

---

**Affordable Housing Viability  
Assessment - Additional Analysis**

---

**October 2011**

**RS Drummond-Hay MRICS ACIH**

Bellgate, Casterton

Kirkby Lonsdale,

Cumbria. LA6 2LF

015242 76202 / 07989 975 977

[simon@drummond-hay.co.uk](mailto:simon@drummond-hay.co.uk)

[www.drummond-hay.co.uk](http://www.drummond-hay.co.uk)

# Executive Summary

## Introduction

- S1 In 2009 Fordham Research was commissioned by Croydon Council to produce guidance on the financial viability implications of alternative targets and size thresholds for affordable housing provision within the Borough. The Affordable Housing Viability Study (AHVS) report was consulted on and the final report published in August 2010. Its findings have formed an important part of the evidence base for the Council's Core Strategy.
- S2 This update is required to take into account the changes in the economics of residential property development due to changes in the funding of affordable housing, the adoption of Community Infrastructure Levy (CIL) and developments in the Dynamic Viability model proposed. This report should be read in conjunction with the AHVS.
- S3 On the 20th July 2011 Dr Richard Fordham closed Fordham Research. This report was commissioned following a tender process. It is prepared by Simon Drummond-Hay and Geoff Taylor who prepared the 2010 AHVS. Their knowledge of the original study has allowed them to follow a similar methodology and to ensure that this report is consistent with the original.
- S4 The 2010 AHVS was carried out in 2009 and 2010. Since undertaking the 2010 AHVS there have been a number of significant changes that need to be reflected in the AHVS.

## The Funding of Affordable Housing and Community Infrastructure Levy

- S5 Funding for Affordable Housing has been radically changed as part of the Government's attempts to balance the national budget. The direct grants to Registered Providers (RPs) have been cut and an alternative funding arrangement has been introduced through the new affordable tenure Affordable Rent.
- S6 In the AHVS it was assumed that Social Housing Grant would be available at £30,000 per bedspace for social rented dwellings and £14,000 per bedspace for intermediate units. This has now been removed from the appraisals.
- S7 It has been assumed that the Social Rented Housing is Affordable Rent so additional capital funding leveraged by Affordable Rent (about £75,000 per 3 bedroom home) has been added

as well as other alternative sources of funding discussed in Chapter 2 (a further £56,000 per 3 bedroom unit).

- S8 We have deducted the s106 contributions from the AHVS appraisals (£2,500 per dwelling for sites of 15 plus dwellings, and £1,800 per dwelling for smaller sites).
- S9 CIL will apply to all market units (and not affordable units) at the Mayoral CIL rate of £20/ m<sup>2</sup>. Sites within Croydon Metropolitan Centre will only be subject to Mayoral CIL. All the other sites will be subject to Croydon's and the Mayor's CIL at the combined rate of £140/m<sup>2</sup>. All units (market and affordable) on all sites are subject to an additional s.106 contribution of £1,000 per unit).

<b>NEW Table 6.3 Appraisal outcomes: base appraisals, no grant, Aff rent, CIL</b>							
No	Site	Alt use value	Value £k per acre				
			No affordable	10%	20%	30%	40%
1A	Croydon Park Hotel	150	-5,471	-6,562	-7,661	-8,765	-9,893
		300	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB
2A	Queens Hospital	618	735	618	502	367	242
		768	MARGINAL	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB
2F	with family mix	618	644	572	515	457	399
		768	MARGINAL	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB
3A	187-195 London Rd	1,500	2,447	1,687	921	148	-665
		1,650	VIABLE	VIABLE	NOT VIAB	NOT VIAB	NOT VIAB
3N	City Centre CR9 1	1,250	1,527	824	123	-619	-1,367
		1,400	VIABLE	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB
3P	Purley CR8 4	1,000	700	73	-586	-1,254	-1,927
		1,150	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB
4A	Cane Hill Hospital	10	1,404	1,281	1,158	1,032	906
		160	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE
5A	Waterworks Yard	1,750	2,546	2,281	2,013	1,741	1,469
		1,900	VIABLE	VIABLE	VIABLE	NOT VIAB	NOT VIAB
6A	Addiscombe Station	626	596	542	487	430	374
		776	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB
6N	edge of centre CR0 1	626	540	490	441	391	340
		776	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB
6P	Purley CR8 2	626	642	582	523	463	402
		776	MARGINAL	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB
6Q	Selsdon CR2 8	626	789	716	642	567	491
		776	VIABLE	MARGINAL	MARGINAL	NOT VIAB	NOT VIAB
7A	68-70 Belulah Hill	1050	809	738	666	594	525
		1200	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB
7N	City Centre CR0 1	910	1,050	962	866	769	669
		1060	MARGINAL	MARGINAL	NOT VIAB	NOT VIAB	NOT VIAB
7P	Purley CR8 2	965	764	698	630	562	498
		1115	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB
7Q	Selsdon CR2 8	1050	883	805	726	646	566
		1200	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB

<b>NEW Table 6.3 Appraisal outcomes: base appraisals, no grant, Aff rent, CIL</b>							
No	Site	Alt use value	Value £k per acre				
			No affordable	10%	20%	30%	40%
8A	Sumner Gardens	468	568	568	568	567	565
		618	MARGINAL	MARGINAL	MARGINAL	MARGINAL	MARGINAL
8N	City Centre CR0 1	783	1,034	988	940	893	845
		933	VIABLE	VIABLE	VIABLE	MARGINAL	MARGINAL
8P	Coulsdon CR5 2	618	807	784	760	736	711
		768	VIABLE	VIABLE	MARGINAL	MARGINAL	MARGINAL
9A	Nursery	100	724	678	633	587	540
		250	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE
9N	Cane Hill	50	423	410	394	377	360
		200	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE
9P	North Croydon	150	456	437	421	401	380
		300	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE

Source: Affordable Housing Viability Study – Additional Analysis 2011

S10 These results are summarised in tabular form below with the results from the 2010 AHVS shown in brackets:

<b>NEW Table 6.4 Results summary of NEW Table 6.3 (2009 AHVS results in brackets)</b>						
	No of sites in category with affordable at:					
	No aff	10%	20%	30%	40%	
Viable	10	7	6	4	4	
	(15)		(8)	(6)	(6)	
Marginal	5	4	3	2	2	
	(5)		(5)	(2)	(1)	
Not viable	7	7	13	16	16	
	(2)		(9)	(14)	(15)	
Total	22	22	22	22	22	

Source: Affordable Housing Viability Study – Additional Analysis 2011

S11 The results from the appraisals indicate that there has been a decline in viability from the introduction of Affordable Rents and CIL. There are, however, several factors that are not reflected in the appraisals and need to be given weight when considering the appropriate affordable housing target.

- S12 The AHVS assumed all new homes would be built to CSH Level 4 and the build costs used in the appraisals were increased to reflect this. Since the AHVS the actual costs of implementing CSH has reduced markedly as builders have refined the construction techniques required and manufactures have introduced new, less expensive, products (e.g. more efficient boilers). This is illustrated in the recent research from DCLG that reported the additional costs of building to Level 3 over and above Building Regulations, for an edge of town scheme, had fallen from over a little over £4,000 per unit to about £1,400.
- S13 Since the AHVS was completed there has been a change of Government and a resulting change of policy. It now seems unlikely that CSH Level 4 will become mandatory, on a national basis, in the foreseeable future – although Croydon Council do plan to require developers to build to this standard.
- S14 This study assumes that Affordable Rented homes will be let at 65% of Open Market Rent and not at the 80% allowed for under the guidance. The reasons for making these assumptions are set out in Chapter 2. The level of rent will have a direct impact on the viability of the project. This is a very cautious and conservative position to take but as this is the Council's emerging preferred level of rent.
- S15 On balance, we do however think that the decline in viability as a result of the changes we have tested are material and therefore recommend that that affordable housing target is reduced from the current 20% to 15% affordable housing.
- S16 We are recommending that this 15% target forms the starting point for the Dynamic Target Setting and commuted sums.

### **Commuted Sums**

- S17 It is the Council's firm policy that affordable housing should be provided by the developer on the site that is being developed. There may be situations in which it is agreed that, whilst an affordable contribution should arise in respect of a particular development, it is appropriate that all or some of the contribution should be made off site. Where this is the case and where replacement affordable units are not going to be provided by the developer on another site agreed with the Council, it will be necessary to secure the due affordable contribution in the form of a commuted payment.

- S18 We have adopted an approach to the calculation of the developer contribution, utilising the site viability analysis. It is based upon the contribution that the developer would have made if an on-site affordable contribution were delivered.
- S19 The calculation works as follows by calculating the difference between the estimate the value of the site with 100% market housing and the estimate the value of the site with the target level of affordable housing contribution. Using the data from the AHVS we have suggested that a commutes sum of £27,800 per unit for units not delivered on site.

### Dynamic Target Setting

- S20 The 2010 AHVS suggested Dynamic Viability as a mechanism to vary the Affordable Housing target through the life of the plan. At the time of the report the idea was very new and, to some extent, still being developed. The mechanism of dynamic target setting has now been examined by inspectors at EiPs. The inspectors have complemented the process and enforced it. Through the process of examination the presentation of the results has been simplified and Croydon Council have asked for a new consolidated set of tables. These are produced in full in Appendix 2.

<b>Table 6.2 Extract from Full Matrix</b>											
<i>Price Change HPI</i>											
<i>%</i>	<i>-2%</i>			<i>0%</i>			<i>+2%</i>				
<i>Cost Change BC/S Index</i>		30%	22%	14%	36%	29%	22%	41%	35%	28%	
	<i>0%</i>		<b>6%</b>	0%		<b>15%</b>	7%		<b>21%</b>	14%	
			0%	0%	0%	0%	0%	0%	8%	1%	0%
	<i>+2%</i>		24%	15%	7%	32%	24%	16%	37%	30%	23%
				<b>0%</b>	0%		<b>9%</b>	1%		<b>16%</b>	8%
		0%	0%	0%	0%	0%	0%	2%	0%	0%	
	<i>+4%</i>		18%	9%	0%	27%	19%	10%	33%	26%	18%
				<b>0%</b>	0%		<b>2%</b>	0%		<b>10%</b>	3%
		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	<b>KEY</b>				<b>-30%</b>	<b>-20%</b>	<b>-10%</b>				
<i>Change in alternative</i>					<b>0%</b>	<b>+10%</b>					
<i>use value =</i>				<b>+20%</b>	<b>+30%</b>	<b>+40%</b>					

Note: each cell of the table represents a combination of price and cost levels, and contains eight percentage target figures which represent the deliverable target for each of eight levels of alternative use value.

Source: Affordable Housing Viability Study – Additional Analysis 2011

# Table of Contents

<b>Executive Summary .....</b>	<b>i</b>
The Funding of Affordable Housing and Community Infrastructure Levy .....	i
Commuted Sums .....	v
Dynamic Target Setting .....	vi
<b>Table of Contents .....</b>	<b>1</b>
<b>1. Introduction.....</b>	<b>1</b>
Context .....	2
<b>2. Affordable Housing and Grant .....</b>	<b>5</b>
Background .....	5
Grant Funding.....	6
Development Economics of Affordable Rents.....	6
Value of Affordable Rent: an illustrative approach .....	8
The Treatment of Re-lets and Other Funding Sources .....	8
<b>3. Developer Contributions and CIL .....</b>	<b>11</b>
Mayoral CIL .....	11
Croydon CIL .....	11
<b>4. Updated Appraisal Results.....</b>	<b>15</b>
An additional table showing the viability of affordable homes at 0%, 10%, 20%, 30%, 40% and 50% taking into account Affordable Rents and Croydon’s proposed Community Infrastructure Levy rate of £140/m <sup>2</sup> of net additional floor space and £1000 planning obligations per new home. ....	16
Conclusions .....	28
Basis for the affordable housing target.....	28
<b>5. Commuted Sum Payments.....</b>	<b>31</b>
Review of plan policy formulae.....	31
Alternative approach.....	32
Proposed guidance.....	34
<b>6. Dynamic Target Setting .....</b>	<b>35</b>
Implementing Dynamic Viability .....	39
<b>Appendix 1: Study Brief.....</b>	<b>40</b>
<b>Appendix 2: Full Matrix tables .....</b>	<b>41</b>



# 1. Introduction

- 1.1 In 2009 Fordham Research was commissioned by Croydon Council to produce guidance on the financial viability implications of alternative affordable housing targets and thresholds. The resulting Affordable Housing Viability Study (AHVS) report has been consulted on and was published in August 2010. Its findings have formed an important part of the evidence base for the Council's Core Strategy.
- 1.2 This update is required to take into account the changes in the economics of residential property development that have arisen from the changes in the funding of affordable housing, the forthcoming adoption of Community Infrastructure Levy (CIL) and developments in the Dynamic Viability model.
- 1.3 This report is written as an Annex to the AHVS dated August 2010 and is designed to be read in conjunction with that report. Much of the work carried out is an extension to the earlier study and based on the same methodology and assumptions. We will only explain the assumptions and methodology where they differ from those used in the 2010 AHVS. It should be noted that the bulk of the study work was carried out during the autumn of 2009.
- 1.4 The brief for this study is contained in Appendix 1.
- 1.5 This report is prepared by Simon Drummond-Hay and Geoff Taylor who both prepared the AHVS. Their knowledge of the original study has allowed them to follow a similar methodology and to ensure that this report is consistent with the original.
- 1.6 In July 2011 Dr Richard Fordham closed Fordham Research. This was a sudden and unexpected decision of which the staff had no prior notice. Fordham Research had, for over two decades, been supporting the public sector by developing the evidence base to support housing and planning policies and was recognized as the leading quantitative and qualitative research organisation working in the fields of housing and public policy. The senior employees (excluding Dr Fordham) are now working to continue to provide similar services to new and existing clients.

## **Context**

- 1.7 The 2010 AHVS was carried out in 2009 and 2010. Since undertaking the study the funding of affordable housing and the assistance its development receives has been radically changed as part of the Government's attempts to reduce the national budget deficit. The direct grants to Registered Providers (RPs) have been cut and an alternative funding arrangement has been introduced through the new affordable tenure Affordable Rent. The background to these changes is discussed in Chapter 2 and the additional analysis contained in Chapter 4.
- 1.8 The assumptions and basis for the AHVS reflected the prevailing development reality of the time (late 2009) when it seemed unlikely that the Government would push forward with CIL. The assumptions around developer contributions were therefore based on the payments that had been historically made as s106 contributions. It has been decided to implement CIL in Croydon and more widely across the whole of London. The impact of this is discussed in Chapter 3 and the additional analysis contained in Chapter 4.
- 1.9 Earlier this year Croydon Council commissioned BNP Paribas to test the viability of the emerging CIL Charging Schedule. We have been provided with an early copy of that work and, where consistent with the AHVS, we have followed and built on the assumptions used in that work. This applies particularly to the value of Affordable Rented properties. It should however be noted that the AHVS and this supplemental work had been produced for a different purpose to the CIL work. The CIL viability did not look at the sites in as much detail as the AHVS so there are inevitably differences.
- 1.10 It is the Council's firm policy that affordable housing should be provided by the developer on the site that is being developed. There may be situations in which it is agreed that, whilst an affordable contribution should arise in respect of a particular development, it is appropriate that all or some of the contribution should be made off site. Where this is the case and where the physical replacement affordable units are not going to be provided by the developer on another site agreed with the Council, it will be necessary to secure the due affordable contribution in the form of a commuted payment. Chapter 5 provides guidance on the calculation of commuted payments.

The 2010 AHVS suggested Dynamic Viability as a mechanism to vary the Affordable Housing target through the life of the plan. At the time of the AHVS the idea was new and, to some extent, still being developed. The mechanism of dynamic target setting has now been

examined by several inspectors at EiPs. The inspectors have complimented the process and enforced it. Through the process of examination the presentation of the results has been simplified and Croydon Council have asked for a new consolidated set of tables. These are contained in Chapter 6 and Appendix 2.



## 2. Affordable Housing and Grant

### Introduction

- 2.1 The AHVS was prepared by Fordham Research in 2009 / 2010. The appraisals were carried out on the assumption that grant for affordable housing would be available as this reflected the reality of development; most affordable housing in Croydon did benefit from grant from the Homes and Communities Agency (HCA). The need to cut Government expenditure as part of the efforts to balance the national budget has resulted in the HCA's budget being cut to about one quarter of what it was. As part of the measures to mitigate the impact of these cuts the Government is introducing Flexible Tenancies and Affordable Rents.
- 2.2 Affordable Rent is a new type of affordable housing where the rent is no more than 80% of the open market rent for that unit. One of the key aims of the Coalition Government's policy on affordable housing is to make the much reduced HCA budget go further. The Affordable Rent that is over and above the social rent will be used by Registered Providers (RPs) to raise capital funding through borrowing or securitisation. This can then be used to build more affordable units – the extra borrowing replacing the grant.

### Background

- 2.3 When Grant Shapps, the Housing Minister, announced the introduction of Flexible Tenancies and Affordable Rents on the 12th December 2010 he said:
- Housing associations will be able to let an Affordable Rent property (whether a converted void or newbuild) at up to 80 per cent of market rent for an equivalent property for that size and location.*
- 2.4 The hope and objective of Affordable Rent is that by charging higher rents for affordable housing, developers would require less grant and subsidy and thus the development of affordable housing would effectively fund itself, the theory being that if the developer could charge a higher rent then it can borrow more money to finance the construction and development process.
- 2.5 This report does not address whether Flexible Tenancies and Affordable Rent have a place in meeting the housing requirements of those households in housing need and on the Housing Register in Croydon.

- 2.6 Flexible Tenancies will be able to be granted for more than just newbuild properties. Some of the re-lets of existing social rented stock will be able to be at Affordable Rent rather than social rents. The extra income (i.e. that income over and above the social rent) from the re-lets would also be used to fund further development of new affordable housing.

### **Grant Funding**

- 2.7 For many years the HCA and Local Planning Authorities (LPAs) have aspired to ensure that affordable housing is delivered without grant. When LPAs have negotiated with developers during the planning process about the number and type of affordable housing to be provided through s106 agreements and planning conditions, the initial basis of those discussions has usually been that the affordable units would be made available without any grant.
- 2.8 The reality was rather different, particularly in London, with the developer either transferring the serviced land for affordable housing to the private Registered Provider (RP) for no cost or the RP purchasing the completed units from the developer with grant assistance from the HCA.
- 2.9 The amount of grant paid by the HCA was assessed project by project depending on the site's financial characteristics. When the 2010 AHVS was prepared it was decided that appraisals should be produced assuming that Social Housing Grant would be available at £30,000 per bedspace for social rented dwellings and £14,000 per bedspace for intermediate units.
- 2.10 The aim of Affordable Rents (new build and re-lets) is that the extra income can be used to borrow and thus to replace the grant. The RP will be able to service new borrowings to make up the gap in grant. The limited grant that is going to be available is likely to be restricted to those high priority sites where Affordable Rent does not improve the viability (such as in low rent areas) or where there is still a funding gap after the extra Affordable Rent has been allowed for. This may include parts of Croydon so it should not be assumed that there will be no grant available in the future.

### **Development Economics of Affordable Rents**

- 2.11 In the development of affordable housing for rent, the value of the development is the worth of the income that the completed let unit will produce. This is the amount an investor or another RP would pay for the completed unit. This will depend on the amount of the rent, the

cost of managing the property (letting, voids, rent collection, repairs etc) and other uses to which it may be able to be put to at some time in the future. If, for example, the unit could be sold on the open market in the future then a buyer may be willing to pay more to take into account the long term value (known by valuers as the reversion).

2.12 The HCA's *2011-15 Affordable Homes Programme – Framework* contains the 'rules' and guidance around Flexible Tenancies and Affordable Rents. It says:

*3.24 There will be a presumption that new Affordable Rent properties which receive funding under the new programme **will be permanently available for letting**. Flexible tenancies have been introduced to meet the differing needs of prospective tenants – but the homes themselves are expected to be available to meet need over the long-term, and it is on that basis that funding will be made available. We recognise that circumstances may change over time and any future disposal of properties will require TSA consent in the usual way, including consultation with the relevant local authority.*

2.13 Based on this we know that the reversionary period is worth no more as the new property can only be used for Affordable Rent. This only appears to apply to new properties and not re-lets.

2.14 What is the rental stream worth – either to the RP or to somebody else? There are two aspects to this.

- i) How much additional borrowing the additional income from the Affordable Rent income will support.
- ii) What a unit let on Affordable Rent is actually worth.

2.15 This figure depends, in a large part, on the level at which Affordable Rent is set, the terms of the lease and the tenant (will they pay their rent?).

2.16 Currently financially sound RPs can borrow at between 5% and 6% (depending on the details of the proposal). On this basis, to make up a shortfall of £60,000, an additional rent of a little under £65 per week is required, to make up a shortfall of £35,000 additional rent of about £37.50 per week is required. To set this in context the current social rent in Croydon is about £80 per week.

2.17 Not all this additional rent needs to come from the home being developed. Some could come from the additional rent generated by re-lets of existing social rented homes under affordable rents. If the additional rent from, say, two re-lets and one newly developed home

were combined, then only a third of the weekly increase would be required. Each developer will have to consider its own situation and the locality (i.e. the need and demand for housing and different rental levels) when deciding how to proceed with developments.

### **Value of Affordable Rent: an illustrative approach**

- 2.18 We have assumed that as a typical new Affordable Rent unit will be new and built to the HCA's standards that it will command a premium rent that is a little higher than equivalent private sector accommodation. We have assumed that the Open Market Rent is the lower quartile rent (£1,100 per month) but the Affordable Rent is 80% of the median rent (80% of £1,225 = £980 per month). In line with the CIL Viability work carried out by BNP Paribas we have allowed for 10% management costs, 4% voids and bad debts and 5.6% repairs. We have capitalised the income at 5.25% - again in line with BNP Paribas.
- 2.19 We understand from officers that the current expectation is that Affordable Rents in the Borough will be around 65% of open market rents. Based on this, in this study we have assumed that the value of the Affordable Rented units is approximately £75,000 higher than the value of the Social Rented units (although for the appraisal calculation we have worked in £/sq ft / £m<sup>2</sup>).
- 2.20 We take this opportunity to stress that at this stage Croydon Council have no adopted policy in relation to what level they believe Affordable Rents should be set at. By basing this study on 65% of Open Market Rent we are taking a conservative approach. The actual level is likely to vary from site to site and even within sites.
- 2.21 The Council will shortly be preparing a Tenancy Strategy (assuming the completion of the Localism Bill's passage through Parliament). The balance between the need for different types of tenure and the practicalities and viability of delivery will, no doubt, be included in that strategy.

### **The Treatment of Re-lets and Other Funding Sources**

- 2.22 A 3 bedroom / 4 person home was receiving up to £120,000 of grant (4 x £30,000). From the preceding sections it can be seen that, whilst the additional Affordable Rent over and above the social rent will make up a really useful contribution towards leveraging finance to replace the affordable housing grant, it will not in fact make up the shortfall.



- 2.23 RPs are permitted to convert some of the existing Social Rented units to flexible tenancies under Affordable Rent – but only if the increased rent is used to leverage extra finance to enable the delivery of more affordable homes. It is very difficult to estimate with any accuracy how many units this applies to.
- 2.24 The Council estimate that over the past 3 years, on average there have been 280 RP re-lets per year. It is thought that RPs in Croydon are looking at up to 50% of re-lets being Affordable Rent in future – about 140 per year.
- 2.25 This in the context that over the next 5 years the council are anticipating about 500 new affordable rent properties (125 per year) from the build programme of RPs. The Core Strategy plans for a minimum of 730 affordable rent properties over the same time period (145 per year). The re-lets will clearly have an important role in leveraging further finance for their development.
- 2.26 The other source of funding that will be available to subsidise new units coming forward will be from sales into the open market and from shared ownership staircasing as well as from recycled grant being returned to new schemes.
- 2.27 With this in mind we have allowed for approximately £56,000 per unit of 'external' funding from re-lets, sales, and recycled grant to enable Affordable Rent unit development.



## 3. Developer Contributions and CIL

### Introduction

- 3.1 The AHVS was prepared by Fordham Research in 2009 / 2010. The appraisals were carried out on the assumption that the developers would make contributions towards the improvements to local infrastructure (roads, schools, open space etc.) that were required to enable a development to go ahead. These s106 contributions are set out towards the end of Chapter 3 of the 2010 AHVS. In the AHVS it was decided that developer contributions should be assumed to be at a rate of £2,500 per dwelling for sites of 15 plus dwellings, and £1,800 for smaller sites. This was based on consideration of past Section 106 payments made by developers.
- 3.2 It was decided that that as these were relatively modest amounts by comparison with experience elsewhere, and we also undertook to test sensitivity to a higher rate of £7,500 per dwelling across all sites.
- 3.3 Since the AHVS was completed, the Coalition Government has decided to continue with and implement the previous Government's plans and introduce Community Infrastructure Levy (CIL). CIL will, to a large extent, replace developer contributions. It is for the individual planning authorities to put in place their own Charging Schedule. The setting of CIL is subject to detailed regulations and guidance that allows planning authorities to set different rates of levy for different types of development in different geographical zones.

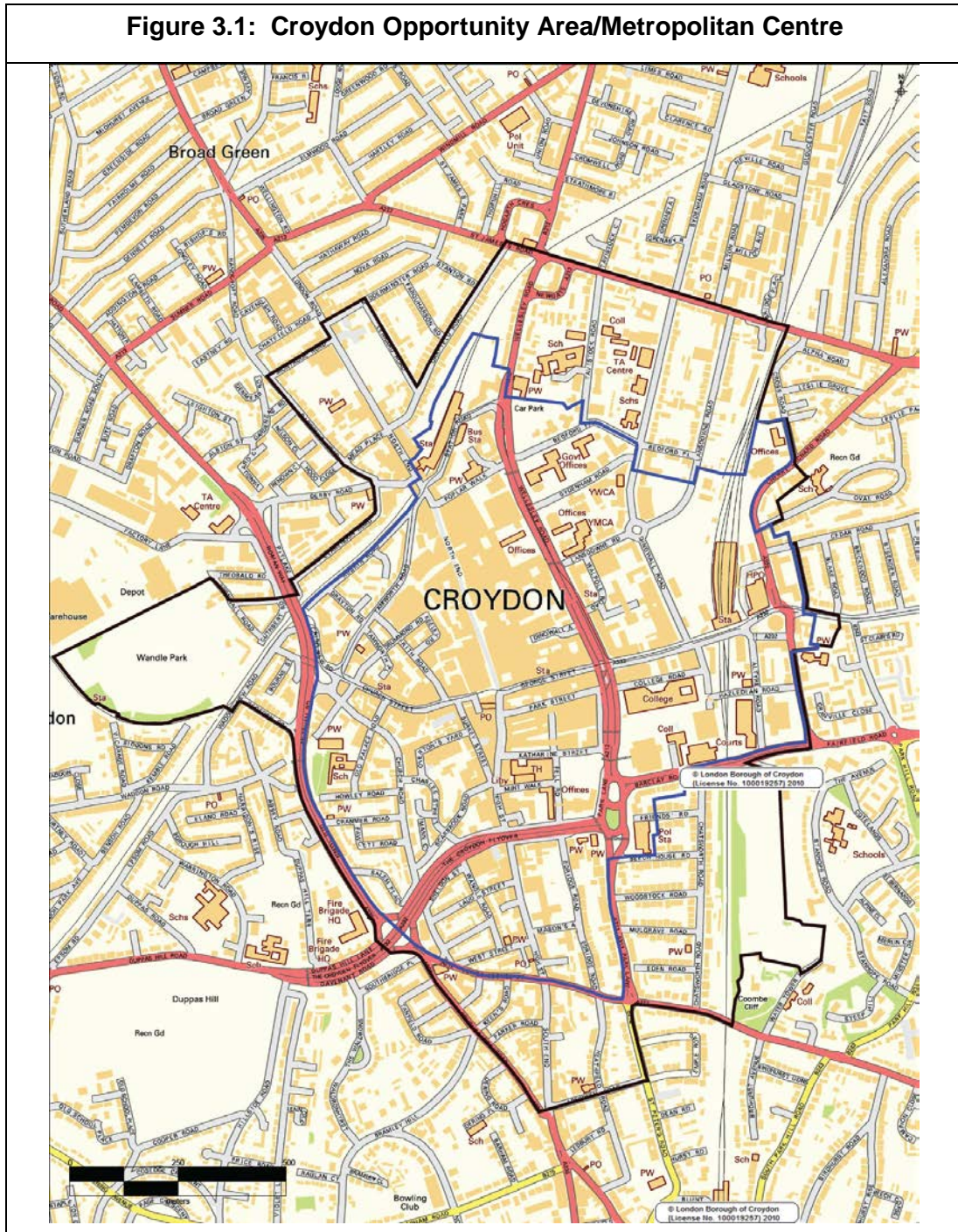
### Mayoral CIL

- 3.4 London has two tiers of planning authority, the boroughs and the Greater London Authority (GLA). The GLA sets its own CIL that has become known as the Mayoral CIL. This has been set at different levels across different Zones in London. The Mayoral CIL for residential development in Croydon is £20/m<sup>2</sup>. We have incorporated this amount into all the appraisals. CIL is not levied on affordable housing.

### Croydon CIL

- 3.5 Croydon Council have resolved to adopt CIL and have appointed consultants (BNP Paribas) to test various levels as they are required to by the Guidance. That process is on-going but the emerging findings indicate that the Council will adopt two Charging Zones; one being the

Croydon Metropolitan Centre and the other the remainder of the Borough. The boundary of the Croydon Metropolitan Centre is shown blue on the following map. The map also shows in black Croydon Opportunity Area for the purposes of the Council's proposed affordable housing policy.



Source: Croydon Council

- 3.6 Sites 1A, 5A, 3N, 7N, 8N from the AHVS fall within Croydon Metropolitan Centre so will only be subject to Mayoral CIL at £20/m<sup>2</sup>. All the other sites will be subject to Croydon's and the Mayor's combined £140/m<sup>2</sup>. Again no CIL is levied on affordable housing.
- 3.7 The Council will still be able to require developers to make contributions to specific improvements that relate to individual developments and that are not covered by CIL. Following discussions with the Council we have assumed an additional contribution over and above CIL of £1,000 per unit. As with the original study this contribution applies to all types of development – market and affordable.



## 4. Updated Appraisal Results

### Introduction

4.1 In the proceeding chapters we have set out the background and rationale behind this study. The brief requires the following new tables:

- *An additional table showing the viability of affordable homes at 0%, 10%, 20%, 30%, 40% and 50% taking into account Affordable Rents and Croydon's proposed Community Infrastructure Levy rate of £140/m<sup>2</sup> of net additional floor space and £1000 planning obligations per new home.*
- *An update to Tables 6.1, 6.3, 6.4, 6.8, 6.9, 6.10 and 6.11 of the original study to show the viability of 10% affordable homes on each site.*

4.2 We have produced these new and updated tables and set them out below. We have used the same methodology and assumptions as used in the 2010 AHVS – except where explicitly stated. We will not repeat the rationale behind those here and reference should be made to the AHVS. The main assumptions are:

- Affordable Housing – a tenure split of 70% social rented and 30% shared ownership with the unit sizes following the market housing.
- Construction costs based on BCIS and assuming Code for Sustainable Homes (CSH) Level 4, adjustments for site size and infrastructure. In addition we assessed and took into account site specific 'abnormal' development costs.
- Fees were assumed at 10%.
- The appraisals included a contingency allowance of 2.5% or 5% depending on the site characteristics.
- Interest was assumed at 7.5%
- Developers profit is a requirement for any scheme to go ahead. This was assumed to be between 17.5% and 20% depending on the amount of affordable housing on the site.

4.3 Where the table is an update table we have used an equivalent number so that easy cross reference and comparison can be made.

**An additional table showing the viability of affordable homes at 0%, 10%, 20%, 30%, 40% and 50% taking into account Affordable Rents and Croydon's proposed Community Infrastructure Levy rate of £140/m<sup>2</sup> of net additional floor space and £1000 planning obligations per new home.**

- 4.4 This table is equivalent to Table 6.3 of the AHVS. To prepare this table we have followed the assumptions and principals set out in Chapters 2 and 3.
- 4.5 In the AHVS it was assumed that Social Housing Grant would be available at £30,000 per bedspace for social rented dwellings and £14,000 per bedspace for intermediate units. This has now been deducted from the appraisal.
- 4.6 It has been assumed that the Social Rented Housing is Affordable Rent so have added in the additional capital funding leveraged by Affordable Rent (about £75,000 per 3 bedroom home) and the other alternative sources of funding discussed in Chapter 2 (a further £56,000 per 3 bedroom unit).
- 4.7 We have deducted the s106 contributions from the AHVS appraisals (£2,500 per dwelling for sites of 15 plus dwellings, and £1,800 per dwelling for smaller sites).
- 4.8 CIL will apply to all market units (and not affordable units) at the Mayoral CIL rate of £20/ m<sup>2</sup>. Sites 1A, 5A, 3N, 7N, 8N from the AHVS fall within Croydon Metropolitan Centre so will only be subject to Mayoral CIL. All the other sites will be subject to Croydon's and the Mayor's at the combined rate of £140/m<sup>2</sup>. All units (market and affordable) on all sites are subject to an additional s.106 contribution of £1,000 per unit).



<b>NEW Table 6.3a Appraisal outcomes: base appraisals, no grant, Aff rent, plus CIL</b>							
No	Site	Alt use value	Value £k per acre				
			No affordable	10%	20%	30%	40%
1A	Croydon Park Hotel	150	-5,471	-6,562	-7,661	-8,765	-9,893
		300	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB
2A	Queens Hospital	618	735	618	502	367	242
		768	MARGINAL	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB
2F	with family mix	618	644	572	515	457	399
		768	MARGINAL	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB
3A	187-195 London Rd	1,500	2,447	1,687	921	148	-665
		1,650	VIABLE	VIABLE	NOT VIAB	NOT VIAB	NOT VIAB
3N	City Centre CR9 1	1,250	1,527	824	123	-619	-1,367
		1,400	VIABLE	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB
3P	Purley CR8 4	1,000	700	73	-586	-1,254	-1,927
		1,150	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB
4A	Cane Hill Hospital	10	1,404	1,281	1,158	1,032	906
		160	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE
5A	Waterworks Yard	1,750	2,546	2,281	2,013	1,741	1,469
		1,900	VIABLE	VIABLE	VIABLE	NOT VIAB	NOT VIAB
6A	Addiscombe Station	626	596	542	487	430	374
		776	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB
6N	edge of centre CR0 1	626	540	490	441	391	340
		776	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB
6P	Purley CR8 2	626	642	582	523	463	402
		776	MARGINAL	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB
6Q	Selsdon CR2 8	626	789	716	642	567	491
		776	VIABLE	MARGINAL	MARGINAL	NOT VIAB	NOT VIAB
7A	68-70 Belulah Hill	1050	809	738	666	594	525
		1200	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB
7N	City Centre CR0 1	910	1,050	962	866	769	669
		1060	MARGINAL	MARGINAL	NOT VIAB	NOT VIAB	NOT VIAB
7P	Purley CR8 2	965	764	698	630	562	498
		1115	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB
7Q	Selsdon CR2 8	1050	883	805	726	646	566
		1200	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB

<b>NEW Table 6.3a Appraisal outcomes: base appraisals, no grant, Aff rent, plus CIL</b>							
No	Site	Alt use value	Value £k per acre				
			No affordable	10%	20%	30%	40%
8A	Sumner Gardens	468	568	568	568	567	565
		618	MARGINAL	MARGINAL	MARGINAL	MARGINAL	MARGINAL
8N	City Centre CR0 1	783	1,034	988	940	893	845
		933	VIABLE	VIABLE	VIABLE	MARGINAL	MARGINAL
8P	Coulston CR5 2	618	807	784	760	736	711
		768	VIABLE	VIABLE	MARGINAL	MARGINAL	MARGINAL
9A	Nursery	100	724	678	633	587	540
		250	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE
9N	Cane Hill	50	423	410	394	377	360
		200	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE
9P	North Croydon	150	456	437	421	401	380
		300	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE

Source: Affordable Housing Viability Study – Additional Analysis 2011

4.9 These results are summarised in tabular form below with the results from the 2010 AHVS shown in brackets:

<b>NEW Table 6.4 Results summary of NEW Table 6.3 (2009 AHVS results in brackets)</b>						
	No of sites in category with affordable at:					
	No aff	10%	20%	30%	40%	
Viable	10 (15)	7	6 (8)	4 (6)	4 (6)	4 (6)
Marginal	5 (5)	4	3 (5)	2 (2)	2 (1)	2 (1)
Not viable	7 (2)	7	13 (9)	16 (14)	16 (15)	16 (15)
Total	22	22	22	22	22	22

Source: Affordable Housing Viability Study – Additional Analysis 2011

4.10 These results show a relatively small decline in the viability of residential development. The impact of this is discussed at the end of this chapter.

- 4.11 For each of the following tables we have simply inserted the appropriate new 10% column. All other figures remain unchanged.

<b><i>NEW Table 6.1 Appraisal results for four affordable options with grant (including 10%)</i></b>							
No	Site	<i>Residual value £k per acre for affordable option:</i>					
		No aff	10%	20%	30%	40%	50%
1A	City Centre	-5,519	-625	-7,746	-8,859	-10,004	-11,140
2A	suburban S Croydon	972	829	682	534	385	235
2F	family mix	840	760	678	596	513	428
3A	London Rd Croydon	3,425	2546	1,645	756	-153	-1,118
3N	City Centre	1,444	726	3	-766	-1,525	-1,512
3P	Purley	1,679	931	167	-618	-1,420	-2,231
4A	South Greenfield	1,598	1453	1,306	1,159	1,011	861
5A	Town Centre	2,513	2242	1,967	1,691	1,410	1,127
6A	North Central Croydon	764	691	616	541	465	388
6N	edge of centre	707	640	570	501	431	359
6P	Purley	810	732	653	573	493	411
6Q	Selsdon	958	865	771	677	583	437
7A	N Croydon	1,030	934	838	739	640	544
7N	City Centre	1,060	962	862	760	658	556
7P	Purley	985	895	799	708	613	521
7Q	Selsdon	1,105	1002	897	792	685	577
8A	W Croydon	821	802	774	746	717	687
8N	City Centre	1,058	1008	956	906	854	809
8P	Coulsdon	1,058	1008	956	906	854	809
9A	Sanderstead/Purley	834	777	720	662	604	544
9N	Cane Hill	533	505	477	449	422	395
9P	North Croydon	566	536	504	473	440	412

Source: Affordable Housing Viability Study – Additional Analysis 2011

<b>NEW Table 6.3b Appraisal outcomes: base appraisals, with grant (10% added)</b>								
No	Site	Alt use value	Value £k per acre					
			No affordable	10%	20%	30%	40%	50%
1A	Croydon Park Hotel	150	-5,519	-6,625	-7,746	-8,859	-10,004	-11,140
		300	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB
2A	Queens Hospital	618	972	829	682	534	385	235
		768	VIABLE	VIABLE	MARGINAL	NOT VIAB	NOT VIAB	NOT VIAB
2F	with family mix	618	840	760	678	596	513	428
3A	187-195 London Rd	768	VIABLE	MARGINAL	MARGINAL	NOT VIAB	NOT VIAB	NOT VIAB
		1,500	3,425	2,546	1,645	756	-153	-1,118
		1,650	VIABLE	VIABLE	MARGINAL	NOT VIAB	NOT VIAB	NOT VIAB
3N	City Centre CR9 1	1,250	1,444	726	3	-766	-1,525	-1,512
		1,400	VIABLE	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB
3P	Purley CR8 4	1,000	1,679	931	167	-618	-1,420	-2,231
		1,150	VIABLE	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB
4A	Cane Hill Hospital	10	1,598	1,453	1,306	1,159	1,011	861
		160	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE
5A	Waterworks Yard	1,750	2,513	2,242	1,967	1,691	1,410	1,127
		1,900	VIABLE	VIABLE	VIABLE	NOT VIAB	NOT VIAB	NOT VIAB
6A	Addiscombe Station	626	764	691	616	541	465	388
		776	MARGINAL	MARGINAL	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB
6N	edge of centre CR0 1	626	707	640	570	501	431	359
		776	MARGINAL	MARGINAL	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB
6P	Purley CR8 2	626	810	732	653	573	493	411
		776	VIABLE	MARGINAL	MARGINAL	NOT VIAB	NOT VIAB	NOT VIAB
6Q	Selsdon CR2 8	626	958	865	771	677	583	437
		776	VIABLE	VIABLE	MARGINAL	MARGINAL	NOT VIAB	NOT VIAB
7A	68-70 Belulah Hill	1050	1,030	934	838	739	640	544
		1200	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB
7N	City Centre CR0 1	910	1,060	962	862	760	658	556
		1060	MARGINAL	MARGINAL	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB
7P	Purley CR8 2	965	985	895	799	708	613	521
		1115	MARGINAL	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB
7Q	Selsdon CR2 8	1050	1,105	1,002	897	792	685	577
		1200	MARGINAL	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB

<b>NEW Table 6.3b Appraisal outcomes: base appraisals, with grant (10% added)</b>								
No	Site	Alt use value	Value £k per acre					
			No affordable	10%	20%	30%	40%	50%
8A	Sumner Gardens	468	821	802	774	746	717	687
		618	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE
8N	City Centre CR0 1	783	1,058	1,008	956	906	854	809
		933	VIABLE	VIABLE	VIABLE	MARGINAL	MARGINAL	MARGINAL
8P	Coulsdon CR5 2	618	1,058	1,008	956	906	854	809
		768	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE
9A	Nursery	100	834	777	720	662	604	544
		250	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE
9N	Cane Hill	50	533	505	477	449	422	395
		200	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE
9P	North Croydon	150	566	536	504	473	440	412
		300	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE

Source: Affordable Housing Viability Study – Additional Analysis 2011

<b>NEW Table 6.4 Viability results summary (10% Added)</b>							
<i>No of sites in category with affordable at:</i>							
	No aff	10%	20%	30%	40%	50%	
Viable	15	11	8	6	6	6	
Marginal	5	5	5	2	1	1	
Not viable	2	6	9	14	15	15	
<b>Total</b>	<b>22</b>	<b>22</b>	<b>22</b>	<b>22</b>	<b>22</b>	<b>22</b>	

Source: Affordable Housing Viability Study – Additional Analysis 2011

**NEW Table 6.8 Sensitivity test: CSH Level 3 (10% Added)**

No	Site	Alt use value	Base option 30% aff	Value £k per acre			
				10% aff	20% aff	30% aff	40% aff
1A	Croydon Park Hotel	150	-8,859	-5,879	-7,035	-8,196	-9,355
		300	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB
2A	Queens Hospital	618	534	1,016	861	705	551
		768	NOT VIAB	VIABLE	VIABLE	MARGINAL	NOT VIAB
2F	with family mix	618	596	859	769	680	591
		768	NOT VIAB	VIABLE	VIABLE	MARGINAL	NOT VIAB
3A	187-195 London Rd	1,500	756	3,184	2,248	1,337	398
		1,650	NOT VIAB	VIABLE	VIABLE	NOT VIAB	NOT VIAB
3N	City Centre CR9 1	1,250	-766	1,364	621	-155	-949
		1,400	NOT VIAB	MARGINAL	NOT VIAB	NOT VIAB	NOT VIAB
3P	Purley CR8 4	1,000	-618	1,566	772	-17	-846
		1,150	NOT VIAB	VIABLE	NOT VIAB	NOT VIAB	NOT VIAB
4A	Cane Hill Hospital	10	1,159	1,563	1,411	1,257	1,102
		160	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE
5A	Waterworks Yard	1,750	1,691	2,479	2,194	1,907	1,618
		1,900	NOT VIAB	VIABLE	VIABLE	VIABLE	NOT VIAB
6A	Addiscombe Station	626	541	790	709	629	548
		776	NOT VIAB	VIABLE	MARGINAL	MARGINAL	NOT VIAB
6N	edge of centre CR0 1	626	501	739	663	588	513
		776	NOT VIAB	MARGINAL	MARGINAL	NOT VIAB	NOT VIAB
6P	Purley CR8 2	626	573	831	746	661	575
		776	NOT VIAB	VIABLE	MARGINAL	MARGINAL	NOT VIAB
6Q	Selsdon CR2 8	626	677	964	865	766	665
		776	MARGINAL	VIABLE	VIABLE	MARGINAL	MARGINAL
7A	68-70 Belulah Hill	1050	739	1,067	962	857	751
		1200	NOT VIAB	MARGINAL	NOT VIAB	NOT VIAB	NOT VIAB
7N	City Centre CR0 1	910	760	1,094	1,022	878	796
		1060	NOT VIAB	VIABLE	MARGINAL	NOT VIAB	NOT VIAB
7P	Purley CR8 2	965	708	1,025	926	825	724
		1115	NOT VIAB	MARGINAL	NOT VIAB	NOT VIAB	NOT VIAB
7Q	Selsdon CR2 8	1050	792	1,134	1,022	910	797
		1200	NOT VIAB	MARGINAL	NOT VIAB	NOT VIAB	NOT VIAB

<b>NEW Table 6.8 Sensitivity test: CSH Level 3 (10% Added)</b>							
No	Site	Alt use value	Base option 30% aff	Value £k per acre			
				10% aff	CSH Level 3		
					20% aff	30% aff	40% aff
8A	Sumner Gardens	468	746	919	881	850	815
		618	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE
8N	City Centre CR0 1	783	906	1,133	1,074	1,016	958
		933	MARGINAL	MARGINAL	VIABLE	VIABLE	VIABLE
8P	Coulsdon CR5 2	618	906	1,133	1,074	1,016	958
		768	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE
9A	Nursery	100	662	829	769	708	647
		250	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE
9N	Cane Hill	50	449	557	527	495	464
		200	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE
9P	North Croydon	150	473	588	555	521	487
		300	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE

Source: Affordable Housing Viability Study – Additional Analysis 2011

<b>NEW Table 6.9 Sensitivity test: 2006 Building Regulations base costs (including Lifetime Homes and Wheelchair allowance) (10% Added)</b>							
No	Site	Alt use	Base option 30% aff	Value £k per acre			
				10% aff	20% aff	No CSH Level 3 30% aff      40% aff	
1A	Croydon Park Hotel	150	-8,859	-4,679	-5,811	-6,933	-8,050
		300	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB
2A	Queens Hospital	618	534	1,218	1,071	923	724
		768	NOT VIAB	VIABLE	VIABLE	VIABLE	MARGINAL
2F	with family mix	618	596	1,073	991	909	825
		768	NOT VIAB	VIABLE	VIABLE	VIABLE	VIABLE
3A	187-195 London Rd	1,500	756	4,146	3,254	2,354	1,448
		1,650	NOT VIAB	VIABLE	VIABLE	VIABLE	NOT VIAB
3N	City Centre CR9 1	1,250	-766	2,328	1,587	872	141
		1,400	NOT VIAB	VIABLE	VIABLE	NOT VIAB	NOT VIAB
3P	Purley CR8 4	1,000	-618	2,532	1,771	1,006	244
		1,150	NOT VIAB	VIABLE	VIABLE	MARGINAL	NOT VIAB
4A	Cane Hill Hospital	10	1,159	1,788	1,641	1,494	1,345
		160	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE
5A	Waterworks Yard	1,750	1,691	2,835	2,562	2,282	2,005
		1,900	NOT VIAB	VIABLE	VIABLE	VIABLE	VIABLE
6A	Addiscombe Station	626	541	948	875	799	723
		776	NOT VIAB	VIABLE	VIABLE	VIABLE	MARGINAL
6N	edge of centre CR0 1	626	501	899	829	759	688
		776	NOT VIAB	VIABLE	VIABLE	MARGINAL	MARGINAL
6P	Purley CR8 2	626	573	989	911	831	750
		776	NOT VIAB	VIABLE	VIABLE	VIABLE	MARGINAL
6Q	Selsdon CR2 8	626	677	1,124	1,030	936	840
		776	MARGINAL	VIABLE	VIABLE	VIABLE	VIABLE
7A	68-70 Belulah Hill	1050	739	1,268	1,170	1,071	971
		1200	NOT VIAB	VIABLE	MARGINAL	MARGINAL	NOT VIAB
7N	City Centre CR0 1	910	760	1,294	1,194	1,092	989
		1060	NOT VIAB	VIABLE	VIABLE	VIABLE	MARGINAL
7P	Purley CR8 2	965	708	1,227	1,133	1,039	944
		1115	NOT VIAB	VIABLE	VIABLE	MARGINAL	NOT VIAB
7Q	Selsdon CR2 8	1050	792	1,334	1,230	1,124	1,017
		1200	NOT VIAB	VIABLE	VIABLE	MARGINAL	NOT VIAB



<b>NEW Table 6.9 Sensitivity test: 2006 Building Regulations base costs (including Lifetime Homes and Wheelchair allowance) (10% Added)</b>							
No	Site	Alt use	Base option 30% aff	Value £k per acre			
				10% aff	20% aff	30% aff	40% aff
				No CSH Level 3			
8A	Sumner Gardens	468	746	1,122	1,094	1,066	1,037
		618	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE
8N	City Centre CR0 1	783	906	1,336	1,282	1,230	1,178
		933	MARGINAL	VIABLE	VIABLE	VIABLE	VIABLE
8P	Coulsdon CR5 2	618	906	1,335	1,282	1,230	1,178
		768	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE
9A	Nursery	100	662	920	861	804	747
		250	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE
9N	Cane Hill	50	449	648	620	592	563
		200	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE
9P	North Croydon	150	473	678	647	615	583
		300	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE

Source: Affordable Housing Viability Study – Additional Analysis 2011

**NEW Table 6.10 Sensitivity test: increased developer contributions(10% Added)**

No	Site	Value £k per acre						
		Alt value	PG £7.5k Level 4			PG £7.5k Level 3		
			10% aff	20% aff	30% aff	10% aff	30% aff	40% aff
1A	Croydon Park Hotel	150	-7,402	-8,514	-9,638	-6,657	-7,809	-8,953
		300	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB
2A	Queens Hospital	618	651	503	356	838	682	529
		768	MARGINAL	NOT VIAB	NOT VIAB	VIABLE	MARGINAL	NOT VIAB
2F	with family mix	618	645	560	480	743	653	564
		768	MARGINAL	NOT VIAB	NOT VIAB	MARGINAL	MARGINAL	NOT VIAB
3A	187-195 London Rd	1,500	1,678	779	-111	2,315	1,396	457
		1,650	VIABLE	NOT VIAB	NOT VIAB	VIABLE	NOT VIAB	NOT VIAB
3N	City Centre CR9 1	1,250	-148	-902	-1,668	505	-261	-1,066
		1,400	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB
3P	Purley CR8 4	1,000	62	-733	-1,533	700	-87	-897
		1,150	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB
4A	Cane Hill Hospital	10	1,354	1,205	1,057	1,463	1,311	1,157
		160	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE
5A	Waterworks Yard	1,750	1,915	1,639	1,361	2,151	1,866	1,578
		1,900	VIABLE	NOT VIAB	NOT VIAB	VIABLE	MARGINAL	NOT VIAB
6A	Addiscombe Station	626	605	528	454	703	622	542
		776	NOT VIAB	NOT VIAB	NOT VIAB	MARGINAL	NOT VIAB	NOT VIAB
6N	edge of centre CR0 1	626	553	484	414	652	576	501
		776	NOT VIAB	NOT VIAB	NOT VIAB	MARGINAL	NOT VIAB	NOT VIAB
6P	Purley CR8 2	626	645	564	487	744	658	574
		776	MARGINAL	NOT VIAB	NOT VIAB	MARGINAL	MARGINAL	NOT VIAB
6Q	Selsdon CR2 8	626	778	684	589	877	778	678
		776	VIABLE	MARGINAL	NOT VIAB	VIABLE	VIABLE	MARGINAL
7A	68-70 Belulah Hill	1050	821	722	629	954	849	745
		1200	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB
7N	City Centre CR0 1	910	848	746	647	981	873	765
		1060	NOT VIAB	NOT VIAB	NOT VIAB	MARGINAL	NOT VIAB	NOT VIAB
7P	Purley CR8 2	965	781	686	597	914	813	712
		1115	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB
7Q	Selsdon CR2 8	1050	888	781	679	1,021	909	796
		1200	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB

<b>NEW Table 6.10 Sensitivity test: increased developer contributions(10% Added)</b>								
No	Site	Alt value	Value £k per acre					
			PG £7.5k Level 4			PG £7.5k Level 3		
			10% aff	20% aff	30% aff	10% aff	30% aff	40% aff
8A	Sumner Gardens	468	696	666	638	814	786	851
		618	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE
8N	City Centre CR0 1	783	903	853	807	1,027	970	910
		933	MARGINAL	MARGINAL	MARGINAL	VIABLE	VIABLE	MARGINAL
8P	Coulsdon CR5 2	618	903	853	807	1,077	970	910
		768	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE
9A	Nursery	100	736	878	663	787	727	667
		250	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE
9N	Cane Hill	50	463	436	410	515	484	453
		200	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE
9P	North Croydon	150	493	462	431	547	513	479
		300	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE	VIABLE

Source: Affordable Housing Viability Study – Additional Analysis 2011

<b>NEW Table 6.11 Viability results: Planning Gain options (10% Added)</b>			
	Base PG Level 4	Higher PG Level 3	Higher PG Level 4
<i>No of sites in category with affordable at 10%:</i>			
Viable	21	11	9
Marginal	0	5	4
Not viable	1	6	9
<i>No of sites in category with affordable at 20%:</i>			
Viable	8	8	6
Marginal	5	4	2
Not viable	9	10	14
<i>No of sites in category with affordable at 30%:</i>			
Viable	6	6	6
Marginal	2	2	1
Not viable	14	14	15
Total	22	22	22

Source: Affordable Housing Viability Study – Additional Analysis 2011

## **Conclusions**

- 4.12 The purpose of the 2010 AHVS was to assess the impact of alternative affordable housing requirements upon development viability in order to provide appropriate guidance as to a deliverable Affordable Housing target as required by paragraph 29 of PPS3. We produced financial appraisals in respect of residential developments on a range of sites.
- 4.13 In order to prepare financial appraisals, whether for a general study like this or on behalf of a landowner or developer proposing a specific development, it is necessary to make a considerable number of assumptions. We believe that, in general, the assumptions we have made are fair and reasonable. They reflect considerable experience drawn from a variety of development situations and are designed to reflect the circumstances of each site which, even in a relatively compact area like Croydon, in practice display a certain amount of diversity. The assumptions around Affordable Rent and the funding environment for Affordable Housing are emerging however we have taken, in discussion with the Council, a conservative approach that we believe errs on the side of caution.
- 4.14 The financial appraisals produce a series of residual values showing the value generated for each site for all market housing, and further tested under a range of affordable housing scenarios. In an exercise of this nature, the figures have to be interpreted in order to draw conclusions for Plan policies. We have suggested a basis for interpretation which draws on indicative alternative use values, and sets a standard 'cushion' over alternative use value to provide an incentive for the landowner to bring the site forward. Again, as a strategic approach, we believe this to be reasonable and that has been broadly accepted by the industry stakeholders during the consultation process on the 2009 AHVS.
- 4.15 As with the AHVS this work is a strategic study designed to inform the development of Plan policy, rather than as an exercise to predict as accurately as possible the actual financial outcomes of development on specific sites. The actual sites used in the study should be regarded as indicating more general patterns of development across the study area.

## **Basis for the affordable housing target**

- 4.16 The results from the appraisals indicate that there has been a decline in viability from the introduction of Affordable Rents and CIL. There are, however, several factors that are not

reflected in the appraisals and need to be given weight when considering the appropriate affordable housing target.

- 4.17 The AHVS assumed all new homes would be built to CSH Level 4 and the build costs used in the appraisals were increased to reflect this. This has been carried forward into the additional analysis in this report. Since the AHVS the actual costs of implementing CSH has reduced markedly as builders have refined the construction techniques required and manufactures have introduced new, less expensive, products (e.g. more efficient boilers). This is illustrated in the recent research from DCLG that reported, for example, the addition costs of building to Level 3 over and above Building Regulations, for an edge of town scheme, had fallen from over a little over £4,000 per unit to about £1,400.
- 4.18 Since the AHVS was completed there has been a change of Government and a resulting change of policy. It now seems unlikely that CSH Level 4 will become mandatory, on a national basis, in the foreseeable future – although Croydon Council do plan to require developers to build to this standard. Tables 6.8 and 6.9 of the 2010 AHVS (both of which have had a 10% column added in this report) show the impact on viability of building to the less demanding Level 3 or lower Building Regulations. In both cases viability is significantly improved. We therefore believe that the costs of construction are somewhat overstated in this report and findings.
- 4.19 This study assumes that Affordable Rented homes will be let at 65% of Open Market Rent and not at the 80% allowed for under the guidance. The reasons for making these assumptions are set out in Chapter 2. The level of rent will have a direct impact on the viability of the project. This is a very cautious and conservative position to take but this is the Council's emerging preferred level of rent.
- 4.20 On balance, we do however think that the decline in viability as a result of the changes we have tested are material and therefore recommend that affordable housing target is reduced from the current 20% to 15% affordable housing.
- 4.21 We are recommending that this 15% target forms the starting point for the Dynamic Target setting and commuted sums in the following chapters.



## 5. Commuted Sum Payments

### Introduction

- 5.1 There may be situations in which it is agreed that, whilst an affordable contribution should arise in respect of a particular development, it is appropriate that all or some of the contribution should be made off site. Where this is the case and where replacement affordable units are not going to be provided by the developer on another site agreed with the Council, it will be necessary to secure the due affordable contribution in the form of a commuted payment. This chapter provides guidance on the calculation of commuted sum payments in such a situation.
- 5.2 The financial appraisal analysis discussed the AHVS provides a basis for calculating commuted sum payments.
- 5.3 It is sensible for all Councils to set out guidance as to how a commuted sum would be calculated - so as to provide transparency, and to avoid the undue delays that might arise during s106 negotiations if details of a payment had to be developed from first principles on each occasion. The viability study analysis provides a basis on which it would be possible to formulate appropriate arrangements for calculating the commuted sum.

### Review of plan policy formulae

- 5.4 Some time ago we researched the nature of commuted sum formulations in approved or emerging local planning policies. Whilst some relied on generalities, the vast majority which had developed a specific formula, had used one which derived from the Housing Corporation's Total Cost Indicator (TCI) system.
- 5.5 This system was designed to provide cost discipline, so as to ensure that affordable housing was procured by Registered Social Landlords on terms which produced Value for Money for the public subsidy, Social Housing Grant (SHG), which had been the normal funding basis through which it was provided.
- 5.6 Given that this was its purpose, the TCI was extremely useful in providing a basis for calculating commuted sums. It was designed to provide cost guidance specifically related to each local Council area; contained such guidance for each of a large number of different

dwelling size bands; and was updated through indexing and readjustment each year so remained current.

- 5.7 Unfortunately the Housing Corporation replaced the TCI system with an approach which does not provide these benefits. This reflected, to some extent, the move towards a more targeted use of SHG and a greater reliance on developer subsidy. However, from the viewpoint of commuted sum formulation, the change is, in some respects, to be regretted.

### **Alternative approach**

- 5.8 We have adopted an approach to the calculation of the developer contribution, utilising the site viability analysis. It is based upon the contribution that the developer would have made if an on-site affordable contribution were delivered.
- 5.9 The calculation works as follows:
- i) Estimate the value of the site with 100% market housing
  - ii) Estimate the value of the site with the target level of affordable housing contribution previously recommended.
- 5.10 The difference between (i) and (ii) is the loss in value experienced by the developer due to the affordable housing policy contribution. Taking the appraisal for site 6A as an example, the residual value with no affordable housing, i.e. 65 market dwellings, is £1,857,074. With the 20% affordable option, the residual value falls to £1,514,992.
- 5.11 The developer's contribution is £342,082; divided by 13 affordable dwellings, this gives a cost of £26,314 per affordable dwelling.
- 5.12 The results of this calculation for the full range of sites are set out in Table 5.1. For the sake of clarity these findings reflect the changes in viability that arise from the introduction of CIL and the new Affordable Rent tenure.



<b>Table 5.1 Affordable Housing Contribution: calculations</b>					
<i>Site</i>		<i>£ RV @ no aff</i>	<i>£ RV 20% aff no grant</i>	<i>No of affordable dwgs</i>	<i>Contribution £ per aff dwg</i>
1A	City Centre	-6,922,156	-9,688,019	47.2	58,600
2A	suburban S Croydon	5,030,745	3,917,177	72	15,500
2F	family mix	4,905,670	4,021,334	46	19,200
3A	London Rd Croydon	1,765,904	664,256	30	36,700
3N	City Centre	1,101,481	88,566	30	33,800
3P	Purley	504,009	-423,150	30	30,900
4A	South Greenfield	7,217,423	5,949,688	25	50,700
5A	Town Centre	2,523,011	1,994,710	15	35,200
6A	North Central Croydon	1,857,074	1,514,992	13	26,300
6N	edge of centre	1,679,993	1,372,827	13	23,600
6P	Purley	1,998,113	1,628,695	13	28,400
6Q	Selsdon	2,456,485	1,998,269	13	35,200
7A	N Croydon	739,560	609,146	4.8	27,200
7N	City Centre	967,713	791,806	4.8	36,600
7P	Purley	698,885	576,135	4.8	25,600
7Q	Selsdon	807,360	663,703	4.8	29,900
8A	W Croydon	351,229	350,679	2.6	200
8N	City Centre	638,753	581,153	2.6	22,200
8P	Coulsdon	498,410	469,558	2.6	11,100
9A	Sanderstead/Purley	858,321	750,624	2	53,800
9N	Cane Hill	501,254	467,000	2	17,100
9P	North Croydon	541,082	499,219	2	20,900
Overall median figure					<b>£27,800</b>

N.B. Per dwg contribution figures have been rounded to nearest £100 in each case.  
Source: Affordable Housing Viability Study – Additional Analysis 2011

5.13 The calculated contributions in Table 5.1 vary considerably, from a minimum of only £200 in one exceptional case to a maximum of £58,600, with a median figure of £27,800. The figures will vary to reflect location and hence price.

### **Proposed guidance**

- 5.14 The cost of providing affordable housing varies quite substantially. These figures are based upon market conditions as at 2009/2010 (when the AVHS was completed), and require a regular updating process, which we suggest could be aligned with the dynamic target setting process. Alternatively, at the conclusion of the study the appraisal software could be provided to the Council and training given in its operation. The Council could undertake periodic updating of the appraisal calculations, taking account of changes in costs and values, and ensuring that the commuted payments figures continue to represent the cost of providing an affordable unit off site
- 5.15 We would suggest that the council adopt the median figure of £27,800 per affordable housing not delivered.

## 6. Dynamic Target Setting

### Introduction

- 6.1 The 2010 AHVS suggested Dynamic Viability as a mechanism to vary the Affordable Housing Target through the life of the plan. At the time of the report the idea was new and, to some extent, still being developed. The mechanism of dynamic target setting has now been examined by inspectors at EiPs. The inspectors have complimented the process and enforced it. Through the process of examination the presentation of the results has been simplified and Croydon Council have asked for a new consolidated set of tables.
- 6.2 The mechanism builds upon the viability assessment and follows the methodology set out in the AHVS. It is based the appraisal for the (adjusted) benchmark site to assess what affordable target is achievable for any given combination of new values for price, cost and alternative use value that may emerge from future movements in the housing market as reflected in the indices. There are in principle an infinite number of combinations of these three indices, and the affordable housing targets they imply. To produce a manageable result, we have to use banding. This then covers a reasonable range without producing an unreasonably large number of target outcomes, and generating trivially small changes in the target.
- 6.3 Even so, the range of possible future movements in price, cost, and alternative use value make for an extremely large table. This Full Matrix is set out in Appendix 2. It shows how the proposed affordable target of 15% would need to change as changes in price and cost, and in alternative use value, impacted upon viability. The Full Matrix considers price variations from -20% through to +60%, and cost variations from -20% to +50%, each at 2% intervals. Changes in alternative use are considered from -30% to +40%, at 10%.



Source: Affordable Housing Viability Study – Additional Analysis 2011

- 6.4 With this many intervals, giving almost 12,000 potential future target percentages, the resulting table is indeed very extensive. In order to illustrate the principles, an extract from the Full Matrix is set out below as Table 6.2. In addition, a Summary Matrix is provided at Figure 6.1; this shows the same spread of values as in the Full Matrix, but with only 10% intervals for price and cost, rather than the 2% intervals in the Full Matrix.

Table 6.2 Extract from Full Matrix										
Price Change HPI										
%	-2%			0%			+2%			
Cost Change BCIS Index	0%	30%	22%	14%	36%	29%	22%	41%	35%	28%
			<b>6%</b>	0%		<b>15%</b>	7%		<b>21%</b>	14%
		0%	0%	0%	0%	0%	0%	8%	1%	0%
	+2%	24%	15%	7%	32%	24%	16%	37%	30%	23%
		<b>0%</b>	0%		<b>9%</b>	1%		<b>16%</b>	8%	
	0%	0%	0%	0%	0%	0%	2%	0%	0%	
+4%	18%	9%	0%	27%	19%	10%	33%	26%	18%	
		<b>0%</b>	0%		<b>2%</b>	0%		<b>10%</b>	3%	
	0%	0%	0%	0%	0%	0%	0%	0%	0%	
KEY				-30%	-20%	-10%				
Change in alternative					<b>0%</b>	+10%				
use value =				+20%	+30%	+40%				

Note: each cell of the table represents a combination of price and cost levels, and contains eight percentage target figures which represent the deliverable target for each of eight levels of alternative use value.

Source: Affordable Housing Viability Study – Additional Analysis 2011

- 6.5 The base cell (in both tables, the outlined cell coloured yellow) shows the situation for 0% change in either price or cost. This cell contains, in bold in the centre of the cell, a target figure of 20% – the maximum affordable housing target at price and cost, and alternative use value (AUV) at the time of the AHVS. There are seven other target figures in this cell; these show how the achievable target changes with movements in AUV alone. For example, with price and cost unchanged, as AUV falls by between 10% and 30% (three figures on top row), the target rises to 40%.
- 6.6 Adjoining cells in each table show what affordable target would be achievable with various combinations of price and cost change. Figure 6.1 makes it quite clear that if price moved sufficiently ahead of cost, it would become possible to increase the 20% target significantly.

For instance, with a 20% increase in price but only 10% increase in cost, a target of over 45% would become achievable (unless alternative use value also rose somewhat).

- 6.7 Towards the top right of Figure 6.1, where price significantly outstrips cost, the percentages have been capped for reasons of practicability, with 60% being the maximum. All cells with 60% plus targets are coloured green. All cells with less than 5% target are coloured blue; it is assumed a target of less than 5% would probably not be worthwhile – though that is a matter for the Council to decide.
- 6.8 The wide price and cost intervals in the Summary Matrix mean that the target changes quite abruptly from one cell to the next. However it does provide a useful overview. In the Full Matrix, as the extract in Table 6.2 shows, the changes are much smaller and allow the affordable target levels to be fine-tuned – as they should be, since this is what should be used in practice to adjust the target as the index numbers change with the housing market in future.

### **Implementing Dynamic Viability**

- 6.9 The issues around implementing a dynamic affordable housing target were discussed in the AHVS so will not be elaborated on here.

# Appendix 1: Study Brief

## Update to Affordable Housing Viability Assessment

### Project Brief

#### Introduction

The London Borough of Croydon (LBC) is seeking to commission an update to its Affordable Housing Viability Assessment (AHVA) to evaluate the impact of zero grant for affordable housing, to assess the impact of Croydon Council's proposed Community Infrastructure Levy charges on the viability of affordable housing and to update the existing Dynamic Viability Matrix to include changes in Alternative Use Values and within the Croydon Opportunity Area to examine the development viability of a lower affordable housing target.

#### Project Deliverables

The Project must deliver:

- An additional table showing the viability of affordable housing at 0%, 10%, 20%, 30%, 40% and 50% with no grant for affordable homes.
- An additional table showing the viability of affordable homes at 0%, 10%, 20%, 30%, 40% and 50% taking into account Croydon's proposed Community Infrastructure Levy rate of £140/m<sup>2</sup> of net additional floor space and £1000 planning obligations per new home.
- A version of the Dynamic Viability Matrix which shows viability of affordable housing taking into account changes in house prices (Halifax House Price Index), construction costs (BCIS) and Alternative Use Values (Valuation Office data).
- An update to Tables 6.1, 6.3, 6.4, 6.8, 6.9, 6.10 and 6.11 of the original study to show the viability of 10% affordable homes on each site. The original study can be found at [www.croydon.gov.uk/contents/departments/planningandregeneration/pdf/912686/917223/affordablehousingviabilityreport](http://www.croydon.gov.uk/contents/departments/planningandregeneration/pdf/912686/917223/affordablehousingviabilityreport).

#### Timescales

A first draft of the update is required by 2<sup>nd</sup> September 2011 and a final draft by 9<sup>th</sup> September 2011.

#### Key Outputs

The final study must provide:

- An electronic copy in report format including the updated tables and new tables, supporting calculations and any other relevant information including supporting text. This should be in both Microsoft Word and PDF format.
- The appointed consultants will agree to LBC retaining unrestricted license to use and reproduce either extracts from the report or the report in full or any of the supporting technical information in any format.
- The appointed consultants will be retained for Examination in Public of the Core Strategy as required.



## Appendix 2: Full Matrix tables

The Full Matrix is set out as six tables. The key below may help navigation between individual tables.

		Price	-20% to +6%	+8% to +34%	+36% to +60%
Cost	-20% to +14%	<b>Table 1</b>	<b>Table 3</b>	<b>Table 5</b>	
	+16% to +50%	<b>Table 2</b>	<b>Table 4</b>	<b>Table 6</b>	

Each price/cost cell in the Full Matrix contains eight different percentage targets. These relate to variations in alternative use value within each price/cost combination. The key below shows the percentage change in alternative use value which corresponds to each of the targets in the cell.

-30%	-20%	-10%
	<b>No Change</b>	+10%
+20%	+30%	+40%

The six tables follow below.





Table A2.1 Full Matrix table (3 of 6)

		CHANGE TO PRICE (HPI)										CHANGE TO COST (BCIS)															
		+10%		12%		14%		16%		18%		+20%		22%		24%		26%		28%		+30%		32%		34%	
-20%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
	58%	55%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%
-18%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
	56%	53%	50%	48%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%
-16%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
	54%	51%	50%	48%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%
-14%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
	48%	42%	38%	36%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%
-12%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
	53%	48%	44%	40%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%
-10%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
	49%	45%	42%	38%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%
-8%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
	48%	44%	40%	36%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%
-6%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
	46%	41%	37%	33%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%
-4%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
	43%	38%	34%	30%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%
-2%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
	40%	35%	31%	27%	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%
0%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
	38%	33%	29%	25%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%
2%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
	34%	28%	24%	20%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%
4%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
	30%	24%	20%	16%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
6%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
	26%	19%	15%	11%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
8%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
	21%	14%	10%	6%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
+10%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
	16%	9%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
+12%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
	10%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
+14%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%





