396
J			10%	£ 18,733,290	£ 5,854,684	£ 26,058,246	£ 8,811,078	£ 9,174,498	£ 9,930,885	£ 20,416,410	£ 29,805,593	£ 22,410,435	£ 9,536,449	£ 16,073,157
K	Low Rise, Lower Density	9	10%	£ 18,956,742	£ 6,051,552	£ 26,376,737	£ 9,016,142	£ 9,386,236	£ 10,125,859	£ 20,636,889	£ 30,072,489	£ 22,620,825	£ 9,756,155	£ 16,299,962
K			0%	£ 19,883,370	£ 6,608,773	£ 27,518,837	£ 9,659,420	£ 10,039,992	£ 10,800,485	£ 21,610,604	£ 31,321,137	£ 23,710,389	£ 10,420,360	£ 17,157,337
L	Low Rise, Lower Density	5	20%	£ 94,927,315	£ 44,125,294	£ 124,158,551	£ 55,766,230	£ 57,217,002	£ 60,114,243	£ 101,556,753	£ 138,733,001	£ 109,405,711	£ 58,666,385	£ 84,467,049
L			10%	£ 120,151,199	£ 57,015,602	£ 156,646,806	£ 71,446,152	£ 73,239,527	£ 77,014,729	£ 128,653,031	£ 174,757,137	£ 138,507,471	£ 75,029,881	£ 107,246,154

Figure 8.5: Sensitivity 5 - The Impact of Removing Grant Payment on Affordable Units

Archetype	Description	Units	AH %	Bloomsbury and Holborn	Euston and Somerstown	Primrose Hill/Chalk Farm	Kentish Town	Camden Town	West Hampstead	Belsize Park	Hampstead Heath and Highgate	Frognal and Fitzjohn's	Clerkenwell and Hatton Garden	Average
A			50%	£ 35,236,030	£ -	£ 59,888,792	£ -	£ -	£ -	£ 37,943,529	£ 74,000,954	£ 45,603,486	£ -	£ 24,537,835
A	High Rise, High Density	138	40%	£ 48,315,930	£ -	£ 76,580,395	£ 2,588,152	£ 4,172,301	£ 7,326,919	£ 52,117,203	£ 92,521,708	£ 60,887,065	£ 5,776,514	£ 34,882,730
A			30%	£ 61,290,471	£ -	£ 93,769,555	£ 12,069,419	£ 13,883,857	£ 17,349,468	£ 66,861,335	£ 111,153,308	£ 76,246,620	£ 15,620,730	£ 46,678,588
B			50%	£ 40,062,004	£ -	£ 65,358,289	£ -	£ -	£ -	£ 42,219,224	£ 80,268,586	£ 50,309,422	£ -	£ 26,938,741
B	High Rise, High Density	114	40%	£ 50,694,311	£ -	£ 81,282,198	£ 4,008,234	£ 5,563,461	£ 8,900,390	£ 55,781,903	£ 97,871,194	£ 64,850,405	£ 7,294,030	£ 37,448,010
B			30%	£ 61,207,255	£ -	£ 97,324,895	£ 13,002,199	£ 14,737,144	£ 18,453,862	£ 69,744,503	£ 115,617,419	£ 79,498,261	£ 16,657,081	£ 48,447,660
C			50%	£ 23,053,785	£ -	£ 69,610,615	£ 595,117	£ 2,048,913	£ 5,006,597	£ 46,881,475	£ 84,314,518	£ 54,847,755	£ 3,512,807	£ 28,747,484
C	High Rise, High Density	84	40%	£ 29,021,090	£ -	£ 82,528,123	£ 7,946,861	£ 9,508,825	£ 12,726,989	£ 57,939,639	£ 98,378,743	£ 66,494,780	£ 11,043,159	£ 37,319,146
C			30%	£ 61,207,255	£ -	£ 97,324,895	£ 13,002,199	£ 14,737,144	£ 18,453,862	£ 69,744,503	£ 115,617,419	£ 79,498,261	£ 16,657,081	£ 48,447,660
D			50%	£ 28,640,088	£ -	£ 37,683,896	£ 3,409,641	£ 4,123,575	£ 5,606,942	£ 26,368,872	£ 44,925,873	£ 30,385,037	£ 4,878,596	£ 18,506,382
D	Mid Rise, Higher Density	105	40%	£ 34,516,265	£ 1,175,330	£ 45,009,581	£ 7,605,091	£ 8,402,605	£ 9,991,143	£ 32,743,374	£ 53,081,450	£ 37,075,019	£ 9,198,194	£ 23,879,805
D			30%	£ 40,439,976	£ 4,810,734	£ 52,471,953	£ 11,762,371	£ 12,665,943	£ 14,396,261	£ 39,063,037	£ 61,138,868	£ 43,742,947	£ 13,531,873	£ 29,402,396
E			50%	£ 29,308,130	£ -	£ 45,818,426	£ 5,543,568	£ 6,439,128	£ 8,144,346	£ 32,537,459	£ 54,353,023	£ 37,243,603	£ 7,294,687	£ 22,534,019
E	Mid Rise, Higher Density	75	40%	£ 34,418,979	£ 2,178,038	£ 53,092,179	£ 9,638,536	£ 10,564,430	£ 12,409,364	£ 38,690,977	£ 62,262,737	£ 43,843,653	£ 11,488,307	£ 27,858,720
E			30%	£ 39,516,333	£ 5,733,468	£ 60,436,084	£ 13,729,766	£ 14,712,297	£ 16,748,883	£ 45,125,716	£ 70,511,892	£ 50,532,278	£ 15,689,148	£ 33,273,587
F			50%	£ 13,322,051	£ 261,400	£ 45,974,060	£ 6,928,513	£ 7,759,233	£ 9,412,599	£ 33,106,176	£ 54,284,285	£ 37,595,546	£ 8,587,586	£ 21,723,145
F	Mid Rise, Higher Density	60	40%	£ 15,824,093	£ 3,363,092	£ 52,246,547	£ 10,468,952	£ 11,390,742	£ 13,166,591	£ 38,463,953	£ 61,118,491	£ 43,232,990	£ 12,279,583	£ 26,155,503
F			30%	£ 18,370,017	£ 6,447,325	£ 58,516,176	£ 14,061,042	£ 15,001,246	£ 16,869,655	£ 43,799,716	£ 67,945,850	£ 49,047,297	£ 15,937,695	£ 30,599,602
G			50%	£ 14,312,251	£ -	£ 21,582,586	£ 2,226,471	£ 2,647,649	£ 3,468,568	£ 15,193,076	£ 25,669,424	£ 17,461,603	£ 3,060,016	£ 10,450,316
G	Mid Rise, Lower Density	40	40%	£ 16,983,236	£ 447,757	£ 24,655,195	£ 3,966,825	£ 4,425,881	£ 5,306,149	£ 17,869,133	£ 29,102,363	£ 20,263,907	£ 4,866,482	£ 12,788,693
G			30%	£ 19,646,642	£ 1,969,693	£ 27,716,916	£ 5,729,933	£ 6,196,022	£ 7,117,756	£ 20,517,535	£ 32,479,528	£ 23,061,914	£ 6,660,208	£ 15,109,615
H			50%	£ 32,618,833	£ -	£ 23,087,568	£ 2,523,965	£ 2,950,917	£ 3,843,770	£ 16,309,551	£ 27,456,819	£ 18,666,607	£ 3,406,314	£ 12,940,546
H	Mid Rise, Lower Density	34	40%	£ 52,102,344	£ 629,277	£ 26,371,799	£ 4,384,659	£ 4,841,902	£ 5,796,735	£ 19,108,541	£ 31,032,831	£ 21,687,761	£ 5,328,602	£ 17,128,445
H			30%	£ 73,852,679	£ 2,252,923	£ 29,651,533	£ 6,249,792	£ 6,746,700	£ 7,735,544	£ 21,961,595	£ 34,589,692	£ 24,672,320	£ 7,242,077	£ 21,495,486
I			30%	£ 21,694,126	£ 2,544,483	£ 32,684,698	£ 6,953,992	£ 7,501,862	£ 8,594,129	£ 24,185,090	£ 38,153,360	£ 27,199,328	£ 8,048,693	£ 17,755,976
I	Mid Rise, Lower Density	25	20%	£ 24,698,868	£ 4,366,046	£ 36,398,284	£ 9,029,407	£ 9,606,995	£ 10,754,579	£ 27,334,188	£ 42,200,031	£ 30,569,204	£ 10,182,186	£ 20,513,979
I			10%	£ 27,701,746	£ 6,164,947	£ 40,115,500	£ 11,091,657	£ 11,749,909	£ 12,986,578	£ 30,590,451	£ 46,239,264	£ 33,947,763	£ 12,368,394	£ 23,295,621
J	Low Rise, Lower Density	15	20%	£ 18,608,281	£ 5,514,909	£ 26,057,036	£ 8,519,685	£ 8,890,330	£ 9,627,215	£ 20,320,098	£ 29,869,944	£ 22,348,414	£ 9,259,568	£ 15,901,548
J			10%	£ 20,570,024	£ 6,703,370	£ 28,534,255	£ 9,857,863	£ 10,285,171	£ 11,080,119	£ 22,380,811	£ 32,508,258	£ 24,522,969	£ 10,682,723	£ 17,712,556
K	Low Rise, Lower Density	9	10%	£ 20,802,817	£ 6,894,878	£ 28,811,891	£ 10,093,284	£ 10,491,889	£ 11,288,149	£ 22,606,726	£ 32,791,909	£ 24,822,169	£ 10,890,196	£ 17,949,391
K			0%	£ 22,727,751	£ 8,062,609	£ 31,188,817	£ 11,443,517	£ 11,863,070	£ 12,700,712	£ 24,696,549	£ 35,382,611	£ 26,982,801	£ 12,282,156	£ 19,733,059
L	Low Rise, Lower Density	5	20%	£ 99,330,376	£ 46,023,443	£ 129,996,362	£ 58,238,065	£ 59,760,519	£ 62,801,133	£ 106,285,847	£ 145,287,595	£ 114,519,552	£ 61,281,589	£ 88,352,448
L			10%	£ 130,721,889	£ 62,397,902	£ 169,852,255	£ 77,912,004	£ 80,062,016	£ 83,977,356	£ 139,673,258	£ 189,366,176	£ 150,298,661	£ 82,019,846	£ 116,628,136

Figure 8.6: Sensitivity 6 - Impact of Paying Capitalised Rents[3] Plus Grant for Social Rented Units Rather Than the Assumed Discount to Open Market Value

Archetype	Description	Units	AH %	Bloomsbury and Holborn	Euston and Somerstown	Primrose Hill/Chalk Farm	Kentish Town	Camden Town	West Hampstead	Belsize Park	Hampstead Heath and Highgate	Frognal and Fitzjohn's	Clerkenwell and Hatton Garden	Average
A			50%	£ 38,391,343	£ -	£ 60,079,825	£ -	£ 329,218	£ 2,869,812	£ 39,966,561	£ 73,014,866	£ 46,962,473	£ 1,607,043	£ 26,030,336
A	High Rise, High Density	138	40%	£ 50,728,524	£ -	£ 76,732,512	£ 7,241,998	£ 8,763,624	£ 11,666,944	£ 53,955,379	£ 91,716,077	£ 61,998,685	£ 10,226,559	£ 37,157,141
A			30%	£ 63,343,647	£ 2,290,181	£ 93,886,116	£ 15,654,416	£ 17,311,296	£ 20,539,473	£ 68,090,712	£ 110,546,847	£ 77,078,292	£ 18,938,613	£ 48,767,959
B			50%	£ 43,615,972	£ -	£ 65,587,569	£ 1,837,025	£ 3,165,144	£ 5,941,816	£ 44,589,360	£ 79,116,939	£ 51,913,452	£ 4,572,606	£ 29,857,386
B	High Rise, High Density	114	40%	£ 53,458,107	£ -	£ 81,465,526	£ 9,369,999	£ 10,987,532	£ 13,974,069	£ 57,657,557	£ 96,624,823	£ 66,156,125	£ 12,493,372	£ 40,042,109
B			30%	£ 63,272,247	£ 3,345,457	£ 97,461,529	£ 17,160,392	£ 18,870,861	£ 22,257,340	£ 71,188,565	£ 114,910,783	£ 80,478,914	£ 20,576,100	£ 50,952,219
C			50%	£ 24,608,579	£ -	£ 69,966,637	£ 8,216,879	£ 9,501,035	£ 12,180,865	£ 49,627,226	£ 83,121,520	£ 56,743,145	£ 10,866,686	£ 32,243,583
C	High Rise, High Density	84	40%	£ 30,250,656	£ 2,295,901	£ 82,812,873	£ 14,058,147	£ 15,493,919	£ 18,469,584	£ 60,126,326	£ 97,427,761	£ 67,997,596	£ 16,907,217	£ 40,583,998
C			30%	£ 63,272,247	£ 3,345,457	£ 97,461,529	£ 17,160,392	£ 18,870,861	£ 22,257,340	£ 71,188,565	£ 114,910,783	£ 80,478,914	£ 20,576,100	£ 50,952,219
D			50%	£ 30,674,094	£ 1,550,318	£ 37,848,330	£ 6,825,876	£ 7,527,053	£ 8,843,503	£ 27,595,049	£ 44,399,771	£ 31,250,679	£ 8,186,123	£ 20,470,080
D	Mid Rise, Higher Density	105	40%	£ 36,140,483	£ 4,389,408	£ 45,140,104	£ 10,350,624	£ 11,081,890	£ 12,602,025	£ 33,741,349	£ 52,652,649	£ 37,766,406	£ 11,808,990	£ 25,567,393
D			30%	£ 41,811,143	£ 7,224,338	£ 52,571,599	£ 13,874,624	£ 14,695,934	£ 16,331,672	£ 39,810,731	£ 60,816,912	£ 44,259,385	£ 15,515,105	£ 30,691,144
E			50%	£ 31,435,137	£ 4,081,927	£ 45,957,220	£ 10,190,384	£ 10,950,010	£ 12,461,817	£ 34,126,113	£ 53,547,693	£ 38,336,469	£ 11,707,356	£ 25,279,413
E	Mid Rise, Higher Density	75	40%	£ 36,116,177	£ 6,541,845	£ 53,203,584	£ 13,325,141	£ 14,160,889	£ 15,906,621	£ 40,107,709	£ 61,619,653	£ 44,722,797	£ 14,991,750	£ 30,069,617
E			30%	£ 40,784,669	£ 9,001,771	£ 60,519,577	£ 16,558,685	£ 17,497,537	£ 19,370,369	£ 46,104,216	£ 70,016,780	£ 51,194,418	£ 18,435,116	£ 34,948,314
F			50%	£ 14,387,937	£ 5,741,239	£ 46,175,176	£ 11,653,160	£ 12,386,710	£ 13,847,789	£ 34,786,618	£ 53,524,164	£ 38,746,375	£ 13,118,416	£ 24,436,758
F	Mid Rise, Higher Density	60	40%	£ 16,671,623	£ 7,772,001	£ 52,407,412	£ 14,267,548	£ 15,070,580	£ 16,665,207	£ 39,801,406	£ 60,511,514	£ 44,280,657	£ 15,869,983	£ 28,331,793
F			30%	£ 19,017,697	£ 9,774,672	£ 58,636,835	£ 16,862,430	£ 17,807,432	£ 19,586,793	£ 44,796,529	£ 67,491,362	£ 49,748,808	£ 18,697,331	£ 32,241,989
G			50%	£ 15,442,728	£ 1,676,662	£ 21,698,028	£ 4,597,051	£ 4,960,402	£ 5,683,794	£ 16,033,862	£ 25,312,700	£ 18,056,722	£ 5,322,739	£ 11,878,469
G	Mid Rise, Lower Density	40	40%	£ 17,884,921	£ 2,631,106	£ 24,747,158	£ 5,869,370	£ 6,267,007	£ 7,089,015	£ 18,554,749	£ 28,811,302	£ 20,739,965	£ 6,662,710	£ 13,925,730
G			30%	£ 20,320,414	£ 3,620,978	£ 27,785,551	£ 7,129,305	£ 7,601,086	£ 8,480,554	£ 21,032,254	£ 32,260,806	£ 23,418,724	£ 8,041,211	£ 15,969,088
H			50%	£ 35,727,829	£ 1,923,004	£ 23,199,031	£ 5,038,019	£ 5,424,768	£ 6,195,943	£ 17,202,415	£ 27,060,279	£ 19,277,972	£ 5,810,823	£ 14,686,008
H	Mid Rise, Lower Density	34	40%	£ 54,544,092	£ 2,958,263	£ 26,460,966	£ 6,396,107	£ 6,820,542	£ 7,664,411	£ 19,818,566	£ 30,716,480	£ 22,186,865	£ 7,243,409	£ 18,480,970
H			30%	£ 75,825,190	£ 4,011,711	£ 29,718,359	£ 7,746,705	£ 8,206,826	£ 9,171,600	£ 22,504,449	£ 34,353,596	£ 25,047,404	£ 8,703,106	£ 22,528,895
I			30%	£ 22,437,852	£ 4,493,485	£ 32,753,741	£ 8,607,313	£ 9,116,845	£ 10,129,520	£ 24,770,652	£ 37,885,004	£ 27,608,226	£ 9,624,356	£ 18,742,699
I	Mid Rise, Lower Density	25	20%	£ 25,194,003	£ 5,655,599	£ 36,444,414	£ 10,125,463	£ 10,675,260	£ 11,835,378	£ 27,723,068	£ 42,021,189	£ 30,842,693	£ 11,274,604	£ 21,179,167
I			10%	£ 27,949,873	£ 6,796,147	£ 40,138,694	£ 11,691,812	£ 12,298,827	£ 13,511,553	£ 30,790,684	£ 46,149,632	£ 34,085,588	£ 12,905,548	£ 23,631,836
J	Low Rise, Lower Density	15	20%	£ 18,928,781	£ 6,357,151	£ 26,084,862	£ 9,222,894	£ 9,576,048	£ 10,325,178	£ 20,573,301	£ 29,752,167	£ 22,521,785	£ 9,964,796	£ 16,330,696
J			10%	£ 20,731,500	£ 7,122,416	£ 28,548,589	£ 10,247,760	£ 10,637,928	£ 11,417,774	£ 22,508,207	£ 32,448,891	£ 24,610,034	£ 11,027,944	£ 17,930,104
K	Low Rise, Lower Density	9	10%	£ 20,961,427	£ 7,311,712	£ 28,823,409	£ 10,452,815	£ 10,843,681	£ 11,624,330	£ 22,730,782	£ 32,729,465	£ 24,908,120	£ 11,234,204	£ 18,161,994
K			0%	£ 22,727,751	£ 8,062,609	£ 31,188,817	£ 11,443,517	£ 11,863,070	£ 12,700,712	£ 24,696,549	£ 35,382,611	£ 26,982,801	£ 12,282,156	£ 19,733,059
L	Low Rise, Lower Density	5	20%	£ 97,363,528	£ 49,129,336	£ 125,101,525	£ 60,166,047	£ 61,541,421	£ 64,288,406	£ 103,663,352	£ 138,940,604	£ 111,127,335	£ 62,915,571	£ 87,423,713
L			10%	£ 129,259,359	£ 64,247,723	£ 166,930,918	£ 79,266,551	£ 81,137,105	£ 84,877,346	£ 138,090,540	£ 185,588,435	£ 148,243,351	£ 83,007,381	£ 116,064,871

[3] Target RSL rents have been taken from Dataspring for each Borough and capitalised at an 8% yield. This is slightly higher than the 7% used in the GLA toolkit (7%) to capitalise net rents. Using this higher yield compensates for the target rents being marginally higher than net rents. Grant payment is assumed at £100,000 per unit.

Figure 8.7: Sensitivity 7 - Having the Affordable Housing Mix Set at 100% Social Rented (As Opposed to the 60:40 Split Social Rented:Shared Ownership Under the Base Case)

Archetype	Description	Units	AH %	Bloomsbury and Holborn	Euston and Somerstown	Primrose Hill/Chalk Farm	Kentish Town	Camden Town	West Hampstead	Belsize Park	Hampstead Heath and Highgate	Frognal and Fitzjohn's	Clerkenwell and Hatton Garden	Average
A			50%	£ 44,494,222	£ -	£ 69,457,720	£ -	£ -	£ 2,857,956	£ 46,019,263	£ 84,741,864	£ 54,354,875	£ 1,390,092	£ 29,893,933
A	High Rise, High Density	138	40%	£ 55,595,745	£ -	£ 84,486,974	£ 6,723,794	£ 8,408,060	£ 11,656,762	£ 58,878,229	£ 101,048,676	£ 67,839,650	£ 10,046,151	£ 40,322,515
A			30%	£ 67,064,366	£ 848,319	£ 99,627,752	£ 15,254,321	£ 17,045,416	£ 20,531,795	£ 71,786,332	£ 117,568,903	£ 81,443,033	£ 18,803,920	£ 50,997,416
B			50%	£ 50,581,610	£ -	£ 76,691,159	£ 1,220,743	£ 2,804,040	£ 6,053,066	£ 51,794,523	£ 92,887,951	£ 60,641,688	£ 4,434,993	£ 34,534,375
B	High Rise, High Density	114	40%	£ 59,013,820	£ -	£ 90,327,530	£ 8,873,521	£ 10,675,914	£ 14,059,942	£ 63,671,852	£ 107,945,996	£ 73,096,520	£ 12,383,952	£ 43,828,302
B			30%	£ 67,420,577	£ 1,773,069	£ 104,523,077	£ 16,770,159	£ 18,634,058	£ 22,323,249	£ 75,597,219	£ 123,210,976	£ 85,686,764	£ 20,491,911	£ 53,643,106
C			50%	£ 27,697,620	£ -	£ 82,501,406	£ 7,717,152	£ 9,280,070	£ 12,508,985	£ 57,830,169	£ 98,361,341	£ 66,565,165	£ 10,917,092	£ 37,098,226
C	High Rise, High Density	84	40%	£ 32,858,412	£ 93,622	£ 92,834,497	£ 13,656,297	£ 15,316,139	£ 18,732,652	£ 66,649,320	£ 109,565,694	£ 75,973,883	£ 16,945,712	£ 44,262,623
C			30%	£ 67,420,577	£ 1,773,069	£ 104,523,077	£ 16,770,159	£ 18,634,058	£ 22,323,249	£ 75,597,219	£ 123,210,976	£ 85,686,764	£ 20,491,911	£ 53,643,106
D			50%	£ 35,010,791	£ 299,589	£ 43,439,584	£ 6,596,554	£ 7,413,511	£ 8,980,011	£ 31,371,961	£ 51,392,577	£ 35,636,000	£ 8,197,996	£ 22,833,857
D	Mid Rise, Higher Density	105	40%	£ 39,761,713	£ 3,417,964	£ 49,750,107	£ 10,161,294	£ 10,992,450	£ 12,712,168	£ 36,708,899	£ 58,180,749	£ 41,264,473	£ 11,818,200	£ 27,476,802
D			30%	£ 44,484,818	£ 6,501,254	£ 55,976,004	£ 13,730,765	£ 14,627,757	£ 16,413,513	£ 42,032,657	£ 64,966,833	£ 46,870,762	£ 15,522,217	£ 32,112,658
E			50%	£ 35,848,801	£ 2,456,528	£ 53,748,778	£ 9,949,131	£ 10,881,241	£ 12,733,980	£ 39,381,674	£ 63,196,429	£ 44,453,150	£ 11,809,919	£ 28,445,963
E	Mid Rise, Higher Density	75	40%	£ 39,635,277	£ 5,210,769	£ 59,456,574	£ 13,133,208	£ 14,106,339	£ 16,129,108	£ 44,283,078	£ 69,473,960	£ 49,641,623	£ 15,072,720	£ 32,614,266
E			30%	£ 43,414,723	£ 8,039,371	£ 65,397,958	£ 16,411,597	£ 17,455,514	£ 19,537,424	£ 49,253,000	£ 75,838,517	£ 54,898,105	£ 18,497,897	£ 36,874,411
F			50%	£ 16,591,355	£ 4,113,393	£ 54,063,994	£ 11,430,811	£ 12,337,697	£ 14,142,000	£ 39,953,086	£ 63,079,230	£ 44,988,658	£ 13,241,751	£ 27,394,197
F	Mid Rise, Higher Density	60	40%	£ 18,462,055	£ 6,442,931	£ 58,716,737	£ 14,090,936	£ 15,031,742	£ 16,965,888	£ 44,057,971	£ 68,143,663	£ 49,224,774	£ 15,967,474	£ 30,710,417
F			30%	£ 20,332,548	£ 8,812,164	£ 63,370,163	£ 16,731,358	£ 17,777,790	£ 19,765,911	£ 48,066,491	£ 73,210,264	£ 53,461,424	£ 18,772,138	£ 34,030,025
G			50%	£ 17,765,331	£ 855,633	£ 25,615,745	£ 4,472,961	£ 4,922,114	£ 5,815,255	£ 18,650,973	£ 30,121,774	£ 21,091,440	£ 5,369,725	£ 13,468,095
G	Mid Rise, Lower Density	40	40%	£ 19,736,190	£ 1,997,913	£ 27,908,181	£ 5,770,779	£ 6,236,662	£ 7,195,867	£ 20,616,569	£ 32,622,964	£ 23,165,951	£ 6,699,852	£ 15,195,093
G			30%	£ 21,774,996	£ 3,137,743	£ 30,201,614	£ 7,057,541	£ 7,577,915	£ 8,560,485	£ 22,579,650	£ 35,125,159	£ 25,236,754	£ 8,069,705	£ 16,932,156
H			50%	£ 42,025,715	£ 1,066,772	£ 27,358,222	£ 4,913,913	£ 5,392,543	£ 6,346,159	£ 19,987,752	£ 32,184,158	£ 22,587,419	£ 5,870,120	£ 16,773,277
H	Mid Rise, Lower Density	34	40%	£ 60,075,445	£ 2,283,925	£ 29,788,438	£ 6,297,231	£ 6,794,925	£ 7,783,251	£ 22,078,338	£ 34,844,784	£ 24,798,156	£ 7,290,435	£ 20,203,493
H			30%	£ 79,994,591	£ 3,494,586	£ 32,212,327	£ 7,673,070	£ 8,187,789	£ 9,262,868	£ 24,169,863	£ 37,506,016	£ 27,009,857	£ 8,739,027	£ 23,824,999
I			30%	£ 27,830,675	£ 5,406,488	£ 40,636,947	£ 10,517,039	£ 11,198,871	£ 12,483,005	£ 30,767,541	£ 47,126,274	£ 34,249,860	£ 11,841,165	£ 23,205,787
I	Mid Rise, Lower Density	25	20%	£ 28,892,855	£ 6,312,205	£ 41,786,937	£ 11,508,121	£ 12,154,589	£ 13,446,237	£ 31,848,733	£ 48,311,245	£ 35,354,418	£ 12,800,664	£ 24,241,601
I			10%	£ 28,466,808	£ 6,611,474	£ 41,071,412	£ 11,664,763	£ 12,292,421	£ 13,546,302	£ 31,412,242	£ 47,392,844	£ 34,818,151	£ 12,919,763	£ 24,019,618
J	Low Rise, Lower Density	15	20%	£ 21,442,423	£ 6,953,265	£ 29,771,754	£ 10,281,798	£ 10,697,246	£ 11,527,439	£ 23,330,649	£ 33,920,464	£ 25,558,981	£ 11,112,477	£ 18,459,650
J			10%	£ 21,075,889	£ 7,004,372	£ 29,160,156	£ 10,236,052	£ 10,639,524	£ 11,445,935	£ 22,911,698	£ 33,191,960	£ 25,082,217	£ 11,042,830	£ 18,179,063
K	Low Rise, Lower Density	9	10%	£ 21,310,247	£ 7,196,290	£ 29,444,176	£ 10,444,199	£ 10,848,497	£ 11,655,913	£ 23,137,247	£ 33,480,973	£ 25,395,785	£ 11,252,422	£ 18,416,575
K			0%	£ 22,727,751	£ 8,062,609	£ 31,188,817	£ 11,443,517	£ 11,863,070	£ 12,700,712	£ 24,696,549	£ 35,382,611	£ 26,982,801	£ 12,282,156	£ 19,733,059
L	Low Rise, Lower Density	5	20%	£ 105,923,392	£ 50,080,097	£ 138,126,219	£ 62,853,077	£ 64,441,813	£ 67,612,019	£ 113,188,316	£ 154,143,361	£ 122,089,474	£ 66,028,192	£ 94,448,596
L			10%	£ 134,646,973	£ 64,784,679	£ 174,629,907	£ 80,855,763	£ 82,856,993	£ 86,858,231	£ 143,795,786	£ 194,554,102	£ 154,654,017	£ 84,857,836	£ 120,249,429

Conclusions

8.5. The sensitivity analysis above shows the effects on the results of altering key assumptions assumed under the base case.

8.6. The most significant impact is caused by a change in the method of valuing revenues from affordable housing. Valuing affordable housing on the basis of capitalised rents plus standard grant payment (as opposed to valuing affordable housing on an assumed discount to open market value under the base case) significantly reduces viability across Camden. This impact is most notable in lower value areas, where a number of schemes are reduced to wholly unviable levels, and many more are reduced to viability only at low or medium existing use values.

8.7. Increasing market build costs also has a notable effect on the results, though in the prime areas where such higher build costs may be incurred viability generally remains good at high existing use values. The effects of doubling the existing use value ranges has less of an effect on the results, with most of the higher priced areas (where such high existing use values are likely to be experienced) remaining comfortably viable.

9. Conclusions

9.1 This study has examined in detail the proposed affordable policies of the London Borough of Camden (LBC).

9.2 The policy proposed for the LBC is that a sliding scale of contributions is made on new developments from 10% affordable housing for developments of 10 additional dwellings to 50% affordable housing for developments of 50 additional dwellings.

9.3 DTZ concludes that the detailed analysis conducted in this viability study supports this policy in the LBC.

9.4 The matrix in Figure 9.1 summarises the results from the residual land value analysis conducted under the **base case modelling**. It shows how average viability changes in each of the study's value areas as the affordable housing target is incrementally lowered from 50% to 0%.

9.5 The base case analysis (see section 5 for more detail) shows that residential development in every Camden value band is viable across almost all affordable housing contributions tested. The only exception is Euston & Somerstown, which is only viable at 50% at a low existing use value and only viable at 40% with a medium existing use value.

Figure 9.1: Summary of Base Case Results For All Sites – London Borough of Camden

	Bloomsbury and Holborn	Euston and Somerstown	Primrose Hill/Chalk Farm	Kentish Town	Camden Town	West Hampstead	Belsize Park	Hampstead Heath and Highgate	Frognal and Fitzjohn's	Clerkenwell and Hatton Garden	Average
50%	🟢	🔴	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢
40%	🟢	🟡	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢
30%	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢
20%	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢
10%	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢
0%	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢

9.6 DTZ conclude that the proposals set by LBC for a **threshold** at which affordable housing policies to apply on sites capable of accommodating an additional 10 dwellings or an additional 1,000 sqm (gross) housing floorspace are consistent with the evidence in the London Plan Further Alterations[1], the document that forms the basis of the consolidated London Plan policy 3A.11. This document states that London as a whole meets the PPS3 test under which local authorities can set a threshold of less than 15 units provided it is viable and practical.

9.7 The 1000 sqm threshold is also consistent with the London Plan policy 3A.11 which states that boroughs should normally require affordable housing provision on a site which has the capacity to provide 10 or more homes.

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[1] It was the Further Alterations evidence that commented that a 10 unit threshold was viable and practical in London.

9.8   DTZ's conclusion on LBC's proposed threshold is informed by results of modelling the viability of the study's smaller development archetypes (section 6), which entail developments of between 5 and 15 units. The modelling shows that in terms of these smaller archetypes all could deliver a minimum of 20% affordable housing across all the value geographies in LB Camden.

9.9   The modelling therefore indicates that the 10 unit/1000 sqm threshold is consistent with viability, though it is acknowledged there must be arrangement to review the viability of individual sites as schemes are brought forward.

9.10   The broad conclusion on viability of the proposed threshold is further supported by analysis of historic schemes awarded planning permission that are just above the existing threshold where affordable housing contributions on sites of 10-14 units have been achieved.

9.11   Examination of data on planning approvals indicate that a threshold of 10 units/1000 sqm will bring a manageable number of schemes in Camden within the scope of affordable housing policies and deliver a valuable number of additional affordable housing units in the long run. The neighbouring City of Westminster has been operating a threshold of 10 units since 2006 without difficulty.

9.12   The modelling of the 9 unit archetype K shows that such a scheme would generally be viable in LB Camden with a 20% affordable housing contribution in areas with high existing use values. On the basis of the analysis conducted on archetype K, therefore, it would seem that a contribution from a 9 unit / sub -1000sqm scheme would be viable across Camden at a high existing use value.

9.13   There is, however, no policy proposal to reduce viability below the 10 unit/1000 sqm threshold. The analysis shows that while schemes below the threshold might well be able to make a contribution to affordable housing provision, reductions in the threshold would probably add significantly to the administrative costs of the system, for relatively modest gains.

9.14   Moreover there are good grounds for thinking that it would become increasingly difficult to secure either on-site or off-site provision of affordable housing units in connection with schemes of less than 10 units. Such a requirement for affordable housing may also deter some developers from bringing forward schemes, particularly in locations outside the central area.

9.15   It is therefore likely that if affordable housing policies were to be extended to these smaller schemes a more satisfactory arrangement would be to investigate a system of standard payments in lieu of affordable housing provision. It has not been part of this commission to examine the feasibility of such a scheme, though we would draw attention to the points made (bullet points 1 to 3 under para 6.49) relating to the drawbacks of a payment in lieu system in Camden. Careful consideration would need to be given to the administrative costs of operating such a scheme and the impact on the industry, relative to the benefits.

9.16   The LBC intends to apply a **sliding scale** with regard to affordable housing contributions. Schemes of 10 units/1,000 sqm gross external floorspace will be expected to provide 10% affordable housing. This will increase with scheme size up to a maximum of 50% of affordable housing which will be required of schemes with capacity of 50 or more units[2].

9.17   This policy can be simply described: all schemes with capacity for between 10 and 50 units will be expected to provide the same percentage level of affordable housing as there is unit capacity.

   –   Thus a 10 unit scheme or a 1,000 sq m scheme (which is considered to have capacity for 10 units or more) is expected to provide 10% affordable housing

   –   A 20 unit scheme or a 2,000 sq m scheme (which is considered to have capacity for 20 units or more) is expected to provide 20% affordable housing

   –   A 30 unit scheme or a 3,000 sq m scheme (which is considered to have capacity for 30 units or more) is expected to provide 30% affordable housing, etc

   –   A scheme of 50 units or more or a scheme comprising 5,000 sq m or more is expected to provide 50% affordable housing.

9.18   As set out in detail in section 7, DTZ believes there is a strong policy rationale for developing a sliding scale for application of affordable housing requirements. Without such a sliding scale there are very strong incentives for landowners and developers to manipulate development schemes to bring them in below the threshold at which affordable housing policies apply. Seeking a small affordable housing requirement on small sites ensures that there are incentives for developing small schemes just above the threshold, and will help to maintain development volumes, and discourage threshold abuse.

9.19   The principle of a sliding scale is therefore sound. However the way in which a sliding scale escalates to the point at which the highest rate of affordable housing provision is sought can also have perverse effects on incentives, discouraging larger developments. Put simply if the gradient is too steep, this deters development of larger schemes within the sliding scale range. The proposals put forward by LBC avoid this trap, ensuring that despite escalating affordable housing requirements, larger schemes always deliver more market housing for sale than small schemes.

9.20   Testing of the application of the proposed sliding scale to those scheme archetypes to which would apply in Camden indicate that these schemes will be viable with the proposed level of affordable housing provision even where existing land values are generally high. The exception to this rule is in the Euston and Somerstown area where schemes would only be viable in terms of the affordable housing requirement associated with sliding scale, with land values at medium existing use values.

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[2] Schemes providing 50 or more units, or having additional residential floorspace of 5,000 sq m or more (gross)

9.21 The **sensitivity analysis** conducted in section 8 shows the effects on the results of altering key assumptions assumed under the base case.

9.22 The most significant impact is caused by a change in the method of valuing revenues from affordable housing. Valuing affordable housing on the basis of capitalised rents plus standard grant payment (as opposed to valuing affordable housing on an assumed discount to open market value under the base case) significantly reduces viability across Camden. This impact is most notable in lower value areas, where a number of schemes are reduced to wholly unviable levels, and many more are reduced to viability only at low or medium existing use values.

9.23 Increasing market build costs also has a notable effect on the results, though in the prime areas where such higher build costs may be incurred viability generally remains good at high existing use values. The effects of doubling the existing use value ranges has less of an effect on the results, with most of the higher priced areas (where such high existing use values are likely to be experienced) remaining comfortably viable.