Havant Viability Assessment

Non Technical Report

Final Report

DTZ
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Havant Viability Assessment: Non Technical Report

Overview

1 This report provides a synthesis of the analysis, findings and implications of the Havant Viability Assessment. The purpose of the assessment is to test the Borough Council's proposed affordable housing policies and ensure that they are consistent with ensuring the delivery of new homes within the Borough.

2 It is recognised that most readers will not be technical experts in this area and so this report provides as far as possible a non technical summary of findings. But it is important to set out inputs and assumptions in full detail so that they can be scrutinised by those who are interested. Further detail on the approach is provided in technical appendices.

Policy Context: National and Local

3 There is now explicit national policy, set out in Planning Policy Statement 3 (PPS3) Housing, that affordable housing targets set by local authorities should:

> *"reflect an assessment of the likely economic viability of land for housing within the area, taking account of risks to delivery and drawing on informed assessments of the likely levels of finance available for affordable housing, including public subsidy and the level of developer contribution that can reasonably be secured."* (PPS3, paragraph 29, p10)

4 PPS3 does not specify how a viability study is to be undertaken – merely that affordable housing policies should be tested. However, the Planning Inspectorate has made clear through its rulings on Blyth Valley, Poole and Slough its intention to test local authority affordable housing policies to ensure that they are viable. DTZ understand that the Planning Inspectorate expects:

- Councils to justify their affordable housing policies (for example, in their Core Strategy or relevant Development Plan Document) with a viability assessment.
- Any affordable housing target must have been tested – it is not acceptable to simply rely on clauses that promise flexibility. Authorities need to justify the maximum contribution they are seeking, even if in practice lower levels may be considered for schemes under particular circumstances. The same also applies to thresholds.
- The Inspectorate does not believe it is sensible to set affordable housing policy for the next 20 years based on the current 'abnormal' market, as this would artificially reduce thresholds and quotas below where they should be over the long term. There is a clear need therefore to understand the impact of changing market conditions on levels of viability and how to set policy accordingly.

5 Havant is part of the Partnership for Urban South Hampshire. The demand and need for housing in the sub-region and the market area to which Havant belongs has been assessed through the South Hampshire HMA (2005 and 2006) and key indicators are monitored on an annual basis.

The South Hampshire HMA identified significant sub-regional demand and need for market and affordable housing. A key mechanism for delivering new affordable housing is through securing a proportion of new homes on private developments.

6 It is the PUSH ambition to maximise the delivery of affordable housing, based on the evidence of housing need. At the sub-regional level, PUSH wish to achieve up to 40% affordable housing on new development sites. However, locally, individual authorities need to explore whether this target is appropriate in their area, in viability terms, and to which sites it should apply. In order to ensure the delivery of new affordable homes in Havant it is important that affordable housing policies do not constrain overall development by undermining the viability of housing schemes. Setting an affordable housing contribution that undermines viability would restrict new housing delivery and the ability of the Council to meet its affordable housing policies as well as its overall housing targets set out in the South East Plan.

7 Havant Borough Council's current affordable housing policy, as set out in the Local Plan requires 30% of the total dwellings provided on new housing developments as affordable housing, on sites of 0.5 ha/15 dwellings or more, having regard to the individual site suitability. The policy goes on to state that the affordable dwellings are to be integrated with the other housing built on the site except where the Council and developer agree they should not be provided on the same site. In these cases, an exception will be made to provide affordable housing in an alternative location or by means of a commuted payment.

8 Havant Borough Council's existing affordable housing policy is being reviewed through the preparation of the new Local Development Framework. The Council has considered the proposal in PUSH's Common Affordable Housing Framework for a policy of up to 40% affordable housing on development sites of 10 or more units. Given that housing need within Havant and across the South Hampshire sub-region is significant there is a case for maximising the supply of affordable housing through new development, including on sites which deliver fewer than 10 dwellings.

Affordable Housing Site Size Threshold

9 Havant's Core Strategy is proposing a split site size threshold of 15 units and over together with a requirement to secure a suitable contribution on sites of between 5 and 14 dwellings. The viability assessment examines viability on smaller sites and is able to shed light on the question of whether this threshold could be viable. Given the number of smaller sites that have been developed in the past and likely to come forward in the future it has been useful to examine the scope for securing contributions from smaller sites (see paragraphs 59-62 in this report).

Key Questions and Approach

10 The key questions that this viability assessment addresses are:

- Can 40% affordable housing be achieved through new housing development within Havant on sites of 15 or more homes?
- Is it viable to seek affordable housing on sites which deliver fewer than 15 units, specifically 5-14 unit developments?
- How do different conditions, including house price changes, the removal of grant and changes to the tenure mix of affordable homes affect viability?

11 In order to examine these questions, DTZ has appraised a number of typical but hypothetical development sites within Havant to test how viable they are under different circumstances. It is important to stress however that there can be no definitive answer to the question of viability, since it is dependent on a number of variables and judgements. It is useful to set out what defines whether a development scheme is likely to be viable.

What Defines Viability

12 There are two important components that determine whether a housing development is likely to be viable or not:

- The overall scheme needs to be **profitable** for the developer. This means that when the costs of delivering the scheme are taken into consideration, they are exceeded by the revenues generated by the scheme by a sufficient margin. The extent of the profit required for a developer to proceed varies and is now increasingly dictated by the banks, where they are lending development finance, to ensure that returns justify the risk.
- The overall scheme needs to generate a **positive land value** so that the land owner is incentivised to sell their land. The value of land is calculated as a residual (ie what is left over) when the costs of the development are subtracted from the revenues.

13 Whether a particular scheme is viable is not black and white. Theoretically, a scheme can be defined as viable if the revenues generated exceed the costs of delivering the development and generate both a reasonable profit for the developer and a positive land value for the land owners. In practice, whether the scheme is brought forward will depend on how the land value compares to values generated by existing or alternative uses.

14 Where land has an existing use (eg car park, commercial premises etc) it needs also to be valued under its current activities. Developers and land owners are only likely to bring forward a residential development on such sites if the value generated by the scheme exceeds the value generated by current activities on the site.

15 The same issue applies to alternative uses to which the land might be put. However, it may not be appropriate to consider alternative use values on many sites since it may not be possible for alternative uses to secure planning consent.

16 Nevertheless, an important test for this viability assessment has involved establishing threshold values for existing/alternative uses. For residential development to be deemed viable, land values need to exceed these thresholds.

17 Landowners may also have expectations about what value they could achieve for their land under residential development. This is known as 'hope value' and can affect a landowner's decision about whether to sell or develop their site if they perceive that a higher value could be achieved under different circumstances eg a change of policy or politic administration, a better market in 5 years time etc.

The Nature of Housing Development in Havant

18 A key component of examining viability within Havant is to analyse the pattern of housing completions in the past and ensure that this is reflected in the archetypal sites tested. Over the period 2004-2009, housing development in Havant has been characterised by:

- Housing completions in all areas of the Borough but in the last 2 years there has been more of a focus on Havant town as a result of large previously developed sites coming through the pipeline. In the last 5 years, 77-100% of completions have been on previously developed sites and many of these sites have been small.

- The draft Strategic Housing Land Availability Assessment (SHLAA) reviews existing allocations and permissions and considers sites which might be included in forthcoming site allocations development plan documents. The types of sites identified provide a framework for the viability assessment in terms of the type of sites likely to come forward, their characteristics, and implications for development viability.

- According to the draft SHLAA, the types of sites likely to come forward over the plan period fall into the following broad categories:

Sites within existing urban areas

- Around 2,260 homes could be delivered on sites within the 5 main existing urban areas: Waterlooville (790 homes); Leigh Park (720 homes); Havant (1,060 homes); Emsworth (70 homes) and Hayling Island (30 homes).

- There are a further 3 sites which are allocated for employment uses but may be surplus to requirements and it is possible that these sites could deliver housing in the future.

Urban extensions

- There is scope to deliver around 2,670 sites on urban extensions within the Borough (though these are not expected to come forward until after 2012)

The West of Waterlooville Major Development Area

- Around 600 homes at West Waterlooville have planning permission and are likely to be built out in the short term.

Unidentified sites (windfall)

- Historically, around 50 homes per annum have been developed on small windfall sites (1-4 units)

19 Within these broad categories the sites fall into a range of different sizes, planning statuses and some will have existing uses eg industrial or amenity uses. The viability assessment takes account of this development context by examining urban and suburban sites, different site sizes and different value areas etc.

Factors Affecting Viability & Assumptions for Havant

20 As described above, there are two overarching variables that determine whether a development is likely to be viable: costs and revenues. There are numerous inputs that determine what the scheme's revenues and costs are.

21 Some of these are broadly standard across the country eg interest rates, level of profit a developer will expect etc. Others need to be defined locally. Specifically, these include the sales prices of new homes which generate the majority of the scheme's revenues; build costs of new homes, Section 106 contributions required by the Borough. The nature of typical development schemes in terms of site size, mix, density affects both revenues and costs. The inputs used in the Havant Viability Assessment are briefly described below.

TYPICAL SCHEMES

22 The model requires us to specify a range of site sizes, densities and mix to capture the variety of development scenarios within Havant. Based on the analysis of completions within the Borough and sites identified by the SHLAA, Figure 1 presents a matrix which aims to represent the range of development schemes that are likely to come forward. The area shaded in grey represents the archetypes used in the base case. It is important to keep in mind that these archetypes will not directly match past or future development sites in the Borough, but they are designed to capture a range of scenarios so that the assessment can draw broad conclusions on the impacts on viability of different variables.

23 The principles which have informed the site selection are:

- A density range of 35-90 dph is broadly consistent with the range of schemes that have been delivered in recent years. Furthermore, the draft SHLAA also refers to good practice examples of well designed new developments which, on average, yielded densities of around 35 dwellings per hectare. The SHLAA suggests this would be a good average to apply across all sites therefore in Havant.

- A range of different site sizes from large strategic urban extensions to small scale infill developments have been delivered in recent years and it is important to test this.

- The Borough Council want to consider the impact of lowering the affordable housing threshold, capturing developments which deliver fewer than 15 homes and so small developments are tested in terms of their viability for affordable housing development.

- The majority of completions in recent years have been flats rather than houses; however there may be more limited development of flats in the future because of the changed credit environment. Varying density assumptions allows us to test the impact on viability of greater or lesser reliance on flats or houses.

- Our assumed dwelling mix is generally consistent across different sized sites but we assume that the smaller, lower density developments have a bias towards larger houses and vice versa, the larger higher density schemes have increased proportions of flats.

Figure 1: Development Archetypes for Havant

Increasingly mixed range of product

Increasing proportion of flats and smaller dwellings

	Density	Site Size: 10ha	3 ha	1 ha	0.5 ha	0.25 ha	0.1 ha
Urban	90 dph		270 dwellings: 1 bed flats: 30% 2 bed flats: 50% 3 bed flats: 20%	90 dwellings 1 bed flats: 30% 2 bed flats: 50% 3 bed flats: 20%	45 dwellings 1 bed flats: 30% 2 bed flats: 50% 3 bed flats: 20%	23 dwellings 1 bed flats: 30% 2 bed flats: 50% 3 bed flats: 20%	9 dwellings 1 bed flats: 30% 2 bed flats: 50% 3 bed flats: 20%
Urban	70 dph (Base Case)	700 dwellings: 1 bed flats: 20% 2 bed flats: 30% 3 bed flats: 10% 2 bed houses: 20% 3 bed houses: 20%	210 dwellings 1 bed flats: 20% 2 bed flats: 30% 3 bed flats: 10% 2 bed houses: 20% 3 bed houses: 20%	70 dwellings 1 bed flats: 20% 2 bed flats: 30% 3 bed flats: 10% 2 bed houses: 20% 3 bed houses: 20%	35 dwellings 1 bed flats: 20% 2 bed flats: 40% 2 bed houses: 30% 3 bed houses: 10%	18 dwellings 1 bed flats: 20% 2 bed flats: 40% 2 bed houses: 40%	7 dwellings 2 bed flats: 60% 2 bed houses: 40%
Urban	60 dph		120 dwellings 1 bed flats: 20% 2 bed flats: 30% 2 bed houses: 30% 3 bed houses: 20%	60 dwellings 1 bed flats: 20% 2 bed flats: 30% 2 bed houses: 30% 3 bed houses: 20%	30 dwellings 1 bed flats: 20% 2 bed flats: 30% 2 bed houses: 30% 3 bed houses: 20%	15 dwellings 1 bed flats: 20% 2 bed flats: 30% 2 bed houses: 50%	6 dwellings 2 bed flats: 50% 2 bed houses: 50%
Suburban	55 dph		115 dwellings 1 bed flats: 10% 2 bed flats: 30% 2 bed houses: 30% 3 bed houses: 30%	55 dwellings 1 bed flats: 10% 2 bed flats: 30% 2 bed houses: 30% 3 bed houses: 30%	28 dwellings 1 bed flats: 10% 2 bed flats: 30% 2 bed houses: 30% 3 bed houses: 30%	14 dwellings 2 bed flats: 40% 2 bed houses: 30% 3 bed houses: 30%	6 dwellings 2 bed flats: 40% 2 bed houses: 60%
Suburban	45 dph (Base Case)	450 dwellings: 2 bed flats: 30% 2 bed houses: 20% 3 bed houses: 30% 4 bed houses: 20%	135 dwellings: 2 bed flats: 30% 2 bed houses: 20% 3 bed houses: 30% 4 bed houses: 20%	45 dwellings: 2 bed flats: 30% 2 bed houses: 20% 3 bed houses: 30% 4 bed houses: 20%	23 dwellings: 2 bed flats: 30% 2 bed houses: 20% 3 bed houses: 30% 4 bed houses: 20%	11 dwellings: 2 bed houses: 40% 3 bed houses: 30% 4 bed houses: 30%	5 dwellings: 2 bed houses: 40% 3 bed houses: 40% 4 bed houses: 20%
Suburban	35 dph		105 dwellings 2 bed houses: 30% 3 bed houses: 30% 4 bed houses: 30% 5 bed houses: 10%	35 dwellings 2 bed houses: 30% 3 bed houses: 30% 4 bed houses: 30% 5 bed houses: 10%	18 dwellings 2 bed houses: 30% 3 bed houses: 30% 4 bed houses: 30% 5 bed houses: 10%	9 dwellings 3 bed houses: 40% 4 bed houses: 40% 5 bed houses: 20%	4 dwellings 3 bed houses: 50% 4 bed houses: 50%

Source: Havant Borough Council SHLAA; DTZ

REVENUES

Sales Prices (Revenues from Market Homes) and Phasing

24 Sales prices for market homes are calculated by the average £ per square metre (£ per sq m). **In order to set a realistic baseline for sales values we have analysed average sales values for the period 2004-08**. Average prices over this period in Havant are similar to prices achieved in 2009 and so the sales prices assumed in the model (Figure 2) represent a realistic baseline in terms of what might be achieved in the current market as well as what has been achievable in the past. The purpose of this approach is to ensure we are not relying on prices that were achievable at the peak of the market and would therefore give an unrealistic view of viability. It is important to use new build prices, since these often have a premium over the second hand housing stock and so we have adjusted sales prices to reflect this.

25 Because of the variability of house prices across any area it is important to test viability in low and high value areas. In Havant, we have identified three distinct bands of sale prices, ranging from the lowest sales prices in Band 1 to high sales prices in Band 3. Sales prices per sq m are combined with floorspace assumptions for different properties, depending on the mix of homes in the particular scheme, generating a market revenue stream.

Figure 2: Assumed Sales Prices by Value Band in Havant Per Sq M and Per Sq Ft

	1	2	3
Average £ per sq m 2004-08	£1,610	£2,040	£2,470
Average £ per sq ft 2004-08	£150	£190	£230
Flats: New Build Premium	*20%*	*20%*	*20%*
Houses: New Build Premium	*15%*	*15%*	*15%*
Flats: Average + Premium per sq m	**£1,940**	**£2,450**	**£2,970**
Houses: Average + Premium per sq m	**£1,860**	**£2,360**	**£2,850**
Flats: Average + Premium per sq ft	**£180**	**£228**	**£276**
Houses: Average + Premium per sq ft	**£173**	**£219**	**£265**

Source: DTZ; Hometrack; Land Registry

26 The market revenue stream is then phased to reflect the reality of completions and sales rates to produce a realistic cash flow over time. In the base case model, we assume that market homes are built out and sold at a rate of around 50 units per site per annum (so a 150 unit site will

experience a 3 year sale period).[1] In the base case model we assume flat house prices over the appraisal period. However, the effect of house price rises or falls can have a significant impact on revenues when they are received over a number of years and this is examined later in this report.

Revenues from Affordable Homes and Grant

27 The base case model assumes affordable housing is delivered as 65% social rented and 35% shared ownership housing.

28 It has been assumed that the developer receives payments for the affordable housing from the housing association **linked to the market value of the dwelling**. On the assumption that grant is not available, housing associations are assumed to pay the developer 40% of market value for a social rented property and 60% of market value for a shared ownership property. The addition of grant increases these payments to 60% and 80% of market value respectively.

29 These indicative values are based on DTZ's market experience in the decade prior to the market downturn, and it is acknowledged that in the current market conditions housing associations may be unwilling or unable to pay for affordable housing at this level. However new benchmarks have yet to be established of what associations will pay for affordable housing.

30 The revenue stream for affordable units is realised in parallel with construction to reflect the fact that affordable housing revenues are often received earlier than those for market homes (which rely on sales).

COSTS

Construction Costs

31 Construction costs are dependent on the mix of types and sizes on homes in the scheme and the relevant cost assumptions from the BCIS. DTZ has also uplifted the build costs by 25% to reflect the cost of external works, which are excluded from the BCIS data. Our approach to build costs matches that to sales values by analysing the average build costs for the period 2004-08. As with sales prices, build costs in 2009 are broadly similar to the average for the period 2004-08 so the figures can be regarded as broadly reflective of current costs.

[1] Assumption based on DTZ consultations with national house builders and the Home Builders Federation for the HCA study of the Scope for Affordable Housing Delivery through S106 in a Post Credit Crunch Residential Land Market

Figure 3: Build Costs Assumptions in Havant Borough £ per sq m (£ per sq ft)

Property Type	Assumptions about Floorspace	Build Cost per sq m (per sq ft)
Havant 1, 2 and 3 bed flats	Up to 75m2 / 805 sq ft gross floor area per unit **Flats**	£1,102 (£102)
Havant 2 and 3 bed house	75 to 100m2 / 807 to 1,075 sq ft gross floor area per unit) **Houses**	£892 (£83)
Havant 4 bed house	100 to 125m2 / 1,075 to 1,345 sq ft gross floor area per unit) **Houses**	£922 (£86)
Havant 5 bed house	125m2 + / 1,345 sq ft gross floor area per unit **Houses**	£960 (£89)

Source: BCIS All Tender Price Index, uplifted +25% by DTZ to include allowance for external works. External works are those works that take place outside of the building footprint but inside of the development site footprint

Demolition Costs

32 Demolition costs are assumed to amount to £110,000 per hectare of site size. This figure is based on DTZ's experience in the South East. In practice, these costs can vary from scheme to scheme and on more complex sites this is likely to affect viability.

Developer's Profit

33 The target level of profit (we use Internal Rate of Return[2]) is set at 15% in the model. This level has been informed by DTZ's experience of past development projects and represents the **minimum** required for development to proceed.[3] It is important to stress that the 15% threshold is only a proxy for viability. In practice the profit required on sites will vary and it is recognised that for certain schemes it will need to be higher. For this reason, we have also tested 20% IRR to examine the effect that increased expectations about returns will have on overall viability.

[2] 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

[3] This threshold was adopted by DTZ in the national study for the HCA in 2008 on the Scope for Affordable Housing Delivery through S106 in a Post Credit Crunch Residential Land Market and has since been used as a standard assumption in strategic viability assessments

Section 106 Contributions (Non affordable housing)

34 Contributions to community infrastructure and other requirements in order to mitigate the impact of development are assumed to amount to £6,000 per unit. This figure is based on discussions with Havant Borough Council, though in practice these costs can vary considerably from scheme to scheme.

Professional Fees and Contingency

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

Sales Costs and Interest

36 Sales costs are calculated at 3% of the total private sales revenue (excluding sales revenue from affordable units).

37 A standard finance rate of 6.75% is assumed and applied to the scheme's interest bearing balance (costs less revenues).

Infrastructure Costs

38 **No abnormal infrastructure costs 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.

LAND VALUES

39 Land values are treated as an output and equate to the residual value when costs (including the developer's profit) are subtracted from revenues of the scheme.

40 In theory if a site's residual value is above existing use value then it should be both viable and able to deliver that particular affordable housing contribution.[4] 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.

41 For each of the development schemes, the residual land value has been calculated. This value is then compared to a series of benchmarks in terms of Existing Use Value, or Alternative Use Value. **It is not possible to establish a single benchmark in terms of residential land value above which it can be deemed that residential development will be viable**. This is because:

[4] 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.

- In some parts of Havant, residential development is likely to be the highest value land use, and within established residential neighbourhoods the only land use that will secure planning permission. However, areas around the coast and town centre are characterised by a mix of land uses. In such areas the likelihood of a residential development proceeding depends on the scheme delivering an equal or better value than a development for non-residential uses that would secure permission. The residual land value of alternative developments therefore is a consideration.

- The value of land in the same use varies across Havant reflecting differences in locational attributes and environmental quality. Landowner expectations will be shaped by historic levels of value secured for residential development, since even if values fall, there will be an expectation that they will recover. By implication the level of land value expected by owners of land will vary.

- In an urbanised Borough such as Havant where the majority of sites coming forward are on previously developed land, there is potential for variability in demolition and build costs, which will affect calculations of scheme residual land values.

- Lastly, an additional layer of variability in determining what can be deemed viable arises as a result of the property market cycle, and the likelihood that the values of different potential uses on a site to move at different speeds, up or down, at different stages in the development cycle. Therefore at one point in the development cycle, offices can appear a more attractive form of development than residential, but this may switch at a different stage in the development cycle. These differential changes in values can vary depending on market shifts and how a particular location is perceived in terms of an office location or retail location compared to a residential location.

42 The upshot of these different considerations is that it is not possible to state unequivocally in a Havant context that a certain residual land value associated with a scheme can be regarded as viable, or not viable. This assessment is intended to inform general policy development and the proportion of affordable housing which is generally considered viable; it is recognised that individual schemes may need to be considered on their merits, taking into account specific scheme circumstances.

43 For the purpose of this assessment DTZ has compared the residual land values generated from the modelling against a number of land value thresholds. These thresholds are as follows:

- Residual land value expressed as £ per hectare value of above £12,700 per hectare[5]. Whist there is limited agricultural land in Havant this is used as a proxy for a low land value or for land that has no existing use value. Therefore, it is assumed that this would be the minimum threshold that would need to be exceeded if land is to be bought forward for residential use. It

[5] This value represents the average for arable farmland (the highest value agricultural land) for the South East in 2009

is therefore assumed that no landowner in Havant would bring forward sites for less than this sum. In practice the number of sites that would be brought forward at this level is probably limited. Any scheme, based on the modelling assumptions used, that fails to deliver this level of land value can be deemed to be wholly unviable.

- The other benchmarks used for the analysis are residual land values of £260k per hectare, £843k per hectare and £1.4m per hectare. £260k per hectare is the lowest industrial land value[6]. This would be the minimum threshold that would need to be exceeded if land was in industrial use, or where industrial use could secure planning permission, is to be brought forward for residential use. The highest benchmark reflects the average B1 office land value in the South East. This land use class is used as it presents the highest land values available from the Valuation Office Agency.

- These alternative uses compete for development funds with residential development, and if residential development is to proceed it will have to provide a comparable return to landowners. The £843k per hectare represents a mid-way threshold between the range of highest B1 office and lowest industrial land value[7]. The wide range of land values used as benchmarks reflect just how greatly land values in Havant could vary, on a site specific basis, and within the property market cycle.

Key to Figure 4

To help visual interpretation of the results, a system of traffic lights is used to indicate where schemes are deemed viable and where they are deemed not viable. The traffic light codes used are intuitive:

- **The Red Traffic Light** indicates that the scheme is clearly not viable because the residual land value per hectare generated by the scheme is 5% or more lower than the relevant benchmark of existing use value.

- **The Amber Traffic Light** indicates that the scheme is of marginal viability because the residual land value per hectare generated by the scheme is between 5% lower than and 5% more than the relevant benchmark of existing use value.

- **The Green Traffic Light** indicates that the scheme is viable because the residual land value per hectare generated by the scheme is more than 5% higher than the relevant benchmark of existing use value.

[6] Average values for the South East mid 2009– note that the average for Portsmouth, the nearest location in the VOA data actually gives a lower average figure but we have used the average for the South East to provide a more robust test.

[7] ibid

Overall Findings

44 The base case analysis shows that the Council's current policy of **30% affordable housing is achievable in the majority cases tested without grant**. This is illustrated in Figure 4 where the green light indicates that a scheme is likely to be viable at that particular land value threshold. There are exceptions however to this general pattern:

- In the lowest value areas of Havant (Band 1 sales prices), viability remains challenging even when existing/alternative use values are very low. This reflects the fact that sales prices are not sufficiently higher than costs, particularly when affordable housing and other costs are added in.

- Where existing use values are high, only schemes capable of achieving the highest values (Band 3 and some archetypes in Band 2) remain viable at 30% affordable housing.

45 It is important to note that in the majority of the scenarios modelled under the base case, with the exception of some schemes in the lowest value band, a positive residual land value is generated at 30% affordable housing. The existing or alternative use value is therefore the determining factor in establishing viability.

46 Where existing or alternative use values are very high, only the schemes able to generate higher value sales prices remain viable at 30% affordable housing provision. Incrementally reducing the affordable housing quota where existing use values are very high has the effect of bringing some of the schemes into viability.

47 The modelling also demonstrates that **40% affordable housing (without grant) could be achieved in some circumstances** (see Figure 5):

- In the majority of schemes in the highest value band, even where existing use values are high

- In the majority of schemes in the middle value band where existing/alternative use values are low or moderate

48 It is also important to remember that viability at 40% affordable housing could be improved by:

- The addition of affordable housing grant

- Changes to the density and mix of development

- Rising house prices (the base case assumes flat prices)

49 These factors and the extent of their impact on viability are considered below (paragraphs 50 onwards).

Archetype Key

Archetype	Number of Units	Site Size (Hectares)
Urban – 1 (U1)	700	10
Urban – 2 (U2)	210	3
Urban – 3 (U3)	70	1
Urban – 4 (U4)	35	0.5
Urban – 5 (U5)	18	0.25
Urban – 6 (U6)	7	0.1
Suburban – 1 (S1)	450	10
Suburban – 2 (S2)	135	3
Suburban – 3 (S3)	45	1
Suburban – 4 (S4)	23	0.5
Suburban – 5 (S5)	11	0.25
Suburban – 6 (S6)	5	0.1

Figure 4: Residual Land Values (£s Per Hectare) With 30% Affordable Housing Contribution (without Grant)

Existing Land Value Assumption: £12,700

Archetype / Value Band	1	2	3
U1	£0	£604,957	£1,463,581
U2	£0	£876,312	£1,994,897
U3	£0	£1,214,778	£2,606,997
U4	£0	£1,053,825	£2,430,626
U5	£0	£1,055,202	£2,422,941
U6	£0	£1,077,701	£2,482,956
S1	£0	£572,672	£1,222,690
S2	£25,670	£975,191	£1,920,382
S3	£72,247	£1,142,519	£2,210,951
S4	£72,247	£1,142,519	£2,210,951
S5	£414,298	£1,596,399	£2,784,373
S6	£414,531	£1,569,100	£2,721,095

Existing Land Value Assumption: £260k

Archetype / Value Band	1	2	3
U1	£0	£604,957	£1,463,581
U2	£0	£876,312	£1,994,897
U3	£0	£1,214,778	£2,606,997
U4	£0	£1,053,825	£2,430,626
U5	£0	£1,055,202	£2,422,941
U6	£0	£1,077,701	£2,482,956
S1	£0	£572,672	£1,222,690
S2	£25,670	£975,191	£1,920,382
S3	£72,247	£1,142,519	£2,210,951
S4	£72,247	£1,142,519	£2,210,951
S5	£414,298	£1,596,399	£2,784,373
S6	£414,531	£1,569,100	£2,721,095

Existing Land Value Assumption: £843k

Archetype / Value Band	1	2	3
U1	£0	£604,957	£1,463,581
U2	£0	£876,312	£1,994,897
U3	£0	£1,214,778	£2,606,997
U4	£0	£1,053,825	£2,430,626
U5	£0	£1,055,202	£2,422,941
U6	£0	£1,077,701	£2,482,956
S1	£0	£572,672	£1,222,690
S2	£25,670	£975,191	£1,920,382
S3	£72,247	£1,142,519	£2,210,951
S4	£72,247	£1,142,519	£2,210,951
S5	£414,298	£1,596,399	£2,784,373
S6	£414,531	£1,569,100	£2,721,095

Existing Land Value Assumption: £1.4m

Archetype / Value Band	1	2	3
U1	£0	£604,957	£1,463,581
U2	£0	£876,312	£1,994,897
U3	£0	£1,214,778	£2,606,997
U4	£0	£1,053,825	£2,430,626
U5	£0	£1,055,202	£2,422,941
U6	£0	£1,077,701	£2,482,956
S1	£0	£572,672	£1,222,690
S2	£25,670	£975,191	£1,920,382
S3	£72,247	£1,142,519	£2,210,951
S4	£72,247	£1,142,519	£2,210,951
S5	£414,298	£1,596,399	£2,784,373
S6	£414,531	£1,569,100	£2,721,095

Figure 5: Residual Land Values (£s Per Hectare) With 40% Affordable Housing Contribution (without Grant)

Existing Land Value Assumption: £12,700

Archetype / Value Band	1	2	3
U1	£0	£391,661	£1,213,613
U2	£0	£606,198	£1,674,321
U3	£0	£878,259	£2,204,019
U4	£0	£724,734	£2,030,610
U5	£0	£728,370	£2,025,558
U6	£0	£737,401	£2,066,342
S1	£0	£413,334	£1,034,158
S2	£0	£743,302	£1,647,685
S3	£0	£883,612	£1,899,976
S4	£0	£883,612	£1,899,976
S5	£191,925	£1,314,714	£2,434,717
S6	£196,414	£1,292,022	£2,386,294

Existing Land Value Assumption: £260k

Archetype / Value Band	1	2	3
U1	£0	£391,661	£1,213,613
U2	£0	£606,198	£1,674,321
U3	£0	£878,259	£2,204,019
U4	£0	£724,734	£2,030,610
U5	£0	£728,370	£2,025,558
U6	£0	£737,401	£2,066,342
S1	£0	£413,334	£1,034,158
S2	£0	£743,302	£1,647,685
S3	£0	£883,612	£1,899,976
S4	£0	£883,612	£1,899,976
S5	£191,925	£1,314,714	£2,434,717
S6	£196,414	£1,292,022	£2,386,294

Existing Land Value Assumption: £843k

Archetype / Value Band	1	2	3
U1	£0	£391,661	£1,213,613
U2	£0	£606,198	£1,674,321
U3	£0	£878,259	£2,204,019
U4	£0	£724,734	£2,030,610
U5	£0	£728,370	£2,025,558
U6	£0	£737,401	£2,066,342
S1	£0	£413,334	£1,034,158
S2	£0	£743,302	£1,647,685
S3	£0	£883,612	£1,899,976
S4	£0	£883,612	£1,899,976
S5	£191,925	£1,314,714	£2,434,717
S6	£196,414	£1,292,022	£2,386,294

Existing Land Value Assumption: £1.4m

Archetype / Value Band	1	2	3
U1	£0	£391,661	£1,213,613
U2	£0	£606,198	£1,674,321
U3	£0	£878,259	£2,204,019
U4	£0	£724,734	£2,030,610
U5	£0	£728,370	£2,025,558
U6	£0	£737,401	£2,066,342
S1	£0	£413,334	£1,034,158
S2	£0	£743,302	£1,647,685
S3	£0	£883,612	£1,899,976
S4	£0	£883,612	£1,899,976
S5	£191,925	£1,314,714	£2,434,717
S6	£196,414	£1,292,022	£2,386,294

How Viability Varies Under Different Conditions

Sales Values

50 DTZ has defined three price bands to distinguish between viability on schemes capable of generating different revenues. These price bands can be mapped onto the Borough to identify areas which might be affected differently in terms of viability. However, this by no means gives a definitive map of viability since sales prices can vary at the very local level and new build schemes also have the potential to establish new values (and break with existing patterns) where they are delivering a quality new product. This is likely to be particularly true of larger sites including urban extensions where there is the potential to create a new community.

51 Results from the base case modelling in Figures 4 and 5 demonstrate that the sales values (prices) of new homes can have a significant effect on viability, assuming other factors including land values are held constant:

- The majority of schemes within the Borough are viable at 30% and 40% affordable (without grant) if land has a low existing or alternative use value.
- Lower value areas (Bands 1 and 2) become unviable at 30% as existing/ alternative use value increases.
- Only high value areas remain viable at 30% at the highest existing/ alternative use values and fewer schemes remain viable at 40%.

The Impact of Affordable Housing Grant and Tenure Mix

52 The base case modelling assumes that no affordable housing grant is paid. The future availability and scale of grant is uncertain so it is prudent to examine the effect of removing grant on scheme viability. However, it is also useful to test the impact of introducing grant and the effect that this has on viability across the Borough. Appendix 6 provides results tables.

53 Introducing grant has the effect of increasing residual land values across all the schemes. This has the knock on impact of moving the majority of schemes in value band 2 into viability (at 30% affordable housing), even at the highest existing use threshold. Schemes in value band 1 continue to be unviable except at the lowest existing use value threshold.

54 On the whole, medium to high value schemes (Bands 2-3) could deliver 40% affordable housing **with grant** providing existing/alternative use values do not prohibit the sites coming forward.

55 The modelling tested the impact on viability of varying the tenure mix from 65:35 social rented and intermediate housing to 50:50 social rented and intermediate housing. This has the effect of improving residual land values on all of the schemes but it does not improve them enough to make schemes viable that were unviable under the base case (30% affordable housing without grant) according to our existing/alternative use value thresholds. Nevertheless, adjusting the tenure mix may help to improve viability on marginal schemes. Furthermore, the impact of tenure

mix on viability may become more pronounced in the future depending on Government funding for different types of affordable housing and the extent to which housing associations are able to draw on other sources of funding when they bid for affordable housing on new development schemes.

The Impact of Higher Developer's Profit (Internal Rate of Return at 20%)

56 Given the change in the development environment since mid 2007, and in particular the difficulty of securing development finance, it is useful to consider the scenario where developers (or rather the banks financing developers) are seeking a higher return. We have re-modelled the base case under a target IRR (our measure of profitability) of 20% (Appendix 6 provides results tables). Increasing the target return causes residual values to fall as the additional margin must be funded out of land value.

57 However, the analysis suggests that increasing the target IRR to 20% has a relatively limited impact on the results. Although a decline in viability is evident compared with the base case (reflected in lower residual land values), the broad pattern of viability (tested against our existing use value thresholds) in each value area remains broadly unchanged. There are a number of sites that were viable in the base case that become unviable under some circumstances. These include:

- At the highest existing use value threshold – two additional scheme becomes unviable in value band 3
- At the moderate existing use value threshold – one additional scheme becomes unviable in value band 3 and three marginal schemes becomes unviable in value band 2
- At the lowest existing use value threshold there is no change in the viability of schemes, according to our thresholds.

The Impact of Affordable Housing on Smaller Sites

58 The viability modelling in **this assessment suggests that there is no systematic reason for viability to decline in relation to site size**. The modelling tested small sites of 0.1 and 0.25 hectares ranging from 4 to 15 units (ie those typically associated with development at or below the affordable housing threshold). The results (in Figures 4 and 5) show that these sites display a similar viability profile to those of 15 or more.

59 It is important to note that the modelling is unable to capture site specifics factors and small sites may be more vulnerable to site-specific constraints eg demolition costs or infrastructure requirements because of the limited opportunity for economies of scale. DTZ is also aware of anecdotal evidence from other SHMAs and viability assessments that small sites sometimes incur higher build costs – again because of limited economies of scale – but there is no evidence to support this in the available data.

60 Conversely, small sites may benefit in viability terms in other respects. Large sites are more likely to be affected by changes in the housing market (prices falls or rises) because of the longer sale period for the market units and this is illustrated by our modelling. Although not modelled within this assessment, large sites may also be affected by significant costs associated with the provision of strategic infrastructure.

61 There is also a risk in some areas that housing associations may be reluctant to take on small numbers of affordable homes and they may reflect this in the price they will pay for units on smaller developments, but this is not generally regarded as problem within Havant.

Large Sites / Urban Extensions

62 The base case modelling tested two large development archetypes – both 10 hectare sites – designed to reflect conditions on an urban extension, particularly in terms of the phasing of the development over a number of years:

- One archetype was assumed to be developed at 70 dph (700 homes) with 60% flats and 40% houses.
- The other was assumed to be developed at 45 dph (450 homes) with 30% flats and 70% houses.

63 Both scheme types appear to be viable at 30% and 40% affordable housing (without grant) where existing use values are low or moderate. The exception to this is the lowest value band in terms of sales prices where these schemes do not appear viable, even at low existing use value thresholds - though this is common to most archetypes in the lowest value areas. Where viability is tested at the highest existing use value threshold, both schemes are unviable at 40% affordable housing (without grant). The higher density scheme (70 dph) moves into viability at 30% affordable housing (without grant) however.

64 Our testing shows that the viability of these two large archetypes can be improved by the following factors:

- Rising prices (assumed to be +5% per annum) mean that 40% can be broadly achieved except in the lowest value band (Band 1). At the highest existing use value threshold, both schemes become viable in Value Band 3 (the highest sale prices). This suggests that in a buoyant market where the scheme is capable of achieving higher sales prices it would be possible to secure 40% affordable housing.
- Increasing the density of both sites to 90 dph (from 70 dph) and 55 dph (from 45 dph) appears to improve residual land values of both schemes but not of sufficient magnitude to fundamentally change viability when assessed against our existing use value thresholds. Nevertheless, adjusting the density and mix may help to improve viability on marginal schemes.

- Introducing grant has a significant effect on the viability of these schemes and means that at 40% affordable housing (with grant) both scheme archetypes appear viable (or on the margins of viability) at the highest existing use value threshold, assuming they achieve assumed sales prices associated with value band 3.

The Impact of Different Density Assumptions

65 Each of the 12 archetypes has been re-modelled under the base case (40% affordable housing) at higher and lower density assumptions (see Figure 2 for details of densities and mix). It is important to note that we have not changed the assumptions about sales values and it is reasonable to expect that these would be affected by the design and density of any scheme.

66 It is also important to note that changes to density are accompanied by changes in the proportion of flats and houses. As flats and houses have different sales prices and build costs this can have a complex effect on viability.

67 The result is that, increasing the density improves residual land values across **some** schemes tested. This includes one scheme in value band 3 at the highest existing use value. It does not fundamentally change the pattern of viability in the Borough.

68 However, in some schemes, residual land values are reduced and some schemes in the lower value bands become marginal at moderate existing use values, having been viable under base case density assumptions.

69 In general, reducing densities causes residual land values to fall. The majority of schemes in value band 3 were viable at the highest existing use value threshold under the base case. Only half of these remain viable when densities are reduced. However, this does not take account of any premium which might be attached to houses and flats developed at lower density on some site types.

The Impact of Future House Price Scenarios

70 Rising prices have a positive impact on viability because of effect on revenues and serves to increase residual land values on all schemes across Havant. Just under half of the schemes tested are viable at 30% affordable housing (without grant) when judged against the **highest** existing use value threshold.

71 The scale of the impact of a +5% increase in prices per annum is to bring some previously unviable sites in value bands 1 into viability at the lowest existing use value threshold. Price increases of this scale do not do enough to bring unviable schemes in the lowest value band into viability at high existing use value thresholds.

72 Falling prices have a negative impact on viability because of the effect on both revenues and sales rates (the timing of revenue payments and therefore the knock on effects of interest payments on finance etc).

73 A -5% decline in house prices year on year with lower than average sales rates reduces residual land values across all schemes. This scale of house price falls has the effect of making some schemes in value band 2 unviable at the lowest existing use value threshold ie wholly unviable. Only some schemes in value band 3, capable of generating higher sales prices, remain viable or marginal at the highest existing use value threshold. This excludes the largest archetypes since they are phased over a number of years and so more greatly affected by falling revenues year on year. In practice, sales prices are unlikely to fall consistently year on year in the way we have modelled but this serves to highlight the effect of a falling market on development viability.

Implications for Policy

74 For strategic policy the analysis suggests a target of 30% affordable housing could be set with some confidence. The majority of schemes tested could deliver 30% affordable housing (without grant). Although the proportion able to achieve viability reduces as the existing use value threshold is increased, nevertheless a reasonable number of schemes remain viable.

75 40% could be justified but achieving this target is more dependent on the availability and level of affordable housing grant. This level can justified on the following basis:

- It would be appropriate to set the quota at 40% to ensure that, where schemes are generating high values, opportunities are taken to secure more affordable housing, though recognising that not all schemes will be able to achieve this quota and in these cases the Borough Council will need to be flexible.

- Lowering the affordable housing quota would increase the number of viable schemes but it would not bring all schemes within the Borough into viability.

76 Whichever approach is adopted, sufficient flexibility needs to be retained within policy to take into account site specific considerations eg developments in low value areas, high existing or alternative use values or large demolition and infrastructure costs.

77 DTZ see no reason in viability terms that the affordable housing threshold could not be extended to sites delivering 5-14 new homes, particularly since flexibility will be retained to deal with site specific considerations. Sites of this size are not currently captured by the Borough's affordable housing policies yet this assessment suggest that they are no less viable than sites of 15 or more units. Furthermore, the Borough's SHLAA identifies sites capable of delivering 5 or more units which means that such sites are likely to provide an important source for future housing developments in Havant.

78 It will not be possible to secure the target quota of affordable housing on all development sites within the Borough so the Council need to adopt a process for resolving what the contribution should be in the event that it is not possible for a site to deliver the level set out in policy. It would make sense to acknowledge in the Council's policy documents that there is flexibility over the contribution that individual sites will make, where it can be demonstrated that the full affordable housing quota would make development unviable. The Council may wish to set out in policy

some of the factors that are likely to affect viability as a means of demonstrating to developers that it will take into consideration site specific circumstances. These could include:

- A deteriorating market environment eg falling prices of new build homes
- Localised market conditions / ability to achieve sufficient revenues
- Abnormal build costs eg associated with topography or complexity of the site
- Lack of available affordable housing grant or housing associations unable to fund intermediate type products at a particular point in time
- Significant costs or contributions which are necessary for the development to proceed, in particular strategic infrastructure requirements.

1. Appendix 1: Objectives & Approach

1.1 DTZ was commissioned at the end of 2009 by Havant Borough Council to examine the likely impact of emerging affordable housing policies on development viability.

1.2 The assessment follows on from the South Hampshire HMA (2004 and 2006), also prepared by DTZ, which verified the need for additional affordable housing within the Borough and across the wider PUSH sub-region. The South Hampshire HMA suggests that the PUSH authorities need as much affordable housing as they can realistically secure, given the level of housing need identified.

1.3 However, how far Havant can secure affordable housing through new development depends on the economics of development on specific sites. This is given explicit recognition in paragraph 29 of Planning Policy Statement 3 (Housing) which requires local authorities to set targets for the amount of affordable housing to be provided but that these should reflect an assessment of the likely viability of land for housing within the area.

Study Purpose and Objectives

1.4 A growing proportion of affordable housing is delivered through Section 106 Agreements and tied to the delivery of market housing. It is increasingly important therefore that affordable housing policy is realistic, taking into account the dynamics of the housing market as well as housing need issues. The South Hampshire HMA suggested that up to 40% affordable housing should be secured through new development on the basis of housing need. However, the HMA did not consider the impact of affordable housing or other policies on viability. This assessment is designed to ensure that policy proposals put forward by the Borough Council do not prevent sites from coming forward and stifle development of both affordable and market housing.

1.5 The key objectives of the assessment are to assess the impact on viability of a number of key variables:

- The extent to which 40% affordable housing can be delivered (on sites capable of achieving 15 or more units)
- Whether or not grant is available for affordable housing units
- On smaller sites (eg 5-14 units) how far affordable housing quotas can be achieved
- Whether altering the tenure split could assist in delivery a greater overall proportion of affordable housing, particularly in areas where proposed quotas may be difficult to achieve
- The impact of different site sizes, locations (urban/ suburban) and densities of development on viability

Study Approach

1.6 At the core of the study approach is a viability modelling exercise. This examines the impact on viability of different affordable housing contributions on **hypothetical** development schemes in different parts of Havant.

1.7 The modelling runs a cash flow analysis for a representative range of development schemes (referred to as scheme **archetypes**) across Havant using as a baseline, costs and values from the period 2004 to 2008.

1.8 There are a number of reasons for using average values and costs for the period 2004-08:

- The planning inspectorate has indicated that viability assessments should not be based on an 'abnormal market'. It is difficult if not impossible to define a normal market but it would seem sensible that the baseline for the study should not be based on values or costs at one specific point in time, which might not be representative of the past or future. Thus, taking an average of a 4 year period provides a reasonable basis for modelling since there is a reasonable expectation that these costs and values will be achieved in the future (as they have in the past) and they do not represent values or costs at either the peak or trough in the market.

- Using current values would represent some risk when analysing data at the localised level. Since the housing market downturn set in, transactions have fallen dramatically and are currently around half the levels experienced in the decade to mid 2007. Thus, house prices reported in 2008 and 2009 have been based on very low numbers of transactions and are likely also to have been influenced by the type of properties traded. There is a risk that using current (2009) values could be affected by a small sample size and skew the results.

1.9 The building blocks of the viability modelling are shown in Figure 1.1. Further information on the model is presented in Appendix 2-5, with detailed information on the way the model works and key assumptions.

Figure 1.1: The Viability Modelling Approach

Framework for Analysis	Key Components	Key Variables for Testing	Viability Tests
House price and sales rate scenarios	Revenues (price of market and affordable homes)	Percentage of affordable housing	Internal Rate of Return (target 15%)
5 Value bands representing the range of average values	Costs (build, non-Affordable Housing s106 contributions, marketing, finance costs, etc)	Market prospects – different scenarios	Residual land value (using land value as output)
Development archetypes – 11 different scheme types	Land value (can be an input or an output)	Level of affordable housing grant	-

1.10 This section provides the policy context for the subsequent assessment of viability. It examines national policy guidance on planning for affordable housing provision and the relevance of viability to policy making. The section then goes on to consider the current and emerging housing policies in Havant and the wider PUSH sub-region. Current policies in Havant's adopted Local Plan are subject to review as the Borough Council move towards completion of its Local Development Framework.

National Planning Policy and Affordable Housing Provision

1.11 The key statement of the Government's policies for planning and affordable housing provision is Planning Policy Statement 3: Housing, published in November 2006. Affordable housing in PPS3 is defined as follows: *Affordable housing includes social rented and intermediate housing, provided to specified eligible households whose needs are not met by the market. Affordable housing should:*

- *Meet the needs of eligible households including availability at a cost low enough for them to afford, determined with regard to local incomes and house prices.*
- *Include provision for the home to remain at an affordable price for the future eligible households or, if these restrictions are lifted, for the subsidy to be recycled for alternative affordable housing provision'.*

1.12 PPS3 makes clear that the Government's aim is that the planning system ensures that enough land is identified and brought forward for development of new housing in line with targets established through the Regional Spatial Strategies.

1.13 However, at the local level, the Government recognises that sufficient land supply will only be delivered if policies towards affordable housing and other development contributions are realistic and viable; otherwise there is a risk that land values fall below that which is sufficient to provide an incentive for the landowner or developer to bring a particular site forward. This is reflected in PPS3 (paragraph 29) which places a requirement on local authorities to set a target for affordable housing provision to be delivered through Section 106 policies that takes into account the need for development to be viable, once allowance is made for factors such as the availability of grant funding.

1.14 PPS3 indicates that local authority affordable housing policies need to be developed on the basis of a robust evidence base. Policy must be deliverable, not merely aspirational. However, while detailed guidance is available on the assessment of housing need and demand, there is no formal government guidance on how viability should be tested. PPS3 was prepared before the current slowdown in the housing market and the government has not advised local authorities on how they should respond to changes in market context as they develop their policies.

1.15 This does imply, however, that authorities need a degree of flexibility in the application of their policies. The existing system allows for developers to make the case to authorities that a policy requirement cannot be delivered on a particular site given the particular circumstances of that site. Some inherent flexibility in how policy requirements for affordable housing can be met is built into the system by options to change the tenure mix (between social rented and intermediate housing for sale) and availability of grant.

1.16 It is well known that developers, when acquiring sites in a competitive situation, do not always fully allow for the costs full affordable housing provision in accordance with policy. Similarly, developers will not immediately adjust their bid prices to reflect changes in affordable housing and/or planning policy. It should not be the role of planning policy to compensate developers who have overpaid for land or misjudged other aspects of development costs or revenues by simply adjusting the level of affordable housing that should be delivered on a site.

1.17 However, local authorities need to appreciate how development viability is assessed, and to be in a position to negotiate where necessary over affordable housing requirements, while seeking to ensure that policies can be applied to the majority of developments. The balance between being sufficiently robust and forceful to ensure that every application is not the subject of negotiation, while being sufficiently flexible to recognise special circumstances is a difficult balance to strike, but it is in the interests of both the development industry and local authorities to find the right balance.

PUSH Sub-Regional Policy Context

1.18 The Partnership for Urban South Hampshire's key objective is to improve the economic performance of the sub-region by achieving a growth rate of 3.5% per annum by 2026 and to move the sub-region more in line with the South East region. As part of PUSH's strategy for economic growth the sub-regional partnership recognises the need to increase housing provision, including affordable housing. The PUSH authorities have agreed to a common framework for the provision of affordable housing throughout the sub-region to ensure a consistent approach. This should create certainty for the development industry and also ensure that individual authorities are not played off against each other.

1.19 Objectives on housing delivery and affordable housing for the PUSH sub-region are set out in the South Hampshire Sub-Regional Statement in the Draft South East Plan. Policy SH12 states that '*at least 30% of all new housing planned for 2006-2026 needs to be affordable in order to address a backlog of existing unmet need and to provide for newly arising needs. In order to achieve this target, 30-40% of housing on new development sites should be affordable housing.*'[1] The policy recognises that achieving this level of affordable housing will *'require substantial Government funding'*.

1.20 The Sub-Regional Statement acknowledges that individual Local Development Documents will determine the proportion of housing on development sites which should be affordable but that these should reflect the objective to achieve the overall target at the PUSH sub-regional level.

1.21 The PUSH draft common affordable housing framework sets out more detail on the nature of affordable housing provision and the way in which it is delivered. The following objectives are relevant to this viability study:

[1] The preferred method for calculating the affordable housing requirement is based on the number of bedrooms rather than units. This implies that the proportion of affordable units on site could be higher or lower than 40% in some circumstances depending on the mix of dwellings provided.

- Local authority grant funding or commuted sums should be used to provide added value through higher design standards and higher levels of energy efficiency of new affordable homes
- 65% of affordable homes within the overall quota should be social rented with the remaining 35% for affordable home ownership (often referred to as intermediate housing).
- Developments should aim to deliver affordable housing with reduced levels of public subsidy
- The PUSH authorities will seek to apply a site size threshold of 10 dwellings in urban areas, above which affordable housing will be required as part of the development
- New affordable housing should meet the Code for Sustainable Homes (2007) levels as set out in the PUSH Core Strategy Sustainability Policy Framework. Currently, all residential development should achieve Level 3, rising to Level 4 from 2012 and Level 6 from 2016.

Havant Local Policy Context

Level of Affordable Housing Provision

1.22 Havant Borough Council's current affordable housing policy, as set out in the Local Plan requires 30% of the total dwellings provided on new housing developments as affordable housing, on sites of 0.5 ha/15 dwellings or more, having regard to the individual site suitability. The policy goes on to state that the affordable dwellings are to be integrated with the other housing built on the site except where the Council and developer agree they should not be provided on the same site. In these cases, an exception will be made to provide affordable housing in an alternative location or by means of a commuted payment.

1.23 Havant Borough Council's existing affordable housing policy is being reviewed through the preparation of the new Local Development Framework. The Council has considered the proposal in PUSH's Common Affordable Housing Framework for a policy of up to 40% affordable housing on development sites of 10 or more units. Given that housing need within Havant and across the South Hampshire sub-region is significant there is a case for maximising the supply of affordable housing through new development, including on sites which deliver fewer than 10 dwellings.

Affordable Housing Site Size Threshold

1.24 Havant's Core Strategy is proposing a split site size threshold of 15 units and over together with a requirement to secure a suitable contribution on sites of between 5 and 14 dwellings. The viability assessment examines viability on smaller sites and is able to shed light on the question of whether this threshold could be viable. Given the number of smaller sites that have been developed in the past and likely to come forward in the future it has been useful to examine the scope for securing contributions from smaller sites (see paragraphs 59-62 in this report).

Tenure

1.25 Havant Borough Council currently propose a split between social rented and intermediate housing of 65:35, prioritising the provision of social rented accommodation. This viability assessment considers whether viability can be improved in some scenarios by reducing the social rented component in favour of intermediate housing. This recognises that in some circumstances there may be a need to be flexible over tenure mix to improve viability.

1.26 Havant Borough Council also expect affordable housing to be integrated into new developments with clusters of not more than 10 affordable homes in order to prevent mono-tenure development and to encourage a mixed communities. It is not practical to test this in the viability model. However, we assume that the affordable housing size mix mirrors that of the market housing which implies that integration of affordable and market units is achieved in the scenarios modelled.

1.27 The remaining appendices provide information on the following:

- **Appendix 2** sets out the residential **values** in Havant**,** how they have been derived and how they relate to different parts of the Borough
- **Appendix 3** shows the development **archetypes** and how they have been developed
- **Appendix 4** presents the **model structure**, its operation and key assumptions
- **Appendix 5** sets out the results of the **base case** modelling
- **Appendix 6** examines how **sensitive** the results of the analysis are to changes in key assumptions and variables

2. Appendix 2: Residential Values in Havant

2.1 A key driver of development viability is the sales value per square metre (or per sq ft) that can be achieved on new schemes. Higher sales values produce greater revenue streams, thus improving margins if costs are kept constant. However, in practice, competitive bidding for land means that a development in a high value area may be 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 Havant.

Value Bands

2.3 The sales values of new homes and land values vary across the Borough. For this reason we have identified three 'value areas', defined simply as high, medium and low, and for these identified the relevant sales values that should be applied in the viability testing (Figure 2.1).

Figure 2.1: Sales Values of New Market Homes 2004-08 £ Per Sq M and Per Sq Ft

	1	2	3
Average £ per sq m 2004-08	£1,610	£2,040	£2,470
Average £ per sq ft 2004-08	£150	£190	£230
Flats: New Build Premium (to be applied)	*20%*	*20%*	*20%*
Houses: New Build Premium (to be applied)	*15%*	*15%*	*15%*
Flats: Average + Premium per sq m	**£1,940**	**£2,450**	**£2,970**
Houses: Average + Premium per sq m	**£1,860**	**£2,360**	**£2,850**
Flats: Average + Premium per sq ft	**£180**	**£228**	**£276**
Houses: Average + Premium per sq ft	**£173**	**£219**	**£265**

Source: DTZ; Hometrack; Land Registry

2.4 Average sales values of new market homes (expressed on a £ per square metre basis) are based on data for *new* housing developments across the study area. However, the average data presented in Figure 2.1 represents a mix of new build and existing dwelling prices. The model requires new build values as an input and these can also be derived from Hometrack data.

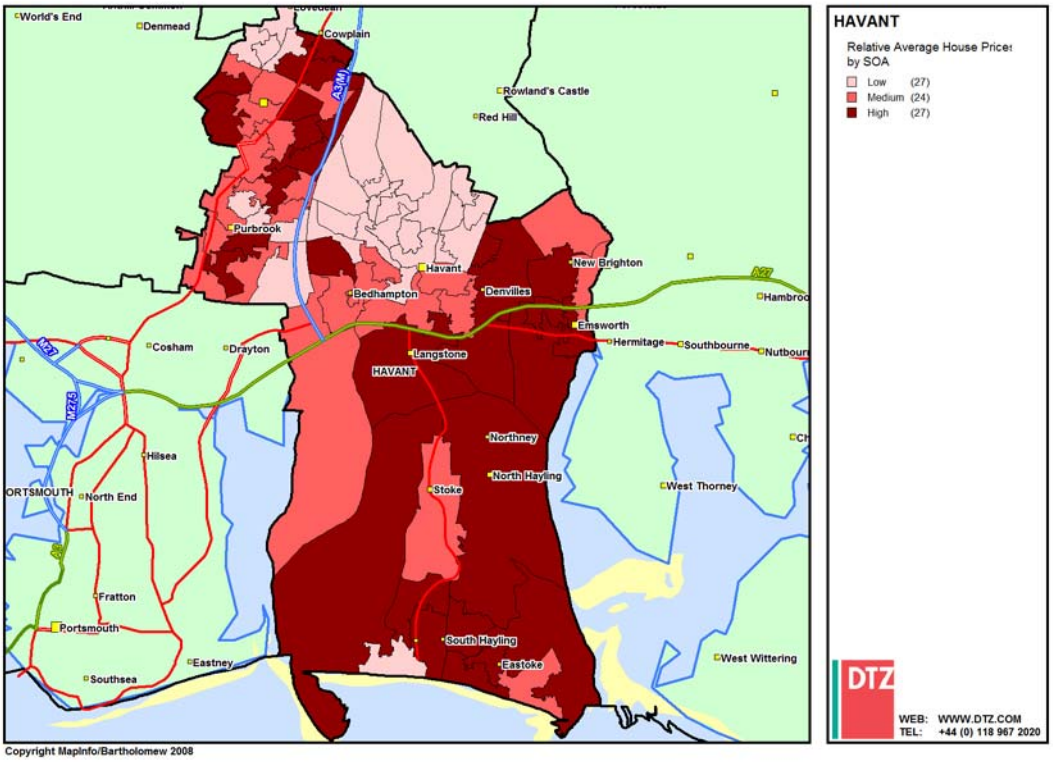
2.5 Hometrack data shows that there has been a significant premium on new build flats and houses over 2004-08. However, we cannot simply apply this premium to the sales values in Figure 2.1 because these averages include new build properties. We have therefore adjusted downwards to a 'premium to be applied', based on DTZ's market knowledge within Havant, which takes into account the fact that £ per sq m sales values in Figure 2.1 are already a mix of existing and new build properties.

2.6 The Planning Inspectorate has indicated that viability assessments should not reflect circumstances of an 'abnormal market'. Given the cyclicality of the housing market, a normal market is very difficult to define. Nevertheless, it would seem sensible not to rely on values from one specific point in time, particularly values associated with the peak (Q3-4 2007) or trough in the market (Q1 2009). Using current values is also unlikely to be representative of the market conditions during the LDF plan period with home sales transactions having dropped by 50%[1] since the onset of the downturn in 2007.

2.7 To ensure that this assessments tests values that are typical of those within Havant we have proposed that values are determined by the average for the period is 2004-2008. Appendix 1 sets out the rationale for using this approach. Essentially, it is about establishing a baseline for values and costs which is reasonably representative of what has been achieved in the past and could be achieved in the future, but does not represent either the peak or trough in the market cycle.

2.8 This viability assessment therefore tests Havant Borough Council's affordable housing policy using average sales values for each of the 3 value bands. This ensures that the testing reflects the reality of varying sales values across the Borough. It is interesting to note that average current values (2009) do not differ significantly from the average values from 2004-08 so we expect that the modelling is broadly representative of current viability in the Borough and that modelling using 2009 values would not have a discernable effect on results.

Figure 2.2: House Prices in Havant, Low, Medium and High Value Bands



[1] According to Land Registry sales transactions data for 2007 Q3 compared with 2009 Q3.

2.9 Broadly the low, medium and high value bands in Figure 2.1 correspond to the pattern of average house prices across the Borough (Figure 2.2). However it should be noted that new development, particularly on large schemes can, under some circumstances, establish new value levels that are not constrained by existing second hand housing prices. Figure 2.2 is therefore illustrative of how values vary across the Borough rather than definitive.

2.10 Figure 2.2 is derived by dividing the 78 Lower Super Output Areas which make up the Borough into 3 different value bands based upon an equal number of LSOAs in each band. These are shown in Figure 2.2 along with the number of LSOAs in each value band (shown in brackets). Value band 1 represents the lowest values and value band 3 the highest. Figure 2.2 is based on house price £ per sq m data from Hometrack

2.11 Hometrack data provides the most representative picture of house prices in any Local Authority area. Land Registry data often contains a large number of duplicate entries, requires cleaning to be accurate and also is subject to significant time lags. A comparison between the two sources shows that in an average Local Authority area Hometrack has 350 price points (from a combination of mortgage valuations and completed transactions) per month compared with the Land Registry that only has ten (which is based on transactions only).

Revenues from Affordable Housing Provision

2.12 A developer also generates revenues from the sales of affordable housing units to housing association.

2.13 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 there is no affordable housing grant paid**.

2.14 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 2.3: 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

2.15 DTZ also consulted housing associations within Havant, notably those that are development partners of the Council to cross check this assumption. We believe that the affordable housing

revenue assumptions in the model are broadly consistent with what housing associations have been able to pay for affordable housing in the past.[2]

2.16 It has been assumed in this study that all affordable homes will find an RSL buyer. It is worth noting however that housing associations may be disinclined to buy (or be party to development of) small numbers of units, where these would be inefficient for them to manage. This would be most likely to be an issue where a scheme only produces a very small number of affordable housing units. This issue needs to be taken into account in thinking about the practicality of applying affordable housing targets to very small schemes and sites, though it is not insurmountable.

Future Housing Market Scenarios

2.17 A key feature of DTZ's viability modelling is that it is cash flow based. This is extremely important in testing viability, since development is delivered over a period of time and the timing of revenues (sales of new homes) and the timing of costs (eg build costs, interest charges) will significantly affect the viability of development.

2.18 The recent housing market downturn has illustrated the importance of cash flow to development viability. Falls in prices and the contraction in mortgage availability led to a significant fall in sales. Transactions fell to just 40% of normal market levels in Q1 2009 in Havant and the South East as a whole. For developers this meant that not only were prices of new homes lower than expected, the time taken to sell homes on new developments radically increased. But build costs still had to be met and interest payments made, seriously affecting the profile of cash flow on new developments and undermining viability.

2.19 For some sites, particularly larger ones, the profile of cash flow will extend over more than one year. This means that the model needs to include assumptions about value (house price) inflation or deflation over the period.

2.20 Predicting the future course of house prices is difficult, if not impossible. However, the purpose of this viability assessment is to test and support the development of affordable housing policies for the plan period to 2026. We propose therefore a simplified set of scenarios that test the impact on viability of the three possible states of the housing market:

- House prices rising (+5% nominal price increase per annum and sales rates stable)
- House prices staying flat (0% per annum and sales rates stable) **(this scenario is used for the base case)**
- House prices falling (-5% nominal price decrease per annum and sales rates fall by 50%)

2.21 The magnitude of inflation or deflation in these scenarios is somewhat arbitrary but the purpose is to demonstrate the broad impact on viability of price rises or falls. We believe +5% nominal house price inflation is a realistic assumption since the long term *real* trend in prices (ie adjusted for inflation) in the UK over the last 35 years has been close to 3% . We propose

[2] Associations consulted did not provide specific prices paid for social rented or shared ownership units, rather they quoted a package price for the affordable housing on a development scenario

that the price falls scenario is of the same magnitude as the price rises scenario for consistency. However, it is also important to adjust sales rate assumptions in the price falls scenario. Sales rates tend to remain steady in a rising market (averaging 1 per week for each sales outlet on a development site).[3] In a falling market, sale rates decline significantly as demand weakens, largely in anticipation of further price falls. Thus, we assume sales rates in a falling market are half the levels in a rising or flat market.

[3] Assumption based on discussions with the Home Builders' Federation and major developers in the South East for DTZ's study of viability in England for the HCA

3. Appendix 3: Analysis of Sites and Archetypes

3.1 The purpose of this Appendix is to examine the nature of residential development within Havant in recent years. This analysis is then used to develop a number of archetypes, typical of the range of housing development in the Borough, which are then used to model viability.

3.2 The analysis presented in this paper has been carried out on completions data provided by Havant Borough Council and the Council's Strategic Housing Land Availability Assessment.

Type and Size of Sites

3.3 Over the past 5 years, there have been housing completions in all areas of the Borough but in the last 2 years there has been more of a focus on Havant town as a result of large previously developed sites coming through the pipeline. In the last 5 years, 77-100% of completions have been on previously developed sites and many of these sites have been small.

3.4 The SHLAA reviews existing allocations and permissions and considers sites which might be included in forthcoming site allocations development plan documents. The types of sites identified provide a framework for the viability assessment in terms of the type of sites likely to come forward, their characteristics, and implications for development viability.

3.5 According to the draft SHLAA, the types of sites likely to come forward over the plan period fall into the following broad categories:

- Sites within existing urban areas
  - Around 2,260 homes could be delivered on sites within the 5 main existing urban areas: Waterlooville (790 homes); Leigh Park (720 homes); Havant (1,060 homes); Emsworth (70 homes) and Hayling Island (30 homes)
  - There are a further 3 sites which are allocated for employment uses but may be surplus to requirements and it is possible that these sites could deliver housing in the future.

- Urban extensions
  - There is scope to deliver around 2,670 sites on urban extensions within the Borough (though these are not expected to come forward until after 2012)

- The West of Waterlooville MDA
  - Around 600 homes at West Waterlooville have planning permission and are likely to be built out in the short term.

- Unidentified sites (windfall)
  - Historically, around 50 homes per annum have been developed on small windfall sites (1-4 units)

3.6 Within these broad categories the sites fall into a range of different sizes, planning statuses and some will have existing uses eg industrial or amenity uses. The viability assessment

takes account of this development context by examining urban and suburban sites, different site sizes and different value areas etc.

Density

3.7 The viability assessment has tested different site densities and the impact that this has on development viability when other variables are held constant. Havant Borough Council's draft Strategic Housing Land Availability Assessment (SHLAA) sets out density assumptions for the range of sites in the development pipeline. Different assumptions are made for sites depending on proximity to transport hubs and local services, with the following ranges as a result

- 30-50 dph
- 50-70 dph
- 70-90 dph
- 90-110 dph

3.8 These ranges are broadly consistent with those tested in this assessment although the highest range (90-110 dph) is higher than our highest scenario which tests 90dph. Furthermore, the draft SHLAA also refers to good practice examples of well designed new developments which, on average, yielded densities of around 35 dwellings per hectare. The SHLAA suggests this would be a good average to apply across all sites therefore in Havant. We propose to test a range of densities, set out in Section 3.

3.9 The model requires us to specify a range of site sizes, densities and mix to capture the variety of development scenarios within Havant. Based on the analysis of completions within the Borough and sites identified by the SHLAA, Figure 3.1 presents a matrix which aims to represent the range of development schemes that are likely to come forward. The area shaded in grey represents the archetypes used in the base case. It is important to keep in mind that these archetypes will not directly match past or future development sites in the Borough, but they are designed to capture a range of scenarios so that the assessment can draw broad conclusions on the impacts on viability of different variables.

3.10 The principles which have informed the site selection are:

- A density range of 35-90 dph is broadly consistent with the range of schemes that have been delivered in recent years. Furthermore, the draft SHLAA also refers to good practice examples of well designed new developments which, on average, yielded densities of around 35 dwellings per hectare. The SHLAA suggests this would be a good average to apply across all sites therefore in Havant.
- A range of different site sizes from large strategic urban extensions to small scale infill developments have been delivered in recent years and it is important to test this.
- The Borough Council want to consider the impact of lowering the affordable housing and so small developments are tested in terms of their viability for affordable housing development.

- The majority of completions in recent years have been flats rather than houses; however there may be more limited development of flats in the future because of the changed credit environment. Varying density assumptions allows us to test the impact on viability of greater or lesser reliance on flats or houses.

- Our assumed dwelling mix is generally consistent across different sized sites but we assume that the smaller, lower density developments have a bias towards larger houses and vice versa, the larger higher density schemes have increased proportions of flats.

3.11 Each of the development scenarios below is tested in each of the value bands. This produces a large number of residual land value results, for which we provide conclusions on viability in comparison with:

- A low existing use value
- A medium existing use value
- A high existing use value

3.12 These values are based on Valuation Office data on the existing use value per ha of different land uses and are explained in detail in Appendix 5.

Figure 3.1: Development Architypes for Havant

Increasingly mixed range of product

Increasing proportion of flats and smaller dwellings

	Density	Site Size: 10ha	3 ha	1 ha	0.5 ha	0.25 ha	0.1 ha
Urban	90 dph		270 dwellings: 1 bed flats: 30% 2 bed flats: 50% 3 bed flats: 20%	90 dwellings 1 bed flats: 30% 2 bed flats: 50% 3 bed flats: 20%	45 dwellings 1 bed flats: 30% 2 bed flats: 50% 3 bed flats: 20%	23 dwellings 1 bed flats: 30% 2 bed flats: 50% 3 bed flats: 20%	9 dwellings 1 bed flats: 30% 2 bed flats: 50% 3 bed flats: 20%
Urban	70 dph (Base Case)	700 dwellings: 1 bed flats: 20% 2 bed flats: 30% 3 bed flats: 10% 2 bed houses: 20% 3 bed houses: 20%	210 dwellings 1 bed flats: 20% 2 bed flats: 30% 3 bed flats: 10% 2 bed houses: 20% 3 bed houses: 20%	70 dwellings 1 bed flats: 20% 2 bed flats: 30% 3 bed flats: 10% 2 bed houses: 20% 3 bed houses: 20%	35 dwellings 1 bed flats: 20% 2 bed flats: 40% 2 bed houses: 30% 3 bed houses: 10%	18 dwellings 1 bed flats: 20% 2 bed flats: 40% 2 bed houses: 40%	7 dwellings 2 bed flats: 60% 2 bed houses: 40%
Urban	60 dph		120 dwellings 1 bed flats: 20% 2 bed flats: 30% 2 bed houses: 30% 3 bed houses: 20%	60 dwellings 1 bed flats: 20% 2 bed flats: 30% 2 bed houses: 30% 3 bed houses: 20%	30 dwellings 1 bed flats: 20% 2 bed flats: 30% 2 bed houses: 30% 3 bed houses: 20%	15 dwellings 1 bed flats: 20% 2 bed flats: 30% 2 bed houses: 50%	6 dwellings 2 bed flats: 50% 2 bed houses: 50%
Suburban	55 dph		115 dwellings 1 bed flats: 10% 2 bed flats: 30% 2 bed houses: 30% 3 bed houses: 30%	55 dwellings 1 bed flats: 10% 2 bed flats: 30% 2 bed houses: 30% 3 bed houses: 30%	28 dwellings 1 bed flats: 10% 2 bed flats: 30% 2 bed houses: 30% 3 bed houses: 30%	14 dwellings 2 bed flats: 40% 2 bed houses: 30% 3 bed houses: 30%	6 dwellings 2 bed flats: 40% 2 bed houses: 60%
Suburban	45 dph (Base Case)	450 dwellings: 2 bed flats: 30% 2 bed houses: 20% 3 bed houses: 30% 4 bed houses: 20%	135 dwellings: 2 bed flats: 30% 2 bed houses: 20% 3 bed houses: 30% 4 bed houses: 20%	45 dwellings: 2 bed flats: 30% 2 bed houses: 20% 3 bed houses: 30% 4 bed houses: 20%	23 dwellings: 2 bed flats: 30% 2 bed houses: 20% 3 bed houses: 30% 4 bed houses: 20%	11 dwellings: 2 bed houses: 40% 3 bed houses: 30% 4 bed houses: 30%	5 dwellings: 2 bed houses: 40% 3 bed houses: 40% 4 bed houses: 20%
Suburban	35 dph		105 dwellings 2 bed houses: 30% 3 bed houses: 30% 4 bed houses: 30% 5 bed houses: 10%	35 dwellings 2 bed houses: 30% 3 bed houses: 30% 4 bed houses: 30% 5 bed houses: 10%	18 dwellings 2 bed houses: 30% 3 bed houses: 30% 4 bed houses: 30% 5 bed houses: 10%	9 dwellings 3 bed houses: 40% 4 bed houses: 40% 5 bed houses: 20%	4 dwellings 3 bed houses: 50% 4 bed houses: 50%

Source: Havant Borough Council SHLAA; DTZ

4. Appendix 4: Model Structure and Assumptions

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

What Defines Viability?

4.2 The model is based on the principles of Circle Developer which is a software package used by development specialists to appraise individual sites. These principles have been translated into an excel model which has been developed to test a large number of hypothetical sites simultaneously. In the model, viability is determined by examining residual land values and comparing these with existing use values.

4.3 In theory if a sites' 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.[1] 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 this study we assume that if a residual land value exceeds existing use value then it should (in theory) be viable.

4.4 The model can also look at viability in terms of indicators of profitability which may be used within the development industry, including the achievement of a target Internal Rate of Return (IRR). The IRR is the discount rate needed to reduce the Net Present Value (NPV)[2] of a particular scheme to zero.

4.5 The IRR target - the requirement for a scheme to be deemed viable - is set at 15% (though this is varied to 20% and tested as a sensitivity). Before the onset of the credit crunch an IRR of around 15%, particularly on larger schemes, was generally regarded by developers as the minimum needed to proceed with a scheme.[3] Under current market conditions this has increased on many schemes due to stricter and costlier credit terms imposed by lenders).

4.6 The model can also measure scheme profitability, as defined by scheme surplus divided by scheme cost (profit on cost) and scheme surplus divided by scheme revenue (profit on Gross Development Value). 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.

4.7 Whilst each measure is calculated by the model, for the purposes of this study we focus upon the **residual land value** to establish whether a scheme is viable. This measure is typically

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

[2] 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.

[3] This threshold was adopted by DTZ in the national study for the HCA in 2008 on the Scope for Affordable Housing Delivery through S106 in a Post Credit Crunch Residential Land Market and has since been used as a standard assumption in strategic viability assessments.

used by developers, landowners and public authorities and so provides common ground in the assessment of viability.

Model Inputs

4.8 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 Havant Borough, are described in Section 3 of this report.

4.9 The other major inputs into the model are the assumptions around costs and values. DTZ have developed different 'value bands' each of which has a different set of sales values. A full analysis of how the value geographies have been formulated for Havant Borough is contained in Appendix 2. Each scheme therefore correlates to a specific set of inputs. These are described below.

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

4.10 For the market housing an average £ per sq m value is calculated for each value band as shown in the Appendix 2.

4.11 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 no affordable housing grant is paid**.

4.12 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

Unit Area Assumptions

4.13 The £ per sq m values (both market and affordable) are combined with assumptions on unit area sizes to generate total unit prices. The unit area assumptions, based upon DTZ's market knowledge are shown in Figure 4.2 and 4.3.

Figure 4.2: Sq M Unit Area Assumptions Used For Generating Revenue per Unit – Havant Borough

Square Metres	Private	Shared Ownership	Social Rented
One bedroom flat	51	51	51
Two bedroom flat	60	60	60
Two bedroom house	84	84	84
Three bedroom house	88	88	88
Four bedroom house	111	111	111
Five bedroom house	135	135	135

Source: DTZ standard assumption for strategic viability assessments, based on consultation with developers and RSLs

Figure 4.3: Sq Ft Unit Area Assumptions Used For Generating Revenue per Unit – Havant Borough

Square Feet	Private	Shared Ownership	Social Rented
One bedroom flat	550	550	550
Two bedroom flat	650	650	650
Two bedroom house	900	900	900
Three bedroom house	950	950	950
Four bedroom house	1,200	1,200	1,200
Five bedroom house	1,450	1,450	1,450

Source: DTZ standard assumption for strategic viability assessments, based on consultation with developers and RSLs

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

Build Costs

4.15 We have obtained data from the BCIS on average build costs (£ per sq m) for Havant Borough. Our approach to build costs matches that to sales values by using the average build cost for the study period 2004-08. Current build costs (2009) are marginally lower than the average for 2004-08 so the build costs used in the model can be regarded as broadly

representative of current build costs and are assumed sufficient to meet Code for Sustainable Homes Level 3.

4.16 Build cost data from BCIS has been matched to unit sizes modelled in Havant using the process shown in Figure 4.4.

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

BCIS £ per sq m/ ft	1 Bed Flat	2 Bed Flat	2 Bed House	3 Bed House	4 Bed House	5 Bed House
Up to 75m2 / 805 sqft GFA per unit) **Flats**	●	●				
75 to 100m2 / 807 to 1,075sqft GFA per unit) **Houses**			●	●		
100 to 125m2 / 1,075 to 1,345 sqft GFA per unit) **Houses**					●	
Over 125 m2/ GFA per unit						●

4.17 In DTZ's experience, at the localised level, costs from BCIS tend to be on the low side and a small number of particular schemes can skew the data as the sample size BCIS has at the Local Authority level is relatively small. BCIS costs also do not include the full costs of external works[4].

4.18 An investigation into the difference between BCIS cost data compared with that in the Greater London Authority Toolkit found that BCIS data needs to be inflated by 35% to provide a more realistic set of build costs. In this study we have reduced this uplift to take into account the fact that external works are less complex outside of London. DTZ assumes that 25% uplift should be applied.

[4] External works are those works that take place outside of the building footprint but inside of the development site footprint

Figure 4.5: Build Costs Assumptions in Havant Borough £ per sq m (£ per sq ft)

Property Type	Assumptions about Floorspace	Build Cost per sq m (per sq ft)
Havant 1, 2 and 3 bed flats	Up to 75m2 / 805 sq ft gross floor area per unit **Flats**	£1,102 (£102)
Havant 2 and 3 bed house	75 to 100m2 / 807 to 1,075 sq ft gross floor area per unit) **Houses**	£892 (£83)
Havant 4 bed house	100 to 125m2 / 1,075 to 1,345 sq ft gross floor area per unit) **Houses**	£922 (£86)
Havant 5 bed house	125m2 + / 1,345 sq ft gross floor area per unit **Houses**	£960 (£89)

Source: BCIS All Tender Price Index, uplifted +25% by DTZ to include allowance for external works. External works are those works that take place outside of the building footprint but inside of the development site footprint

Build Costs Between Tenures and Net to Gross

4.19 DTZ has not used tenure cost differentials for the base case. Where the affordable component is tenure blind or clustered; build costs will be broadly similar. This reflects the fact that although the cosmetic finish 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 may 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 broadly similar).

4.20 The above process provides £ per sq m build costs for the different type, size and tenure of units.

4.21 To convert build costs per sq m to build costs per unit, costs per sq m are multiplied by gross external areas for each type and size of unit, which are set out in Figure 4.6. 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.

4.22 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 4.6.

Figure 4.6: Gross Area Assumptions

Type and Size of Unit	Gross Internal Area (Sq ft) *(80% Flats, 95% Houses)*	Gross External Area (Sq ft)
One bedroom flat (sq ft)	550	688
Two bedroom flat (sq ft)	650	813
Two bedroom house (sq ft)	900	945
Three bedroom house (sq ft)	950	998
Four bedroom house (sq ft)	1,200	1,260
Five bedroom house (sq ft)	1,450	1,523

4.23 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.

Additional Cost Components

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

4.25 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 4.7 - 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 4.7: Analysis of Model Cost Components

COST COMPONENT	BASIS UPON WHICH MODEL CALCULATES (NOMINAL BASIS)
Demolition costs	Assumed to amount to £110,000 per hectare of site size. This figure is informed by DTZ's market knowledge and recent applications from other viability studies that show high variability of demolition costs, but that £1 per sq ft across a whole site (there are 110,000 sq ft 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 £6,000 for every unit (market and affordable), which is based upon information provided by Havant Borough Council and is consistent with DTZ's experience of non-affordable housing section 106 costs in other local authorities in the South East.
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.

Cash Flow and Phasing

2.1 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[5] is shown below (Figure 4.8). The move from nominal values to the **real values as they appear in the cash flow** is explained in the third column. This is a generic example and not specific to Havant.

2.2 Figure 4.8 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 4.9. 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.

[5] 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.

Figure 4.8: 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.[6]	£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 legal costs 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)
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	£0
Total Cash Flow Costs				**£44,094,523**

[6] 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).

Figure 4.9: 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 Havant modelling we used average house prices over the 2004 to 2008 period and assumed flat price growth in the base case and tested +5% per annum increases and falls in the sensitivity modelling.
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.
Total		**£49,038,241**	

4.26 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 4.10), meaning that according to the viability target (15%) the scheme would not be viable.

Figure 4.10: 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

4.27 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 4.11.

Figure 4.11: 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%

4.28 Figure 4.11 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 bearing 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[7] 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 4.12.

[7] 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.

Figure 4.12: 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%**

4.29 The residual land values generated using this approach are expressed as a £ value per hectare and compared to data on existing use values and residential land valuations in Havant (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

4.30 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 this study aims to model 'normal' market conditions we assume build out and sales rates equate to around 1 unit sold per week / 50 per annum. This is based on discussions with a number of national developers and the HBF for the HCA Viability Study undertaken by DTZ in 2008.

Sales Values

4.31 The sales values employed in the modelling will reflect the average that developers would have achieved over the 2004 to 2008 period. These £ per sq m sales values for each of the

value areas are set out in the analysis in Appendix 2 and the rationale for doing this in Appendix 1.

Additional Assumptions

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

1. 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 revenues are received in parallel with construction expenditure
5. Marketing and sales fees are only applied to private residential schemes
6. Interest is calculated quarterly and in arrears. It is assumed that profit is taken from the sites when the cashflow is positive.

5. Appendix 5: The Base Case and Findings

5.1 This section sets out the base case modelling results using the assumptions agreed with Havant Borough Council. A summary of the model workings and assumptions is shown in the diagram in Figure 5.1.

5.2 Viability is assessed on the basis of a cash flow viability model. For every scheme archetype (12) in each value band (3) 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 first generate a set of results using the base case assumptions. These results are the focus of this section of the report (set out in Figures 5.3-5.8). 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 assumed to be the threshold that defines whether a site is viable in terms of profitability).

2. Average sales values for 2004-08 are used in each of the areas.

3. That **grant payment is not made** on schemes and that as a result social rented units are valued at 40% of open market value (OMV) and shared ownership units are valued at 60% of OMV.

4. That the schemes are new build (not conversions).

5.6 The impact on viability of changing each of these assumptions is then examined by sensitivity analysis in Appendix 6.

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

Figure 5.1: Viability Model Structure and Assumptions

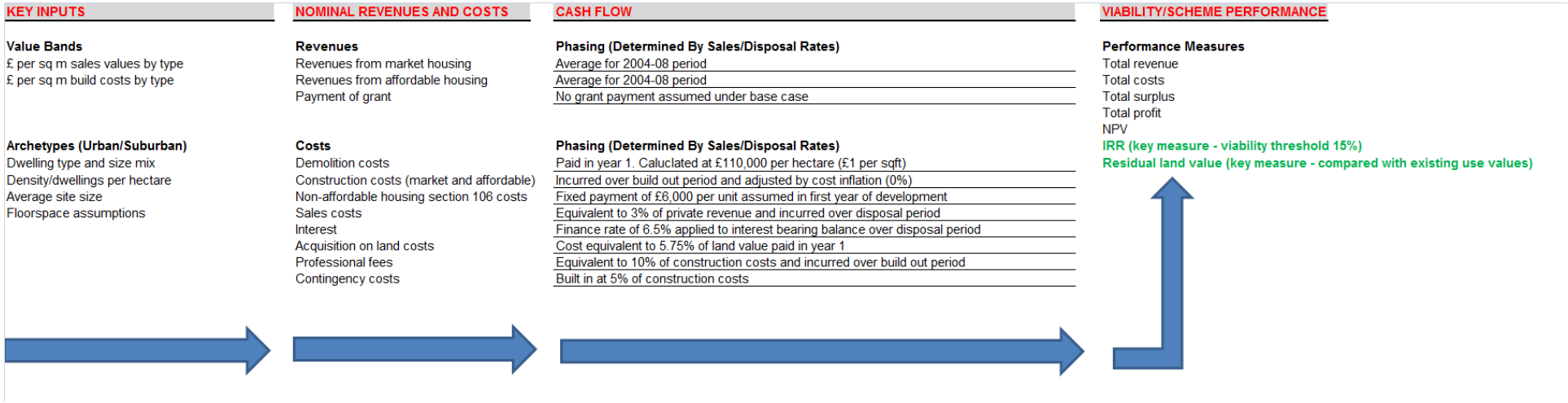


Figure 5.2: Additional Detail on Key Base Case Model Assumptions

Market Revenues and Phasing

Market revenues are calculated based on the average £ per sq m values that apply to the particular area in question. This is derived by averaging sales value across all the Lower Super Output Areas (LSOAs) in each value band. New build values are based upon DTZ's market knowledge and data from Hometrack which records average £ per sq m 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. The effect of house price rises or falls is examined later in this report as part of the sensitivity testing. The phasing through the cash flow is determined by the build out and disposal rate, which is assumed at around 50 units per site per annum (so a 150 unit site will experience a 3 year disposal period) on all sites apart from 'Urban-1' which is built out at 80 units per annum, with market revenues assumed to be realised in the year after 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 65% social rented and 35% shared ownership housing. It has been assumed that the developer receives payments for the affordable housing from the housing association linked to the market value of the dwelling. On the assumption that grant is not available the RSLs are assumed to pay the developer 40% of market value for a social rented unit and 60% 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 housing associations 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 the number of affordable units by the relevant sales values (at an appropriate level of discount to market value). The model then phases this amount over the period of delivery, with revenues received in the year of construction. The affordable revenue is uplifted by construction cost inflation, which we have assumed over our modelling period to be 0%. 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 profitable - 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 £110,000 per hectare of site size. This figure is taken from historic schemes in the study area that show demolition costs at around £1 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 (mix of types and sizes) in the scheme archetype and the relevant cost assumptions from the BCIS.

Section 106 Costs (Non affordable housing)
Assumed to amount to £6,000 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
Land value within the modelling base case is treated as an output.

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).

Infrastructure Costs
No abnormal infrastructure costs 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.

Residual Land Value Analysis

5.7 The base case analysis sets a fixed target rate of return (15%) for each scheme and examines how residual land values are affected by affordable housing contributions and whether the residual values generated are higher or lower than existing of alternative use values.

5.8 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.[2] 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 by 5% then it should (in theory) be viable.

5.9 It is not possible to establish a single benchmark in terms of residential land value above which it can be deemed that residential development will be viable. This is because:

- The value of land in the same use varies across Havant reflecting differences in locational attributes and perceived environmental quality. This reality is reflected in the different values of housing across the Borough. Landowner expectations will be shaped by historic levels of value secured for residential development, since even if values fall, there will be an expectation that they will recover. By implication the level of land value expected by owners of land will vary.

- In some parts of Havant, residential development is likely to be the highest value land use, and within established residential neighbourhoods the only land use that will secure planning permission. However, other areas are characterised by a mix of land uses. In such areas the likelihood of a residential development proceeding depends on the scheme delivering an equal or better value than a development for non-residential uses that would secure permission. The residual land value of alternative developments therefore is a key consideration.

- In a Borough such as Havant where there is potential for considerable variability in demolition and build costs, this will affect calculations of scheme residual land values.

- Lastly, an additional layer of variability in determining what can be deemed viable arises as a result of the property market cycle, and the likelihood that the values of different potential uses on a site to move at different speeds, up or down, at different stages in the development cycle. Therefore at one point in the development cycle, offices can appear a more attractive form of development than residential, but this may switch at a different stage in the development cycle. These differential changes in values can vary depending on market shifts and how a particular location is perceived in terms of an office location or retail location compared to a residential location.

5.10 The upshot of all these different considerations is that it is not possible to state unequivocally in a Havant context that a certain Residual Land Value associated with a scheme can be regarded as viable, or not viable. This study is intended to inform general policy development

[2] 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.

and indicates proportion for affordable housing provision which are generally considered viable in different parts of the Borough; it is recognised that individual schemes may need to be considered on their merits, taking into account specific scheme circumstances.

5.11 For the purposes of this assessment DTZ has compared the Residual Land Value associated with the modelled assumptions for each of the main archetypes against a number of land value thresholds. These thresholds are as follows:

- Residual Land Value expressed as £ per hectare value of above £12,700 per hectare. In the South East[3] the average value of agricultural land[4] in 2009 was £12,700 per hectare. Whist there is no agricultural land in Havant this is used as a proxy for a low land value or for land that has no existing use value. Therefore, it is assumed that this would be the absolute minimum threshold that would need to be exceeded if land is to be bought forward for residential use. It is therefore assumed that no landowner in Havant would bring forward sites for less than this sum. In practice the number of sites that would be brought forward at this sort of level are probably limited. Any scheme, based on the modelling assumptions used, that fails to deliver this level of land value can be deemed to be wholly unviable.

- The other benchmarks used for the analysis are Residual Land Values of £260k per hectare, £843k per hectare and £1.4m per hectare. £260k per hectare is the lowest industrial land value in 2009. This would be the absolute minimum threshold that would need to be exceeded if land was in industrial use, or where industrial use could secure planning permission, is to be brought forward for residential use. The highest benchmark reflects the average B1 office land value in the South East during 2009. This land use class is used as it presents the highest land values available from the VOA.

- These alternative uses compete for development funds with residential development, and residential development if it is to proceed will have to provide a comparable return to landowners. The £843k per hectare represents a mid-way threshold between the range of highest B1 office and lowest industrial land value. The wide range of land values used as benchmarks reflect just how greatly land values in Havant can vary, and on a site specific basis, and with the property market cycle.

5.12 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 40% of floorspace (which is applied to every site under analysis). We then examine the effects of reducing this contribution from 40% down to 0% in incremental 10% steps.

[3] Representative data specific to Havant is hard to come by and so in order to increase sample size and robustness VOA data for the South East is used.

[4] Based on an average value across arable and mixed farms with unequipped land of vacant possession January and July 2009

The Findings

5.13 The findings of the analysis are presented in the series of Figures 5.3 to 5.7. In summary:

- Figure 5.3 examines the impact on viability of a 40% requirement for affordable housing
- Figure 5.4 examines the impact on viability of a 30% requirement for affordable housing
- Figure 5.5 examines the impact on viability of a 20% requirement for affordable housing
- Figure 5.6 examines the impact on viability of a 10% requirement for affordable housing
- Figure 5.7 examines the impact on viability of a 0% requirement for affordable housing

5.14 Each set of Figures assesses viability against the four benchmarks used to represent Existing Use or Alternative Use Value in Havant, as follows:

- £12,700 / hectare
- £260k / hectare
- £843k / hectare
- £1.4m / hectare

5.15 To help visual interpretation of the results, a system of traffic lights is used to indicate where schemes are deemed viable and where they are deemed not viable. Thus:

- **The Red Traffic Light** indicates that the scheme is clearly not viable because the residual land value per hectare generated by the scheme is 5% or more lower than the relevant benchmark of existing use value
- **The Amber Traffic Light** indicates that the scheme is of marginal viability because the residual land value per hectare generated by the scheme is between 5% lower than and 5% more than the relevant benchmark of existing use value
- **The Green Traffic Light** indicates that the scheme is clearly viable because the residual land value per hectare generated by the scheme is more than 5% higher than the relevant benchmark of existing use value

Archetype Key

Archetype	Number of Units	Site Size (Hectares)
Urban – 1 (U1)	700	10
Urban – 2 (U2)	210	3
Urban – 3 (U3)	70	1
Urban – 4 (U4)	35	0.5
Urban – 5 (U5)	18	0.25
Urban – 6 (U6)	7	0.1
Suburban – 1 (S1)	450	10
Suburban – 2 (S2)	135	3
Suburban – 3 (S3)	45	1
Suburban – 4 (S4)	23	0.5
Suburban – 5 (S5)	11	0.25
Suburban – 6 (S6)	5	0.1

5.16 Figure 5.3 shows that:

- At the lowest assumed level of existing use value, 40% affordable housing could be delivered across Havant without difficulty - except in areas falling within Value Band 1 (the lowest value band). In this Value Band only the smaller, low density suburban sites appear to be able to deliver this level of contribution.

- The pattern of viability remains largely the same even if existing use values are £260k per hectare, the key difference being that every scheme in Value Band 1 becomes unviable with a 40% affordable housing contribution.

- At the £843k per hectare existing use value just over half of schemes remain viable. In addition to the whole of Value Band 1, just over half of Value Band 2 becomes unviable with a 40% affordable housing requirement. All schemes in Value Band 3 remain viable.

- At a £1.4m per hectare benchmark the majority of schemes are unviable with a 40% affordable housing contribution. Only schemes in Value Bands 3 remain viable. The two sites that are not viable in Value Band 3 are both 10 hectares in size.

5.17 Figure 5.4 shows that:

- At the very lowest assumed level of existing use value 30% affordable housing could be delivered across Havant – except by urban schemes (which have higher proportions of flats) and the largest suburban scheme in Value Band 1.

- The pattern of viability remains largely the same even if existing use values are £260k per hectare, the key difference being that only the two smallest suburban schemes remain viable in Value Band 1 with a 30% affordable housing contribution.

- At the £843k per hectare existing use value around 60% of schemes remain viable. In addition to the whole of Value Band 3, the majority of schemes in Value Band 2 are viable with a 30% affordable housing requirement except for the two largest sites of 10 hectares.

- At a £1.4m per hectare benchmark just under half of schemes remain viable with a 30% affordable housing contribution. All schemes in Value Bands 3 remain viable apart from the largest suburban scheme. In Value Band 1 all schemes are unviable and in Value Band 2 all are unviable apart from the smallest suburban schemes.

5.18 Figure 5.5 shows that:

- At the very lowest assumed level of existing use value 20% affordable housing could be delivered across Havant – with the exception of five schemes in the Value Band 1.

- The pattern of viability remains largely the same even if existing use values are £260k per hectare, the key difference being that only the suburban schemes (with higher proportions of houses) remain viable in Value Band 1. All schemes are viable in the other Value Bands with a 20% affordable housing contribution.

- At the £843k per hectare existing use value over half of schemes remain viable. In addition to the whole of Value Band 1, the largest scheme in Value Band 2 become marginally unviable. The whole of Value Bands 3 remains viable with a 20% affordable housing contribution.

- At the highest £ per hectare existing use value threshold approximately around half of the schemes remain viable with a 20% affordable housing contribution. All schemes in Value Bands 3 remain viable. In Value Band 2 half of the schemes are viable or on the margins, however some of the larger schemes move below the viability threshold.

5.19 Figure 5.6 shows that:

- At the very lowest assumed level of existing use value 10% affordable housing could be delivered across Havant.

- The pattern of viability remains broadly the same even if existing use values are £260k per hectare, the key difference being that the urban schemes and largest suburban scheme are unviable in Value Band 1. All schemes are viable in the other value bands with a 10% affordable housing contribution.

- At the £843k per hectare existing use value around two thirds of schemes remain viable. The whole of Value Band 1 moves to being unviable apart from the two smallest suburban schemes. The whole of Value Bands 2 and 3 remain viable with a 10% affordable housing contribution.

- At a £1.4m per hectare benchmark around half of the schemes remain viable with a 10% affordable housing contribution. All schemes in Value Bands 3 remain viable.

5.20 Figure 5.7 examines affordability with no affordable housing provision. The Figure shows that new homes across Havant can be profitably developed where Existing Land Values do not exceed £843k per hectare. Even with existing use values at £843k and £1.4m the majority of development is viable, the exceptions being in Value Bands 1 and 2.

Summary

5.21 In summary, the base case analysis shows that 40% affordable housing could be achieved across the Borough, with the exception of the lowest value areas. Where existing use values are very high, only the higher value areas remain viable at this level of affordable housing provision. Reducing the affordable housing quota to 30% where existing use values are very high has the effect of bringing some of the schemes in the middle value band into viability.

5.22 It is also important to note that in the majority of the scenarios modelled under the base case, with the exception of schemes in the lowest value band, a positive residual land value is generated at 40% affordable housing. **The existing or alternative use value is therefore the determining factor in establishing viability** in this viability assessment.

5.23 It is important to keep in mind that the base case modelling assumes zero house price growth and that no affordable housing grant is available. Altering these two key variables will impact on viability and this will be tested through sensitivity analysis.

Figure 5.3: Residual Site Values (£s Per Hectare) With 40% Affordable Floorspace Contribution

Existing Land Value Assumption: £12,700

Archetype / Value Band	1	2	3
U1	£0	£391,661	£1,213,613
U2	£0	£606,198	£1,674,321
U3	£0	£878,259	£2,204,019
U4	£0	£724,734	£2,030,610
U5	£0	£728,370	£2,025,558
U6	£0	£737,401	£2,066,342
S1	£0	£413,334	£1,034,158
S2	£0	£743,302	£1,647,685
S3	£0	£883,612	£1,899,976
S4	£0	£883,612	£1,899,976
S5	£191,925	£1,314,714	£2,434,717
S6	£196,414	£1,292,022	£2,386,294

Existing Land Value Assumption: £260k

Archetype / Value Band	1	2	3
U1	£0	£391,661	£1,213,613
U2	£0	£606,198	£1,674,321
U3	£0	£878,259	£2,204,019
U4	£0	£724,734	£2,030,610
U5	£0	£728,370	£2,025,558
U6	£0	£737,401	£2,066,342
S1	£0	£413,334	£1,034,158
S2	£0	£743,302	£1,647,685
S3	£0	£883,612	£1,899,976
S4	£0	£883,612	£1,899,976
S5	£191,925	£1,314,714	£2,434,717
S6	£196,414	£1,292,022	£2,386,294

Existing Land Value Assumption: £843k

Archetype / Value Band	1	2	3
U1	£0	£391,661	£1,213,613
U2	£0	£606,198	£1,674,321
U3	£0	£878,259	£2,204,019
U4	£0	£724,734	£2,030,610
U5	£0	£728,370	£2,025,558
U6	£0	£737,401	£2,066,342
S1	£0	£413,334	£1,034,158
S2	£0	£743,302	£1,647,685
S3	£0	£883,612	£1,899,976
S4	£0	£883,612	£1,899,976
S5	£191,925	£1,314,714	£2,434,717
S6	£196,414	£1,292,022	£2,386,294

Existing Land Value Assumption: £1.4m

Archetype / Value Band	1	2	3
U1	£0	£391,661	£1,213,613
U2	£0	£606,198	£1,674,321
U3	£0	£878,259	£2,204,019
U4	£0	£724,734	£2,030,610
U5	£0	£728,370	£2,025,558
U6	£0	£737,401	£2,066,342
S1	£0	£413,334	£1,034,158
S2	£0	£743,302	£1,647,685
S3	£0	£883,612	£1,899,976
S4	£0	£883,612	£1,899,976
S5	£191,925	£1,314,714	£2,434,717
S6	£196,414	£1,292,022	£2,386,294

Figure 5.4: Residual Site Values (£s Per Hectare) With 30% Affordable Floorspace Contribution

Existing Land Value Assumption: £12,700

Archetype / Value Band	1	2	3
U1	£0	£604,957	£1,463,581
U2	£0	£876,312	£1,994,897
U3	£0	£1,214,778	£2,606,997
U4	£0	£1,053,825	£2,430,626
U5	£0	£1,055,202	£2,422,941
U6	£0	£1,077,701	£2,482,956
S1	£0	£572,672	£1,222,690
S2	£25,670	£975,191	£1,920,382
S3	£72,247	£1,142,519	£2,210,951
S4	£72,247	£1,142,519	£2,210,951
S5	£414,298	£1,596,399	£2,784,373
S6	£414,531	£1,569,100	£2,721,095

Existing Land Value Assumption: £260k

Archetype / Value Band	1	2	3
U1	£0	£604,957	£1,463,581
U2	£0	£876,312	£1,994,897
U3	£0	£1,214,778	£2,606,997
U4	£0	£1,053,825	£2,430,626
U5	£0	£1,055,202	£2,422,941
U6	£0	£1,077,701	£2,482,956
S1	£0	£572,672	£1,222,690
S2	£25,670	£975,191	£1,920,382
S3	£72,247	£1,142,519	£2,210,951
S4	£72,247	£1,142,519	£2,210,951
S5	£414,298	£1,596,399	£2,784,373
S6	£414,531	£1,569,100	£2,721,095

Existing Land Value Assumption: £843k

Archetype / Value Band	1	2	3
U1	£0	£604,957	£1,463,581
U2	£0	£876,312	£1,994,897
U3	£0	£1,214,778	£2,606,997
U4	£0	£1,053,825	£2,430,626
U5	£0	£1,055,202	£2,422,941
U6	£0	£1,077,701	£2,482,956
S1	£0	£572,672	£1,222,690
S2	£25,670	£975,191	£1,920,382
S3	£72,247	£1,142,519	£2,210,951
S4	£72,247	£1,142,519	£2,210,951
S5	£414,298	£1,596,399	£2,784,373
S6	£414,531	£1,569,100	£2,721,095

Existing Land Value Assumption: £1.4m

Archetype / Value Band	1	2	3
U1	£0	£604,957	£1,463,581
U2	£0	£876,312	£1,994,897
U3	£0	£1,214,778	£2,606,997
U4	£0	£1,053,825	£2,430,626
U5	£0	£1,055,202	£2,422,941
U6	£0	£1,077,701	£2,482,956
S1	£0	£572,672	£1,222,690
S2	£25,670	£975,191	£1,920,382
S3	£72,247	£1,142,519	£2,210,951
S4	£72,247	£1,142,519	£2,210,951
S5	£414,298	£1,596,399	£2,784,373
S6	£414,531	£1,569,100	£2,721,095

Figure 5.5: Residual Site Values (£s Per Hectare) With 20% Affordable Floorspace Contribution

Archetype / Value Band	1	2	3
U1	£0	£816,149	£1,730,101
U2	£0	£1,144,319	£2,326,523
U3	£85,444	£1,549,544	£3,006,249
U4	£0	£1,387,193	£2,827,689
U5	£0	£1,386,416	£2,817,404
U6	£0	£1,409,828	£2,891,716
S1	£41,943	£729,488	£1,419,716
S2	£206,291	£1,200,890	£2,203,576
S3	£276,107	£1,399,097	£2,521,162
S4	£276,107	£1,399,097	£2,521,162
S5	£639,041	£1,885,806	£3,129,151
S6	£634,863	£1,844,179	£3,055,031

Existing Land Value Assumption: £843k

Archetype / Value Band	1	2	3
U1	£0	£816,149	£1,730,101
U2	£0	£1,144,319	£2,326,523
U3	£85,444	£1,549,544	£3,006,249
U4	£0	£1,387,193	£2,827,689
U5	£0	£1,386,416	£2,817,404
U6	£0	£1,409,828	£2,891,716
S1	£41,943	£729,488	£1,419,716
S2	£206,291	£1,200,890	£2,203,576
S3	£276,107	£1,399,097	£2,521,162
S4	£276,107	£1,399,097	£2,521,162
S5	£639,041	£1,885,806	£3,129,151
S6	£634,863	£1,844,179	£3,055,031

Archetype / Value Band	1	2	3
U1	£0	£816,149	£1,730,101
U2	£0	£1,144,319	£2,326,523
U3	£85,444	£1,549,544	£3,006,249
U4	£0	£1,387,193	£2,827,689
U5	£0	£1,386,416	£2,817,404
U6	£0	£1,409,828	£2,891,716
S1	£41,943	£729,488	£1,419,716
S2	£206,291	£1,200,890	£2,203,576
S3	£276,107	£1,399,097	£2,521,162
S4	£276,107	£1,399,097	£2,521,162
S5	£639,041	£1,885,806	£3,129,151
S6	£634,863	£1,844,179	£3,055,031

Existing Land Value Assumption: £1.4m

Archetype / Value Band	1	2	3
U1	£0	£816,149	£1,730,101
U2	£0	£1,144,319	£2,326,523
U3	£85,444	£1,549,544	£3,006,249
U4	£0	£1,387,193	£2,827,689
U5	£0	£1,386,416	£2,817,404
U6	£0	£1,409,828	£2,891,716
S1	£41,943	£729,488	£1,419,716
S2	£206,291	£1,200,890	£2,203,576
S3	£276,107	£1,399,097	£2,521,162
S4	£276,107	£1,399,097	£2,521,162
S5	£639,041	£1,885,806	£3,129,151
S6	£634,863	£1,844,179	£3,055,031

Figure 5.6: Residual Site Values (£s Per Hectare) With 10% Affordable Floorspace Contribution

Existing Land Value Assumption: £12,700

Archetype / Value Band	1	2	3
U1	£54,048	£1,031,369	£1,985,704
U2	£165,565	£1,409,113	£2,651,193
U3	£352,444	£1,881,991	£3,420,988
U4	£198,375	£1,716,511	£3,234,514
U5	£210,614	£1,713,524	£3,221,455
U6	£204,060	£1,754,324	£3,298,198
S1	£168,351	£883,692	£1,611,280
S2	£386,469	£1,433,922	£2,480,069
S3	£479,601	£1,653,919	£2,828,229
S4	£479,601	£1,653,919	£2,828,229
S5	£867,008	£2,170,446	£3,473,593
S6	£854,916	£2,126,109	£3,387,618

Existing Land Value Assumption: £260k

Archetype / Value Band	1	2	3
U1	£54,048	£1,031,369	£1,985,704
U2	£165,565	£1,409,113	£2,651,193
U3	£352,444	£1,881,991	£3,420,988
U4	£198,375	£1,716,511	£3,234,514
U5	£210,614	£1,713,524	£3,221,455
U6	£204,060	£1,754,324	£3,298,198
S1	£168,351	£883,692	£1,611,280
S2	£386,469	£1,433,922	£2,480,069
S3	£479,601	£1,653,919	£2,828,229
S4	£479,601	£1,653,919	£2,828,229
S5	£867,008	£2,170,446	£3,473,593
S6	£854,916	£2,126,109	£3,387,618

Existing Land Value Assumption: £843k

Archetype / Value Band	1	2	3
U1	£54,048	£1,031,369	£1,985,704
U2	£165,565	£1,409,113	£2,651,193
U3	£352,444	£1,881,991	£3,420,988
U4	£198,375	£1,716,511	£3,234,514
U5	£210,614	£1,713,524	£3,221,455
U6	£204,060	£1,754,324	£3,298,198
S1	£168,351	£883,692	£1,611,280
S2	£386,469	£1,433,922	£2,480,069
S3	£479,601	£1,653,919	£2,828,229
S4	£479,601	£1,653,919	£2,828,229
S5	£867,008	£2,170,446	£3,473,593
S6	£854,916	£2,126,109	£3,387,618

Existing Land Value Assumption: £1.4m

Archetype / Value Band	1	2	3
U1	£54,048	£1,031,369	£1,985,704
U2	£165,565	£1,409,113	£2,651,193
U3	£352,444	£1,881,991	£3,420,988
U4	£198,375	£1,716,511	£3,234,514
U5	£210,614	£1,713,524	£3,221,455
U6	£204,060	£1,754,324	£3,298,198
S1	£168,351	£883,692	£1,611,280
S2	£386,469	£1,433,922	£2,480,069
S3	£479,601	£1,653,919	£2,828,229
S4	£479,601	£1,653,919	£2,828,229
S5	£867,008	£2,170,446	£3,473,593
S6	£854,916	£2,126,109	£3,387,618

Figure 5.7: Residual Site Values (£s Per Hectare) With 0% Affordable Floorspace Contribution

Existing Land Value Assumption: £12,700

Archetype / Value Band	1	2	3
U1	£216,519	£1,242,583	£2,238,688
U2	£379,407	£1,685,370	£2,975,165
U3	£618,392	£2,223,075	£3,825,816
U4	£461,828	£2,043,362	£3,635,306
U5	£466,676	£2,038,179	£3,619,586
U6	£473,687	£2,090,064	£3,701,621
S1	£292,344	£1,048,478	£1,802,265
S2	£567,845	£1,661,948	£2,756,071
S3	£678,885	£1,915,729	£3,148,238
S4	£678,885	£1,915,729	£3,148,238
S5	£1,088,758	£2,454,383	£3,817,607
S6	£1,073,535	£2,403,803	£3,733,640

Existing Land Value Assumption: £260k

Archetype / Value Band	1	2	3
U1	£216,519	£1,242,583	£2,238,688
U2	£379,407	£1,685,370	£2,975,165
U3	£618,392	£2,223,075	£3,825,816
U4	£461,828	£2,043,362	£3,635,306
U5	£466,676	£2,038,179	£3,619,586
U6	£473,687	£2,090,064	£3,701,621
S1	£292,344	£1,048,478	£1,802,265
S2	£567,845	£1,661,948	£2,756,071
S3	£678,885	£1,915,729	£3,148,238
S4	£678,885	£1,915,729	£3,148,238
S5	£1,088,758	£2,454,383	£3,817,607
S6	£1,073,535	£2,403,803	£3,733,640

Existing Land Value Assumption: £843k

Archetype / Value Band	1	2	3
U1	£216,519	£1,242,583	£2,238,688
U2	£379,407	£1,685,370	£2,975,165
U3	£618,392	£2,223,075	£3,825,816
U4	£461,828	£2,043,362	£3,635,306
U5	£466,676	£2,038,179	£3,619,586
U6	£473,687	£2,090,064	£3,701,621
S1	£292,344	£1,048,478	£1,802,265
S2	£567,845	£1,661,948	£2,756,071
S3	£678,885	£1,915,729	£3,148,238
S4	£678,885	£1,915,729	£3,148,238
S5	£1,088,758	£2,454,383	£3,817,607
S6	£1,073,535	£2,403,803	£3,733,640

Existing Land Value Assumption: £1.4m

Archetype / Value Band	1	2	3
U1	£216,519	£1,242,583	£2,238,688
U2	£379,407	£1,685,370	£2,975,165
U3	£618,392	£2,223,075	£3,825,816
U4	£461,828	£2,043,362	£3,635,306
U5	£466,676	£2,038,179	£3,619,586
U6	£473,687	£2,090,064	£3,701,621
S1	£292,344	£1,048,478	£1,802,265
S2	£567,845	£1,661,948	£2,756,071
S3	£678,885	£1,915,729	£3,148,238
S4	£678,885	£1,915,729	£3,148,238
S5	£1,088,758	£2,454,383	£3,817,607
S6	£1,073,535	£2,403,803	£3,733,640

6. Appendix 6: Sensitivity Testing

6.1 This Appendix presents results of the sensitivity testing which examines the impact of different factors on viability. The purpose of this exercise is to examine how far changing circumstances affects the ability to achieve affordable housing policies (assumed at 40% affordable housing contribution).[1] In all of the sensitivity tests, variables are held at those assumed under the base case unless they are being specifically tested:

- Prices are assumed to remain flat over the period of the development.
- No affordable housing grant is assumed to be provided.
- The target rate of return is held at 15% IRR.
- Densities on the urban archetypes are assumed to be 70 dph and densities on the suburban archetypes are assumed to be 45 dph.
- The affordable housing tenure split is assumed to be 65% social rented housing and 35% intermediate shared ownership.

The Impact of Affordable Housing Grant and Tenure Mix

6.2 The base case modelling assumes that no affordable housing grant is paid. The future availability and scale of grant is uncertain so it is prudent to examine the effect of removing grant on scheme viability. However, it is also useful to test the impact of introducing grant and the effect that this has on viability across the Borough.

6.3 Introducing grant has the effect of increasing residual land values across all the schemes. This has the knock on impact of moving the majority of schemes in value band 2 into viability (at 30% affordable housing), even at the highest existing use threshold. Schemes in value band 1 continue to be unviable except at the lowest existing use value threshold.

6.4 On the whole, medium to high value schemes (Bands 2-3) could deliver 40% affordable housing **with grant** providing existing/alternative use values do not prohibit the sites coming forward (see Figure 6.1).

6.5 The modelling tested the impact on viability of varying the tenure mix from 65:35 social rented and intermediate housing to 50:50 social rented and intermediate housing. This has the effect of improving residual land values on all of the schemes but it does not improve them enough to make schemes viable that were unviable under the base case (40% affordable housing without grant) according to our existing/alternative use value thresholds. Nevertheless, adjusting the tenure mix may help to improve viability on marginal schemes. Furthermore, the impact of tenure mix on viability may become more pronounced in the future depending on Government funding for different types of affordable housing and the extent to which housing associations are able to draw on other sources of funding when they bid for affordable housing on new development schemes.

[1] DTZ has also tested each sensitivity at 30% affordable housing contribution. The results are not presented here.

The Impact of Future House Price Scenarios

6.6 Rising prices have a positive impact on viability because of effect on revenues and serves to increase residual land values on all schemes across Havant. Over one third of the schemes tested are viable at 40% affordable housing (without grant) when judged against the **highest** existing use value threshold (Figure 6.3).

6.7 The scale of the impact of a +5% increase in prices per annum is to bring some previously unviable sites in value bands 1 into viability at the lowest existing use value threshold. Price increases of this scale do not do enough to bring unviable schemes in the lowest value band into viability at high existing use value thresholds.

6.8 Falling prices (Figure 6.4) have a negative impact on viability because of the effect on both revenues and sales rates (the timing of revenue payments and therefore the knock on effects of interest payments on finance etc).

6.9 A -5% decline in house prices year on year with lower than average sales rates reduces residual land values across all schemes. This scale of house price falls has the effect of making some schemes in value band 2 unviable at the lowest existing use value threshold ie wholly unviable. Only some schemes in value band 3, capable of generating higher sales prices, remain viable at the highest existing use value threshold. This excludes the largest archetypes since they are phased over a number of years and so more greatly affected by falling revenues year on year. In practice, sales prices are unlikely to fall consistently year on year in the way we have modelled but this serves to highlight the effect of a falling market on development viability.

The Impact of Affordable Housing on Smaller Sites

6.10 The viability modelling in this assessment suggests that there is no systematic reason for viability to decline in relation to site size. The modelling tested small sites of 0.1 and 0.25 hectares ranging from 4 to 15 units (ie those typically associated with development at or below the affordable housing threshold). The results show that these sites display a similar viability profile to those of 15 or more.

6.11 It is important to note that the modelling is unable to capture site specifics factors and small sites may be more vulnerable to site-specific constraints eg demolition costs or infrastructure requirements because of the limited opportunity for economies of scale. DTZ is also aware of anecdotal evidence from other SHMAs and viability assessments that small sites sometimes incur higher build costs – again because of limited economies of scale – but there is no evidence to support this in the available data.

6.12 Conversely, small sites may benefit in viability terms in other respects. Large sites are more likely to be affected by changes in the housing market (prices falls or rises) because of the longer sale period for the market units and this is illustrated by our modelling. Although not modelled within this assessment, large sites may also be affected by significant costs associated with the provision of strategic infrastructure.

6.13 There is also a risk in some areas that housing associations may be reluctant to take on small numbers of affordable homes and they may reflect this in the price they will pay for units on smaller developments, but this is not generally regarded as problem within Havant.

Large Sites / Urban Extensions

6.14 The base case modelling tested two large development archetypes – both 10 hectare sites – designed to reflect conditions on an urban extension, particularly in terms of the phasing of the development over a number of years:

- One archetype was assumed to be developed at 70 dph (700 homes) with 60% flats and 40% houses.
- The other was assumed to be developed at 45 dph (450 homes) with 30% flats and 70% houses.

6.15 Both scheme types appear to be viable at 30% and 40% affordable housing (without grant) where existing use values are low or moderate. The exception to this is the lowest value band in terms of sales prices where these schemes do not appear viable, even at low existing use value thresholds - though this is common to most archetypes in the lowest value areas. Where viability is tested at the highest existing use value threshold, both schemes are unviable at 40% affordable housing (without grant). The higher density scheme (70 dph) moves into viability at 30% affordable housing (without grant) however.

6.16 Our testing shows that the viability of these two large archetypes can be improved by the following factors:

- Rising prices (assumed to be +5% per annum) means that 40% can be broadly achieved except in the lowest value band (Band 1). At the highest existing use value threshold, both schemes become viable in Value Band 3 (the highest sale prices). This suggests that in a buoyant market where the scheme is capable of achieving higher sales prices it would be possible to secure 40% affordable housing without grant.
- Increasing the density of both sites - the urban scheme to 90 dph (from 70 dph) and the suburban scheme to 55 dph (from 45 dph) appears to improve residual land values of both schemes but not of sufficient magnitude to fundamentally change viability when assessed against our existing use value thresholds. Nevertheless, adjusting the density and mix may help to improve viability on marginal schemes.
- Introducing grant has a significant effect on the viability of these schemes and means that at 40% affordable housing (with grant) both scheme archetypes appear viable at the highest existing use value threshold, assuming they achieve moderate or high sales prices.

The Impact of Different Density Assumptions

6.17 Each of the 12 archetypes has been re-modelled under the base case (40% affordable housing) at higher and lower density assumptions (see Figure 2 for details of densities and mix). The results are presented in Figure 6.6 and 6.7. It is important to note that we have not

changed the assumptions about sales values and it is reasonable to expect that these would be affected by the design and density of any scheme. Therefore, unsurprisingly, increasing the density improves residual land values across the schemes tested. It does not fundamentally change the pattern of viability in the Borough but is can move some previously unviable schemes into viability. These include one scheme in value band 3 at the highest existing use value, two schemes in value band 2 at the highest existing use value and four schemes in value band 2 at moderate existing use values.

6.18 Conversely, reducing densities causes residual land values to fall. The majority of schemes in value band 3 were viable at the highest existing use value threshold under the base case. Only half of these remain viable when densities are reduced. However, this does not take account of any premium which might be attached to houses and flats developed at lower density on some site types.

The Impact of Higher Developer's Profit

6.19 Given the change in the development environment since mid 2007, and in particular the difficulty of securing development finance, it is useful to consider the scenario where developers (or rather the banks financing developers) are seeking a higher return. We have re-modelled the base case (40% affordable housing with grant) under a target IRR (our measure of profitability) of 20%. The results are presented in Figure 6.5. Increasing the target return causes residual values to fall as the additional margin must be funded out of land value. However, the sensitivity analysis suggests that increasing the target IRR to 20% has a relatively limited impact on the results. Although across Havant a decline in viability is evident compared with the base case (in terms of lower residual land values), the overall level of viability (tested against our existing use value thresholds) in each value area remains broadly unchanged. There are a small number of sites that were viable in the base case that become unviable when a higher developer's profit is included:

- 2 schemes in value band 3 at the highest existing use threshold become unviable
- 3 schemes in value band 2 that were marginally viable at the moderate existing use threshold (£843k) become unviable
- 2 schemes in value band 2 at a lower existing use value threshold (£260k) become unviable

Archetype Key

Archetype	Number of Units	Site Size (Hectares)
Urban – 1 (U1)	700	10
Urban – 2 (U2)	210	3
Urban – 3 (U3)	70	1
Urban – 4 (U4)	35	0.5
Urban – 5 (U5)	18	0.25
Urban – 6 (U6)	7	0.1
Suburban – 1 (S1)	450	10
Suburban – 2 (S2)	135	3
Suburban – 3 (S3)	45	1
Suburban – 4 (S4)	23	0.5
Suburban – 5 (S5)	11	0.25
Suburban – 6 (S6)	5	0.1

Key to Figures 6.1 - 6.7

To help visual interpretation of the results, a system of traffic lights is used to indicate where schemes are deemed viable and where they are deemed not viable. The traffic light codes used are as follows:

- **The Red Traffic Light** indicates that the scheme is clearly not viable because the residual land value per hectare generated by the scheme is 5% or more lower than the relevant benchmark of existing use value.
- **The Amber Traffic Light** indicates that the scheme is of marginal viability because the residual land value per hectare generated by the scheme is between 5% lower than and 5% more than the relevant benchmark of existing use value.
- **The Green Traffic Light** indicates that the scheme is viable because the residual land value per hectare generated by the scheme is more than 5% higher than the relevant benchmark of existing use value.

Figure 6.1: The Impact of Providing Affordable Housing Grant at 40% Affordable Housing Contribution

Existing Land Value Assumption: £12,700

Archetype / Value Band	1	2	3
U1	£0	£843,095	£1,766,186
U2	£0	£1,198,191	£2,396,772
U3	£133,579	£1,611,880	£3,096,852
U4	£0	£1,440,693	£2,899,360
U5	£0	£1,439,546	£2,888,534
U6	£0	£1,472,280	£2,955,731
S1	£60,479	£750,321	£1,446,514
S2	£235,473	£1,242,808	£2,248,722
S3	£309,076	£1,439,620	£2,575,807
S4	£309,076	£1,439,620	£2,575,807
S5	£679,364	£1,932,039	£3,185,011
S6	£669,711	£1,893,873	£3,115,979

Existing Land Value Assumption: £260k

Archetype / Value Band	1	2	3
U1	£0	£843,095	£1,766,186
U2	£0	£1,198,191	£2,396,772
U3	£133,579	£1,611,880	£3,096,852
U4	£0	£1,440,693	£2,899,360
U5	£0	£1,439,546	£2,888,534
U6	£0	£1,472,280	£2,955,731
S1	£60,479	£750,321	£1,446,514
S2	£235,473	£1,242,808	£2,248,722
S3	£309,076	£1,439,620	£2,575,807
S4	£309,076	£1,439,620	£2,575,807
S5	£679,364	£1,932,039	£3,185,011
S6	£669,711	£1,893,873	£3,115,979

Existing Land Value Assumption: £843k

Archetype / Value Band	1	2	3
U1	£0	£843,095	£1,766,186
U2	£0	£1,198,191	£2,396,772
U3	£133,579	£1,611,880	£3,096,852
U4	£0	£1,440,693	£2,899,360
U5	£0	£1,439,546	£2,888,534
U6	£0	£1,472,280	£2,955,731
S1	£60,479	£750,321	£1,446,514
S2	£235,473	£1,242,808	£2,248,722
S3	£309,076	£1,439,620	£2,575,807
S4	£309,076	£1,439,620	£2,575,807
S5	£679,364	£1,932,039	£3,185,011
S6	£669,711	£1,893,873	£3,115,979

Existing Land Value Assumption: £1.4m

Archetype / Value Band	1	2	3
U1	£0	£843,095	£1,766,186
U2	£0	£1,198,191	£2,396,772
U3	£133,579	£1,611,880	£3,096,852
U4	£0	£1,440,693	£2,899,360
U5	£0	£1,439,546	£2,888,534
U6	£0	£1,472,280	£2,955,731
S1	£60,479	£750,321	£1,446,514
S2	£235,473	£1,242,808	£2,248,722
S3	£309,076	£1,439,620	£2,575,807
S4	£309,076	£1,439,620	£2,575,807
S5	£679,364	£1,932,039	£3,185,011
S6	£669,711	£1,893,873	£3,115,979

Figure 6.2: The Impact of Adjusting Affordable Housing Tenure Split to 50:50 at 40% Affordable Housing Contribution

Existing Land Value Assumption: £12,700

Archetype / Value Band	1	2	3
U1	£0	£457,917	£1,292,848
U2	£0	£693,729	£1,779,312
U3	£0	£987,150	£2,334,838
U4	£0	£832,100	£2,160,540
U5	£0	£835,009	£2,154,622
U6	£0	£849,777	£2,206,559
S1	£0	£462,367	£1,094,925
S2	£0	£821,432	£1,736,453
S3	£0	£966,066	£2,000,846
S4	£0	£966,066	£2,000,846
S5	£265,224	£1,406,262	£2,544,701
S6	£266,619	£1,382,115	£2,494,749

Existing Land Value Assumption: £260k

Archetype / Value Band	1	2	3
U1	£0	£457,917	£1,292,848
U2	£0	£693,729	£1,779,312
U3	£0	£987,150	£2,334,838
U4	£0	£832,100	£2,160,540
U5	£0	£835,009	£2,154,622
U6	£0	£849,777	£2,206,559
S1	£0	£462,367	£1,094,925
S2	£0	£821,432	£1,736,453
S3	£0	£966,066	£2,000,846
S4	£0	£966,066	£2,000,846
S5	£265,224	£1,406,262	£2,544,701
S6	£266,619	£1,382,115	£2,494,749

Existing Land Value Assumption: £843k

Archetype / Value Band	1	2	3
U1	£0	£457,917	£1,292,848
U2	£0	£693,729	£1,779,312
U3	£0	£987,150	£2,334,838
U4	£0	£832,100	£2,160,540
U5	£0	£835,009	£2,154,622
U6	£0	£849,777	£2,206,559
S1	£0	£462,367	£1,094,925
S2	£0	£821,432	£1,736,453
S3	£0	£966,066	£2,000,846
S4	£0	£966,066	£2,000,846
S5	£265,224	£1,406,262	£2,544,701
S6	£266,619	£1,382,115	£2,494,749

Existing Land Value Assumption: £1.4m

Archetype / Value Band	1	2	3
U1	£0	£457,917	£1,292,848
U2	£0	£693,729	£1,779,312
U3	£0	£987,150	£2,334,838
U4	£0	£832,100	£2,160,540
U5	£0	£835,009	£2,154,622
U6	£0	£849,777	£2,206,559
S1	£0	£462,367	£1,094,925
S2	£0	£821,432	£1,736,453
S3	£0	£966,066	£2,000,846
S4	£0	£966,066	£2,000,846
S5	£265,224	£1,406,262	£2,544,701
S6	£266,619	£1,382,115	£2,494,749

Figure 6.3: The Impact of House Price Rises of 5% Per Annum at 40% Affordable Housing Contribution

Existing Land Value Assumption: £12,700

Archetype / Value Band	1	2	3
U1	£210,359	£1,227,381	£2,224,343
U2	£82,218	£1,302,544	£2,524,565
U3	£0	£1,363,236	£2,784,977
U4	£0	£1,204,299	£2,607,698
U5	£0	£1,204,744	£2,598,865
U6	£0	£1,227,410	£2,665,276
S1	£301,226	£1,060,223	£1,816,133
S2	£220,752	£1,217,751	£2,225,872
S3	£163,637	£1,257,229	£2,348,634
S4	£163,637	£1,257,229	£2,348,634
S5	£517,360	£1,728,215	£2,938,408
S6	£514,108	£1,691,754	£2,868,608

Existing Land Value Assumption: £260k

Archetype / Value Band	1	2	3
U1	£210,359	£1,227,381	£2,224,343
U2	£82,218	£1,302,544	£2,524,565
U3	£0	£1,363,236	£2,784,977
U4	£0	£1,204,299	£2,607,698
U5	£0	£1,204,744	£2,598,865
U6	£0	£1,227,410	£2,665,276
S1	£301,226	£1,060,223	£1,816,133
S2	£220,752	£1,217,751	£2,225,872
S3	£163,637	£1,257,229	£2,348,634
S4	£163,637	£1,257,229	£2,348,634
S5	£517,360	£1,728,215	£2,938,408
S6	£514,108	£1,691,754	£2,868,608

Existing Land Value Assumption: £843k

Archetype / Value Band	1	2	3
U1	£210,359	£1,227,381	£2,224,343
U2	£82,218	£1,302,544	£2,524,565
U3	£0	£1,363,236	£2,784,977
U4	£0	£1,204,299	£2,607,698
U5	£0	£1,204,744	£2,598,865
U6	£0	£1,227,410	£2,665,276
S1	£301,226	£1,060,223	£1,816,133
S2	£220,752	£1,217,751	£2,225,872
S3	£163,637	£1,257,229	£2,348,634
S4	£163,637	£1,257,229	£2,348,634
S5	£517,360	£1,728,215	£2,938,408
S6	£514,108	£1,691,754	£2,868,608

Existing Land Value Assumption: £1.4m

Archetype / Value Band	1	2	3
U1	£210,359	£1,227,381	£2,224,343
U2	£82,218	£1,302,544	£2,524,565
U3	£0	£1,363,236	£2,784,977
U4	£0	£1,204,299	£2,607,698
U5	£0	£1,204,744	£2,598,865
U6	£0	£1,227,410	£2,665,276
S1	£301,226	£1,060,223	£1,816,133
S2	£220,752	£1,217,751	£2,225,872
S3	£163,637	£1,257,229	£2,348,634
S4	£163,637	£1,257,229	£2,348,634
S5	£517,360	£1,728,215	£2,938,408
S6	£514,108	£1,691,754	£2,868,608

Figure 6.4: The Impact of Falling Prices of -5% Per Annum and Reduced Sales Rates at 40% Affordable Housing Contribution

Existing Land Value Assumption: £12,700

Archetype / Value Band	1	2	3
U1	£0	£0	£429,700
U2	£0	£0	£937,506
U3	£0	£415,004	£1,642,172
U4	£0	£264,409	£1,476,983
U5	£0	£275,131	£1,475,595
U6	£0	£273,339	£1,509,327
S1	£0	£0	£429,468
S2	£0	£316,423	£1,123,859
S3	£0	£529,257	£1,467,899
S4	£0	£529,257	£1,467,899
S5	£0	£921,515	£1,963,405
S6	£0	£908,815	£1,924,360

Existing Land Value Assumption: £260k

Archetype / Value Band	1	2	3
U1	£0	£0	£429,700
U2	£0	£0	£937,506
U3	£0	£415,004	£1,642,172
U4	£0	£264,409	£1,476,983
U5	£0	£275,131	£1,475,595
U6	£0	£273,339	£1,509,327
S1	£0	£0	£429,468
S2	£0	£316,423	£1,123,859
S3	£0	£529,257	£1,467,899
S4	£0	£529,257	£1,467,899
S5	£0	£921,515	£1,963,405
S6	£0	£908,815	£1,924,360

Existing Land Value Assumption: £843k

Archetype / Value Band	1	2	3
U1	£0	£0	£429,700
U2	£0	£0	£937,506
U3	£0	£415,004	£1,642,172
U4	£0	£264,409	£1,476,983
U5	£0	£275,131	£1,475,595
U6	£0	£273,339	£1,509,327
S1	£0	£0	£429,468
S2	£0	£316,423	£1,123,859
S3	£0	£529,257	£1,467,899
S4	£0	£529,257	£1,467,899
S5	£0	£921,515	£1,963,405
S6	£0	£908,815	£1,924,360

Existing Land Value Assumption: £1.4m

Archetype / Value Band	1	2	3
U1	£0	£0	£429,700
U2	£0	£0	£937,506
U3	£0	£415,004	£1,642,172
U4	£0	£264,409	£1,476,983
U5	£0	£275,131	£1,475,595
U6	£0	£273,339	£1,509,327
S1	£0	£0	£429,468
S2	£0	£316,423	£1,123,859
S3	£0	£529,257	£1,467,899
S4	£0	£529,257	£1,467,899
S5	£0	£921,515	£1,963,405
S6	£0	£908,815	£1,924,360

Figure 6.5: The Impact of Higher Developer's Return (IRR 20%) at 40% Affordable Housing Contribution

Existing Land Value Assumption: £12,700

Archetype / Value Band	1	2	3
U1	£0	£148,888	£812,348
U2	£0	£349,958	£1,265,284
U3	£0	£618,416	£1,832,865
U4	£0	£477,553	£1,666,870
U5	£0	£482,187	£1,663,587
U6	£0	£485,207	£1,705,394
S1	£0	£213,933	£712,063
S2	£0	£531,788	£1,329,093
S3	£0	£675,864	£1,604,197
S4	£0	£675,864	£1,604,197
S5	£40,242	£1,067,327	£2,092,679
S6	£47,373	£1,046,810	£2,050,037

Existing Land Value Assumption: £260k

Archetype / Value Band	1	2	3
U1	£0	£148,888	£812,348
U2	£0	£349,958	£1,265,284
U3	£0	£618,416	£1,832,865
U4	£0	£477,553	£1,666,870
U5	£0	£482,187	£1,663,587
U6	£0	£485,207	£1,705,394
S1	£0	£213,933	£712,063
S2	£0	£531,788	£1,329,093
S3	£0	£675,864	£1,604,197
S4	£0	£675,864	£1,604,197
S5	£40,242	£1,067,327	£2,092,679
S6	£47,373	£1,046,810	£2,050,037

Existing Land Value Assumption: £843k

Archetype / Value Band	1	2	3
U1	£0	£148,888	£812,348
U2	£0	£349,958	£1,265,284
U3	£0	£618,416	£1,832,865
U4	£0	£477,553	£1,666,870
U5	£0	£482,187	£1,663,587
U6	£0	£485,207	£1,705,394
S1	£0	£213,933	£712,063
S2	£0	£531,788	£1,329,093
S3	£0	£675,864	£1,604,197
S4	£0	£675,864	£1,604,197
S5	£40,242	£1,067,327	£2,092,679
S6	£47,373	£1,046,810	£2,050,037

Existing Land Value Assumption: £1.4m

Archetype / Value Band	1	2	3
U1	£0	£148,888	£812,348
U2	£0	£349,958	£1,265,284
U3	£0	£618,416	£1,832,865
U4	£0	£477,553	£1,666,870
U5	£0	£482,187	£1,663,587
U6	£0	£485,207	£1,705,394
S1	£0	£213,933	£712,063
S2	£0	£531,788	£1,329,093
S3	£0	£675,864	£1,604,197
S4	£0	£675,864	£1,604,197
S5	£40,242	£1,067,327	£2,092,679
S6	£47,373	£1,046,810	£2,050,037

Figure 6.6: The Impact of Higher Densities at 40% Affordable Housing Contribution

Existing Land Value Assumption: £12,700

Archetype / Value Band	1	2	3
U1	£0	£530,370	£1,594,824
U2	£0	£804,966	£2,174,907
U3	£0	£1,153,581	£2,857,267
U4	£0	£960,083	£2,636,989
U5	£0	£964,711	£2,630,526
U6	£0	£979,909	£2,694,218
S1	£0	£520,403	£1,278,808
S2	£0	£935,115	£2,038,411
S3	£0	£1,098,704	£2,343,078
S4	£0	£1,098,704	£2,343,078
S5	£253,892	£1,626,057	£3,003,409
S6	£261,824	£1,600,482	£2,935,590

Existing Land Value Assumption: £260k

Archetype / Value Band	1	2	3
U1	£0	£530,370	£1,594,824
U2	£0	£804,966	£2,174,907
U3	£0	£1,153,581	£2,857,267
U4	£0	£960,083	£2,636,989
U5	£0	£964,711	£2,630,526
U6	£0	£979,909	£2,694,218
S1	£0	£520,403	£1,278,808
S2	£0	£935,115	£2,038,411
S3	£0	£1,098,704	£2,343,078
S4	£0	£1,098,704	£2,343,078
S5	£253,892	£1,626,057	£3,003,409
S6	£261,824	£1,600,482	£2,935,590

Existing Land Value Assumption: £843k

Archetype / Value Band	1	2	3
U1	£0	£530,370	£1,594,824
U2	£0	£804,966	£2,174,907
U3	£0	£1,153,581	£2,857,267
U4	£0	£960,083	£2,636,989
U5	£0	£964,711	£2,630,526
U6	£0	£979,909	£2,694,218
S1	£0	£520,403	£1,278,808
S2	£0	£935,115	£2,038,411
S3	£0	£1,098,704	£2,343,078
S4	£0	£1,098,704	£2,343,078
S5	£253,892	£1,626,057	£3,003,409
S6	£261,824	£1,600,482	£2,935,590

Existing Land Value Assumption: £1.4m

Archetype / Value Band	1	2	3
U1	£0	£530,370	£1,594,824
U2	£0	£804,966	£2,174,907
U3	£0	£1,153,581	£2,857,267
U4	£0	£960,083	£2,636,989
U5	£0	£964,711	£2,630,526
U6	£0	£979,909	£2,694,218
S1	£0	£520,403	£1,278,808
S2	£0	£935,115	£2,038,411
S3	£0	£1,098,704	£2,343,078
S4	£0	£1,098,704	£2,343,078
S5	£253,892	£1,626,057	£3,003,409
S6	£261,824	£1,600,482	£2,935,590

Figure 6.7: The Impact of Lower Densities at 40% Affordable Housing Contribution

Existing Land Value Assumption: £12,700

Archetype / Value Band	1	2	3
U1	£0	£320,041	£1,030,163
U2	£0	£506,718	£1,423,252
U3	£0	£738,710	£1,875,248
U4	£0	£604,615	£1,726,392
U5	£0	£607,621	£1,722,062
U6	£0	£619,434	£1,760,350
S1	£0	£296,614	£779,084
S2	£0	£558,260	£1,260,354
S3	£0	£665,746	£1,451,685
S4	£0	£665,746	£1,451,685
S5	£125,976	£1,000,996	£1,873,983
S6	£130,348	£980,695	£1,834,687

Existing Land Value Assumption: £260k

Archetype / Value Band	1	2	3
U1	£0	£320,041	£1,030,163
U2	£0	£506,718	£1,423,252
U3	£0	£738,710	£1,875,248
U4	£0	£604,615	£1,726,392
U5	£0	£607,621	£1,722,062
U6	£0	£619,434	£1,760,350
S1	£0	£296,614	£779,084
S2	£0	£558,260	£1,260,354
S3	£0	£665,746	£1,451,685
S4	£0	£665,746	£1,451,685
S5	£125,976	£1,000,996	£1,873,983
S6	£130,348	£980,695	£1,834,687

Existing Land Value Assumption: £843k

Archetype / Value Band	1	2	3
U1	£0	£320,041	£1,030,163
U2	£0	£506,718	£1,423,252
U3	£0	£738,710	£1,875,248
U4	£0	£604,615	£1,726,392
U5	£0	£607,621	£1,722,062
U6	£0	£619,434	£1,760,350
S1	£0	£296,614	£779,084
S2	£0	£558,260	£1,260,354
S3	£0	£665,746	£1,451,685
S4	£0	£665,746	£1,451,685
S5	£125,976	£1,000,996	£1,873,983
S6	£130,348	£980,695	£1,834,687

Existing Land Value Assumption: £1.4m

Archetype / Value Band	1	2	3
U1	£0	£320,041	£1,030,163
U2	£0	£506,718	£1,423,252
U3	£0	£738,710	£1,875,248
U4	£0	£604,615	£1,726,392
U5	£0	£607,621	£1,722,062
U6	£0	£619,434	£1,760,350
S1	£0	£296,614	£779,084
S2	£0	£558,260	£1,260,354
S3	£0	£665,746	£1,451,685
S4	£0	£665,746	£1,451,685
S5	£125,976	£1,000,996	£1,873,983
S6	£130,348	£980,695	£1,834,687