Financial Viability Appraisal in Planning Decisions: Theory And Practice
Report for Royal Institution of Chartered Surveyors

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1.0 Introduction

The aim of this research project is to formulate consistent approaches to land valuation within site-specific development viability appraisal (DVA) based on a critical evaluation of the theory and practice of appraisal. The project develops the current research agenda into development appraisal and valuation and its specific application within DVA in the UK. It builds on research carried out by the University of Reading over the last three years that has examined development appraisal theory and practice, identifying a number of issues inherent in development appraisal modelling in general, and particular issues concerning the application to DVA.

This project categorised these modelling issues and developed a set of research questions, which were then addressed using a case study methodology. The cases were drawn from the increasing number of disputes concerning the level of planning obligations on individual sites. The methodology included a document analysis of proofs of evidence and decisions.

Section 2 of this report provides the background to the research by discussing the viability issues that arise in both area-wide and scheme-specific DVAs. Section 3 then reviews the policy and guidance that has been published by government and industry in relation to DVA practice. Section 4 reports the findings of the empirical investigation of issues arising from scheme-specific planning appeals.
2.0 Background

The grant of planning permission to change the use of or to physically alter a piece of land usually leads to uplift in value, often referred to as ‘development value’. There have been attempts by the UK Government in the past to capture some or even all of this uplift for the benefit of the community (Allmendinger, 2011). However, a development value tax of this kind is not current policy. Instead, local government is able to legally impose planning obligations and infrastructure levies on landowners upon grant of planning permission so long as they do not jeopardise the economic viability of the proposed development.

A development viability appraisal or DVA tests economic viability. It is a financial model that is based on the ‘residual method’ of land valuation because the residual amount is that which is left to bid for the land after deducting the estimated costs associated with a development from the estimated value of the completed scheme. As well as construction costs and risk-adjusted return to the developer, the cost of planning obligations and the Community Infrastructure Levy (CIL) must also be deducted from the development value. If there is a positive residual amount that is sufficient to persuade the landowner to sell, this indicates viability. The basic equation for calculating site value is:

\[
\text{Value of completed development} - \text{Development costs (including planning obligations and infrastructure levy)} - \text{Developer’s profit} = \text{Residual land value}
\]

So the uplift in land value from existing use value to residual land value must adequately compensate the landowner, the developer and the community (in terms of planning obligations and CIL). DVAs are typically carried out at two stages in the planning process: at the policy setting or forward planning stage and at the scheme-specific development control stage.
2.1 Viability in forward planning

Christophers (2014) notes that the first official recognition of viability in planning was in relation to the delivery of affordable housing through the use of planning obligations. Circular 6/98 (DETR, 1998) advised local authorities to ensure financially viability when negotiating the amount of affordable housing that could be supplied from a development scheme. Circular 05/2005 (ODPM, 2005) provided guidance for planners when testing the economic viability of planning obligations; viability was defined as a site’s ability to remain sufficiently “profitable” at a given level of planning obligations. As the idea of viability testing took hold, its remit was extended from site-specific development management to forward planning. PPS12 (DCLG, 2008) stated that viability considerations should constitute part of the evidence base in Core Strategies and other Development Plan Documents, and PPS3 (DCLG, 2011) required local authorities to set targets for affordable housing and to assess the likely economic viability of planning obligations.

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The National Planning Policy Framework (NPPF), published in 2012, supersedes earlier planning policy in relation to planning obligations. It retains the need for forward plans to ensure that “… the scale of development identified in the plan should not be subject to such a scale of obligations and policy burdens that their ability to be developed viably is threatened.” More specifically, with regard to the issue of viability in particular, the level of planning obligations “… should, when taking account of the normal cost of development and mitigation, provide competitive returns to a willing land owner and willing developer to enable the development to be deliverable” (DCLG, 2012: 41)

Financial viability appraisals are therefore necessary to assess the extent to which a planning policy can be met or the extent to which adverse impacts of development can be mitigated. Often referred to as ‘area-wide’ DVAs they typically consist of a set of valuations of hypothetical development sites across a local authority area at a particular point in time. The valuations incorporate the estimated financial implications of the proposed level of planning obligations.

To determine viability the estimated site values are benchmarked against a ‘threshold land value’ (see Appendix A for an explanation of threshold land value) and therefore the basis on which this threshold is established and the level at which it is set is critical to development viability appraisal at the policy-setting (area-wide) level. Essentially it is an estimate of the value at which a landowner would be prepared to sell. If the estimated site values are higher than the threshold land value the policy target is considered viable. Local authorities are required to assess the likely cumulative impact on viability resulting from existing and proposed development regulations (such as the Code for Sustainable Homes), planning obligations (including affordable housing requirements) and CILs. According to the NPPF (DCLG, 2012: 42) the cumulative impact should not put implementation of the development plan at serious risk and should facilitate development throughout the economic cycle, in other words, be kept under review.

Crosby et al (2013) discuss the methodological issues surrounding area-wide DVAs, focusing on the inability of conventional valuation techniques to deal with multi-site appraisals and market shifts. Essentially, policy is set for wide areas and enforced over long periods of time and the viability testing methods struggle to deal with this. The main issues surrounding area-wide DVA are therefore:

- The difficulty in spatially and temporally extrapolating from a set of time-specific hypothetical sites to actual development sites;
- Confusion over the approach to DVA for area-wide applications in relation to forecasting (or not) of growth in revenue and inflation in costs; and
- The impact of using size-based levies on development sites that are marginal in viability terms.
2.2 Viability in site-specific appraisals

The main thrust of this research paper is DVA at a site-specific level. Site-specific DVAs use the same residual land valuation approach but incorporate more detail about the proposed development scheme. Coleman et al (2012) and Crosby et al (2013) raise a number of issues concerning the specific application of development appraisal to DVA within the UK planning system. In addition to some fundamental criticisms concerning the technical competence of development appraisal methods in practice, they also included critiques of arguably the major research question facing development viability modelling within the UK planning process; the determination of threshold land value. It appeared from this research that decisions within the planning system were not adopting a consistent approach to the assessment of land value within a residual valuation framework. However, this initial observation needed to be tested in more detail.

This research builds on the previous work in two ways; first, it identifies applications of DVA modelling in more detail than has been possible before and, second, it expands the critical evaluation of the methods that identify threshold land value within DVA in a site-specific context. The results of this research will have very specific application to viability assessment in the UK but other countries incorporate viability assessments in their planning system (tax increment financing for example) and development appraisal modelling is universal. The findings will therefore be relevant to international as well as UK markets and should influence future guidance on both development appraisal and viability modelling. The main issues, a priori, surrounding scheme-specific DVA are:

- The inclusion of a uniform developer’s profit for scheme-specific development projects;
- The handling of development finance and tax;
- Input uncertainty and risk analysis including whether or not to include inflation, forecasting and review mechanisms; and
- Fundamental disagreement over the approach used to estimate landowner return (threshold land value).
2.2.1 Estimation of scheme-specific development profit

It is usual practice in a conventional development appraisal to assume a required return in terms of a capital sum, and to include it in the cash flow on the assumption that the development will be sold on completion and a capital profit received. The profit sum is usually expressed as a simple ratio, for example, a proportion of total costs or a margin on development value. These ratios are not sensitive to time. For instance, all else being equal, the profit level (if expressed as a ratio of development costs or value) would be the same for a one or ten year scheme.

However, in this situation, if the actual rate of return that was earned on cost (the internal rate of return or IRR) were calculated, the outcome would be different for any time period. The question is, therefore, are DVAs accurately representing development profit by assuming profit as a lump sum return on costs or value?

In mainstream capital budgeting theory and in property investment appraisal, the required profit is expressed as a required rate of return. The expected cash flow, excluding land cost, finance costs and profit allowance, is discounted at the required rate of return in order to assess the surplus available to purchase the land. Alternatively, the cash flow, including land price, can be discounted at a discount rate that gives a zero net present value. This discount rate represents the scheme’s IRR, which can be compared with the developer’s required rate of return. It is important to acknowledge that rates of return are implicit in all conventional development appraisal techniques when applying simple profit on GDV and profit-on-cost ratios.

Adoption of a developer’s profit that is expressed as an annual rate of return rather than a capital sum might be more rigorous but the question remains; what is an acceptable or appropriate risk-adjusted market return for development activity? Given location and scheme heterogeneity and market volatility, it will depend on the type of developer, type and location of the development and the state of the market. Moreover, there can be substantial heterogeneity within the project cash flow itself; Geltner et al (2007, chapter 29) note that deriving IRRs from development project cash-flows is risky because they vary depending on construction period cash-flow and exit value assumptions. They suggest a number of possible approaches, contingent upon the stage in the development process, that draw upon real option pricing, the use of a ‘reinterpreted’ weighted average cost of capital (WACC) or historic return data from ‘pure play’ real estate development companies. Brown and Matysiak (2000) discuss risk grouping, risk ratios, capital asset pricing model, arbitrage pricing theory and WACC. Moreover, estimating a required rate of return for development opportunities requires data that typically do not exist or assumptions that are difficult to verify.

2.2.2 Handling of development finance (and tax)

It is normal practice in a development appraisal to allow for the cost of borrowing money to pay for development costs as they occur. The accumulated total costs are then subtracted from the estimated value of the scheme and then this residual land value is discounted at the finance rate to give the present day value of the site. An alternative approach, which will give the same residual land value, is to calculate the net cash flow in each period (costs incurred less any sales income received) and then discount each cash flow back to the present day at the appropriate finance rate. This is in contrast to mainstream project appraisal where the viability of a project is assessed before finance and the impact of financing on return is assessed separately. Typically, this is achieved by discounting the pre-finance cash flow at the developer’s risk adjusted target rate of return to determine whether the project produces a positive net present value or to compare the project IRR against the investor’s required return. So both finance and lump sum profit have no place in a technically competent cash flow appraisal.

However, not only is finance included, it would appear that it is also common practice in development appraisal to assume that all of the development costs are debt financed. This approach is at odds with most real development projects which source finance from a combination of debt and equity. This has important implications for the development profit metric (return on costs or return on equity). To reflect the use of a combination of debt and equity finance, a tax-adjusted cash flow can be discounted at a WACC. While such an approach is arguably suitable for appraising corporate investment opportunities, its application to development project appraisal is debatable because there is little direct connection between the rate at which a company can borrow and the appropriate discount rate to be applied to a specific project. This is particularly so when the expected cash flow is subject to a high degree of risk, as in many property developments. Other options include:

a) Return on total development costs (costs typically include finance)

b) Return on equity (also includes finance and therefore is a geared measure of return, albeit one that does not reflect the timescale of the project)

c) Ungeared IRR

d) IRR on equity (geared IRR)

Combining the two issues of profit specification and finance, there are also questions concerning the different levels of these inputs for different property types and for different forms of the same property type; affordable versus standard housing for example.
2.2.3 Input uncertainty

It is common practice to incorporate current values and costs in a development appraisal. For schemes expected to take a long time to complete or undertaken in phases, two alternatives have evolved, re-appraisals and projection models. With regard to the former it is unclear whether and what type of review mechanisms are employed by vendors of development sites to try and capture potential future revenue gains. Little is known about the structure, triggers and so on (delayed starts and longer schemes) of these arrangements. With regard to the latter, revenue from development is received on completion (usually) so the rate of value change over the development period will influence the amount received. This can be assessed in either real or nominal terms. If the finance rate and developer’s risk-adjusted return are real rates, i.e. inflation-adjusted then the cash flow must be real (rather than nominal) too. However, it would appear that often no forecasting of costs or revenue is undertaken due no doubt to the level of uncertainty surrounding future value change. However, it would also appear that the finance rates applied are nominal which imply nominal change in values. Over short time periods the resulting inaccuracy may be small but for larger schemes with lengthy development periods it could be much greater.

Appraisers are also uncertain about current levels of costs and revenues. The output from a development viability model is very sensitive to changes in key inputs; rental and capital value, building costs and development period in particular, but many of the other inputs are ratios of these key inputs. For instance, asset disposal fees are expressed as a percentage of revenue; professional fees are expressed as a percentage of construction costs; profit is assumed to be a percentage of cost or revenue. In essence, estimates of future fees are affected by uncertainty in: current levels of the input variable (e.g. construction costs), estimated change in the level of the input variable (e.g. building cost inflation), the parameter (e.g. fee rates) and future changes in the parameters. As a consequence these ratios inputs are also stochastic variables.

It is well understood that development is an activity with very high operational gearing and a degree of uncertainty attached to the input value estimates due to poor data availability, heterogeneity of sites, and volatility within and between markets (construction, capital/finance and various demand sectors). These characteristics mean that it is not difficult to make (justifiable, defensible) minor alterations to modelling and input assumptions in order to make significant changes to the output from the DVA that would support a particular perspective. Moreover, in some models the sheer number of inputs that can be legitimately included in a DVA may give the impression of spurious model accuracy, and the resultant detail that the model must deal with can encourage calculative practices. There are examples of DVA studies which include a dozen or more input variables, together with modelled changes to these variables, that result in vast quantities of tabulated results that attempt to illustrate the sensitivity of the output to changes in the inputs. How this output is used is unclear, no indication of risk or probability is attached to the output so the output is simply an array of possible output values.

The impact of this uncertainty surrounding the inputs can be taken into account in development appraisal. In some basic appraisals this can be as straightforward as a contingency allowance on costs and the adoption of a suitably high risk-adjusted return to the risk-taker. However, there is also the ability to apply more sophisticated risk analysis techniques for identifying the impact on the outcome; sensitivity analysis, scenario testing and simulation for example. This research will attempt to identify the level of risk analysis within planning appeals.

2.2.4 Estimation of land value

Granting planning permission for a change of use creates uplift in land value. To encourage supply, part of this uplift will flow to landowners. To encourage development to take place, an appropriate level of return to developers is required to compensate for risk. Within this context, local authorities are required to set economically viable targets for planning obligations and levies that are sustainable over wide geographical areas and long periods of time. This is proving difficult and the moribund market has compounded the difficulties. Setting obligations and levies too high risks choking off supply and development of that supply, too low allows developers and landowners to make excessive returns compared to the amount given back to the community. Where the developer or landowner believes their rewards are too low, these area-wide targets are tested on a scheme-by-scheme basis using DVA.

Scheme-specific DVA involves inputting estimates of expected revenue and expenditure, including planning obligations (whether affordable housing and/or CIL) and the output is sometimes a profit sum but more usually a residual land value (RLV). The first approach raises the question, where did the land value input come from? The second approach raises the question, where did the profit level come from, as discussed in section 2.2.1 above.

Focusing on the second, more common, approach, RLV can be either before or after policy compliant planning obligations. Where it is after planning obligations have been deducted, the RLV can be compared to current use value to determine the size of the uplift in land value. If this uplift is enough to persuade the landowner release the land for development then the site is viable.
However, the landowner’s decision may be influenced by a number of issues; the size of uplift compared to the current use value, the size of the uplift compared to the cost of the planning obligations, any legitimate alternative use value and the landowner’s expectations of how the policy situation may change are examples. Another influence particularly relevant to this paper is any expectation that they can use the existing planning policy framework to reduce the amount of planning obligations that will have to be paid to the community. This issue may also be influential in determining the price a developer may be prepared to pay the landowner.

The RLV can also be determined before policy compliant planning obligations have been deducted. In this case, the difference between the RLV and the current use value is the amount available to persuade the landowner to release the land and to fund the planning obligations. A key question is how much of this uplift should go to the landowner to provide sufficient incentive to sell? In other words, at what price or threshold land value (somewhere between residual land value excluding planning obligations and current use value) would the landowner be prepared to sell?

Previous research indicates no consensus regarding either the derivation or the level of threshold land value. Nearly half of the studies investigated by Coleman et al (2012) regarded a scheme as viable if the residual land value exceeded a threshold land value that was equivalent to existing or alternative use value. A similar number added a premium of 15-30% of either the existing or alternative use value as an incentive to the landowner to sell. A minority of studies specified market values as benchmarks, the basis indicated within a RICS Guidance Note (RICS, 2012b).

Clearly the landowner requires some level of financial incentive over and above current use value. Estimating this incentive is difficult because it attempts to quantify the amount of land value uplift that should go to the landowner and the amount that should go to the community. It is, essentially, a question of how the uplift in land value, or betterment, should be distributed. So the key unresolved question concerns the appropriate allocation of the uplift between landowner and community.

As indicated earlier, if there is uncertainty over the level of planning obligations payable then this will increase the option value element of land value (due to increased volatility), thus increasing land prices. This can lead to higher land prices in the market and a threshold land value that is based on market value will also increase. Developers will appeal to have planning obligations reduced and, if successful, this creates an environment of further uncertainty (as local authorities review their planning obligation targets downwards), higher land prices and the process repeats.

It is not surprising that land value is therefore at the heart of both the 2009 Homes and Communities Agency and 2012 RICS definitions of viability:

“The residual land value method of determining viability assumes that a viable development will support a residual land value at level sufficiently above the site’s existing use value (EUV) or alternative use value (AUV) to support a land acquisition price acceptable to the landowner.”

HCA (2009)

“An objective financial viability test of the ability of a development project to meet its costs including the cost of planning obligations, whilst ensuring an appropriate site value for the landowner and a market risk adjusted return to the developer in delivering that project.” RICS (2012b)

The concepts “competitive returns to a willing landowner” (op cit), “price acceptable to the landowner” and “appropriate site value for the landowner” that are included in the National Planning Policy Framework are closely linked to the concept of threshold land value. Whilst the words ‘competitive’, ‘acceptable’ and ‘appropriate’ are somewhat nebulous, it is generally accepted that the landowner should receive an additional sum over and above the amount that they could sell the site assuming that it remained in its existing use.

Recent guidance has attempted to define threshold land value as “… the value at which a typical willing landowner is likely to release land for development, before payment of taxes…. “ (LHGD, 2012: 28). If a site has no possibility of permission for an alternative use then the starting point is based on its existing use only. If there is a prospect of permission for alternative use(s) (for example, in a development plan for an alternative use) there may be a higher alternative use value. If the site has planning consent for an alternative use then a usually higher land value results. The alternative use land value then becomes the starting point for assessing threshold land value, although this use may also have planning obligations attached, which would complicate the issue. Essentially threshold land value is based on existing use value plus a proportion of uplift. The actual price at which a landowner would sell will, by definition, be a market price or value. Market value is defined as an exchange price (IVS 2013) and theoretically will have priced in planning policy requirements. In practical terms the identification of residual land value, existing use value, alternative use value and market value requires myriad assumptions and this is confounding the setting of policy and the drafting of guidance.

Many of the key issues can be illustrated by a simple example. A site currently used as farmland has an existing use value of £100 as evidenced by agricultural land sales where there is absolutely no hope of any development in foreseeable future. The site is allocated for employment land in the Local Plan. With this alternative use, the value is estimated to be £1,000 although, given local oversupply, there is currently little demand from developers for such sites. There are no planning obligations tied to permission for this use. If planning permission were granted for residential development, it is estimated that the site would be valued at £10,000 assuming no planning obligations.
This estimate is the product of a market valuation carried out within a residual valuation framework. However, there is no direct market evidence to support this estimate since local planning authorities in the region have been able to secure affordable housing and other planning obligations and this has affected land prices. In other words, developers reduce their bids to landowners to take account of these additional costs. It is estimated that under the current regulatory regime for planning obligations, the value of the site assuming planning permission for residential use is £7,500. This estimate of site value with planning permission would be based on the evidence from the other market transactions. Consequently a decision to grant planning permission for residential development could create a land value uplift of £9,000 from the £1,000 alternative use value to £10,000 value assuming no planning obligations. For similar sites without a likely alternative use, the uplift would be even higher (£9,900). In this hypothetical scenario, threshold land value could be set between £1,000 and £10,000. Where it is set determines the distribution of the financial gains from planning permission between the community and the landowner.

It may seem surprising that the setting of threshold land value has been a contested issue in development viability modelling given the above scenario. In order to fulfil the viability requirements (a competitive return to the landowner, an appropriate return to the developer and policy compliant planning obligations for the community), the outcome is straightforward. There is no doubt that to persuade a landowner to sell, the market value of the land needs to be paid. The landowner will see the other landowners receiving this amount and want the same. The uplift is therefore from an EUV of £100 or an AUV of £1,000 to £7,500. The RLV, taking into account an appropriate profit to the developer was £10,000 so there is a sum of £2500 for planning obligations. These should be policy compliant as the prices paid for the other sites would have reflected the full policy requirements. If these outcomes appear generous to the landowner, it means that the policy requirements are too low and that the planning obligations should be higher. If they had been higher, market prices would have adjusted accordingly and the £7,500 would have become say £5,500 if the policy requirements had been worth say £4,500.

Section 4 illustrates that the actual cases are far from as straightforward as the above and that the interaction of price paid, time, market value assumptions, ELUV and AUV all interact to create a relative minefield of inter-connecting issues that need addressing if viability modelling is to deliver consistent and appropriate outcomes.
3.0 Viability appraisals for site-specific decision-taking in planning

3.1 Legislation

The Growth and Infrastructure Act 2013\(^2\) inserts Sections 106BA, BB and BC into the 1990 Town and Country Planning Act 1990\(^3\). These sections provide a new application and appeal procedure for affordable housing obligations in extant planning permissions. The Government has published guidance to accompany this legislative change (DCLG, 2013). Section 2 and Annexe A of this guidance provides direction on method and assumptions. In short, a viability appraisal should determine the level of affordable housing that can be obtained while maintaining competitive returns to both landowner and developer, assuming current development costs, current sale prices for market dwellings and a typical build out rate. The provision of affordable housing can be tailored in terms of tenure mix, offsite/onsite mix, delivery timing and so on.

More specifically the guidance makes a number of statements that raise several questions in terms of method and assumptions:

- It is suggested that, in the appraisal, site acquisition price or market value are acceptable inputs.
- Further, significant ‘overbids’ should be disregarded. It is not clear how these might be identified.
- It is not clear whether competitive return to landowner and developer are as of the date of the review or at the time of the original planning permission.
- Finance costs can be included but these will clearly vary depending on the nature of the scheme and type of developer.
- Developer’s profit will vary from scheme to scheme and from developer to developer. This is acknowledged but it is unclear how such profit margins or target rates of return should be derived other than that they should be before finance and tax.
- Related to the above point, how is a post-finance equity return to be incorporated if the developer’s return is to be pre-finance?
- Given the impact of taxation on finance it is odd that no mention of handling of tax is provided.

3.2 Government guidance

In 2009 the Homes & Communities Agency published a ‘good practice note’. In paragraph 18 on page 5 it states that:

“Affordable housing delivery from planning obligations is viable when the cost to the developer in the form of a discounted price to the affordable housing provider, can be accommodated in the scheme economics, without undermining profitability, and the cost of this developer contribution is reflected in the price paid for the land.” (HCA, 2009)

This means that in a viability appraisal where developer’s profit is the output (and therefore a land value must be entered as an input) the land value should be adjusted to reflect likely planning obligations; in other words, not simply based on market prices for similar land (unless they too reflect the same amount of planning obligations).

Annex 2 of the practice note provides some guidance on the key viability assumptions. Under the heading 'profit/ margin' it states that profit may be treated as a percentage of cost or value. The assumed output from a viability model is referred to as the ‘scheme position’, which in this case is an additional amount of developer’s profit but may also be the total profit if a ‘normal’ profit is not accounted for in inputs to the model. The confusion stems from what is referred to as ‘above’ and ‘below the line’ profit. No mention is made of profit expressed as a rate of return. Under the ‘risk and profit’ heading it is explained that different land uses in a scheme might attract different profit margins (forward-sold affordable housing compared to speculatively built market housing for example) but there is no mention of different levels of risk (and therefore different levels of developer’s profit or return) between schemes and locations. Throughout the annex, the presumption is that developer’s profit expressed as a capital sum is the output from the viability model rather than a rate of return. Under the heading ‘development finance’ mention is made of the (presumably debt) finance rate but there is no reference to debt/equity arrangements, the effect of gearing and profit sharing arrangements.

In the section entitled ‘decision taking’, which sets out policy in relation to site-specific planning (as opposed to local plan making), the National Planning Policy Framework (DCLG, 2012) does not mention viability. However, a viability guidance note published recently (NPPF, 2014) provides some direction in relation to viability for plan making and decision taking. Of particular interest here is the guidance in relation to viability appraisal for decision taking, which raises a number of methodological questions.
The guidance begins by stating that “[d]ecision-taking on individual schemes does not normally require an assessment of viability. However, viability can be important where planning obligations or other costs are being introduced. In these cases, decisions must be underpinned by an understanding of viability …” It also states that “[t]here is no standard answer to questions of viability, nor is there a single approach for assessing viability.” Whilst it seems reasonable for there to be variation in method, if there are no standard answers to questions of viability then how are they to be resolved? Perhaps what is meant here is that there may be no universal assumptions for developer’s profit, finance costs, threshold land value and so on. But should there be a common decision rule… Indeed, it would seem that there is one when it is stated that a “… site is viable if the value generated by its development exceeds the costs of developing it and also provides sufficient incentive for the land to come forward and the development to be undertaken.”

As with the Growth and Infrastructure Act, this guidance suggests that viability assessments in decision-taking should be based on current costs and values except for schemes that require phased delivery over the medium and longer term (time periods that are not defined) when forecasts of costs and value may be considered. How these forecasts might be undertaken at the scheme-specific level is not addressed.

The guidance continues in similarly ambiguous terms: estimates of costs should be based on robust evidence that is reflective of market conditions. Build costs should be based on appropriate data and should include abnormal costs, infrastructure, policy costs and planning obligations, and finance costs; the latter proving to be a particularly complicated input to deal with on a scheme-specific basis. Perhaps the most challenging assumption is the level of developer’s profit. First, should it be expressed as a cash sum percentage of costs or value or should it be expressed as an annual rate of return. The guidance acknowledges that the “return will vary significantly between projects to reflect the size and risk profile of the development and the risks to the project” and recommends that a “rigid approach to assumed profit levels should be avoided and comparable schemes or data sources reflected wherever possible.” In practice, this kind of information is rarely released into the public domain.

Having taken these inputs into account, the resultant land value should “… be informed by comparable, market-based evidence wherever possible.” It is not clear whether this evidence relates to the existing use value of the site, alternative use values or whether it should include market evidence for similar sites that have been granted planning permission for developments comparable to the subject site. The latter would reflect levels of planning obligations at the time of the transaction so this raises a circularity issue, as it is the level of planning obligations that is being estimated. The guidance states that the value “… will need to provide an incentive for the landowner to sell in comparison with the other options available. Those options may include the current use value of the land or its value for a realistic alternative use that complies with planning policy.” Furthermore the guidance states that, where transacted bids are significantly above the market norm, they should not be used as part of this exercise. How these overbids are identified is not clear.
3.3 Industry guidance

In 2012 the Highbury Group on Housing Delivery published a note on development viability appraisals that referred to viability testing of individual schemes. It suggests that there is only a need for scheme-specific financial appraisals if the application is not policy compliant. The note becomes rather unclear on the matter of cost assumptions. It suggests that the appraisal should “… relate to the specific costs and values of a known development proposal based on the facts available at a specific point in time” but that an “… assessment can model different development options and scenarios for different costs and values over a development period.” It is ambiguous over whether that means both a best estimate and a risk analysis around that estimate are required.

Also in 2012 the Royal Institution of Chartered Surveyors published a guidance note (RICS, 2012b), which focuses in the main on site-specific DVA. The guidance recommends a conventional residual approach to the determination of either developer’s return or land value. Whichever of these outputs is chosen it should be compared to a corresponding ‘benchmark’ (page 4). The RICS recommends market value as a basis for determining an appropriate threshold land value. On page 12 the guidance states that:

“Site Value should equate to the market value subject to the following assumption: that the value has regard to development plan policies and all other material planning considerations and disregards that which is contrary to the development plan.” RICS (2012b)

This means that site value (whether an input into or output from the model) should be based upon the market value of comparable land but taking into account planning policy (in particular policy compliant planning obligations) as they exist now rather than at the date(s) of the market evidence.

The problem that arises is that the basis for this adjustment is what the viability appraisal is supposed to be identifying – clearly a circular argument whereby the market value should take into account the level of policy compliant planning obligations but that market value will then be part of the assessment process by which the amount of planning obligations are judged. Section 2.3.2 actually states this:

“Any assessment of Site Value … will have regard to prospective planning obligations and the point of the viability appraisal is to assess the extent of these obligations while also having regard to the prevailing property market.”

Paragraph 3.4.5 on page 18 tries to capture it more fully. It states that:

“The Site Value will be based on market value, which will be risk-adjusted, so it will normally be less than current market prices for development land for which planning permission has been secured and planning obligation requirements are known. The practitioner will have regard to current use value, alternative use value, market/transactional evidence (including the property itself if that has recently been subject to a disposal/acquisition), and all material considerations including planning policy in deriving the Site Value.”
This is not straightforward as paragraph 3.4.6 concedes, and there is no guidance as to how these adjustments and judgments might be made, other than ‘professionally’.

Paragraph 3.4.7 elaborates:

“…depending on the planning status of the land, the market price will include risk-adjusted expectations of the nature of the permission and associated planning obligations. If these market prices are used in the negotiation of planning obligations then account should be taken of any expectation of planning obligations that are embedded in the market price, or valuation in the absence of a price. In many cases, relevant and up-to-date comparable evidence may not be available, or the diversity of development sites requires an approach not based on direct comparison.”

It is clear from this passage that the RICS regards transactions as important evidence of current residual land values and that the best evidence of market value is those comparables. But it admits that they are agreed in different market conditions and regulatory environments. Therefore adjustments need to be made, and this will be done subjectively or, as the RICS puts it, professionally. Past transactions may indicate the current or alternative use value of the subject property and the aim is to select that which is considered to produce the most appropriate starting point for the threshold land value assessment. Much emphasis is placed on the use of comparable evidence and this contrasts with the caution associated with the actual purchase price of the subject property. In paragraph 3.6.1 the guidance states that the site purchase price should be treated as a special case because: it may have taken place some time ago; the purchaser may have made unrealistic assumptions about the viability of the development scheme; there may be synergistic value arising from land assembly. But all of these points excluding the timing apply equally to any recent comparable evidence used to benchmark residual land value.

Regarding developer’s return the guidance is ambiguous; professional judgment should be used to determine its acceptability in respect of the proposed development and the state of the market.
4.0 Viability appraisals in planning appeals

The Planning Portal records details of planning appeals and disputes over levels of planning obligations and these reveal some of the key issues raised above. It is therefore timely to identify these cases and carry out a detailed document analysis of them to investigate the viability issues that have arisen. Planning appeals uploaded to the Planning Portal by the 20 November 2014 were accessed and the search criteria specified appeals that had been completed by this date in England and included ‘planning obligations’ as an appeal issue. A further refinement was that only appeals made by landowners, developers and house-builders were selected. A search based on these criteria returned 99 appeals. On inspection of the local authority websites, supporting documentation was available for 32 cases. Summary details of these appeals are set out in Appendix B.

The examination of these appeals concentrated on the approach to appraisal modelling and, following the discussion of viability modelling issues identified from the literature review, the main categories for analysis were; choice of modelling approach, dealing with input uncertainty, assumptions regarding developer’s profit, treatment of finance and benchmarking landowner’s return.

4.1 Modelling approach

The precise details of the methods used were generally not stated explicitly in the appeal documents but the use of some form of residual approach; either expressed as a cash flow or a traditional residual, was virtually universal. More specifically, the residual method was used to estimate developer’s profit (where land value was an input), residual land value (where developer’s profit was an input) or alternative use value. In addition, appeal cases involving the estimation of residual land value or developer’s profit either included or excluded planning obligations (both approaches have been adopted within the appeals) also used a residual approach. Whether a cash flow or traditional residual was adopted was not a main issue in any of the cases. The exception to this was the estimation of existing use value which is often a comparative approach not involving any development appraisal modelling.

The general approach was to estimate the residual land value (RLV) of the development site taking into account cost of planning obligations and an appropriate return (profit) to the developer. The amount of planning obligations would reflect the policy target for affordable housing in the locality. If the resulting RLV was higher than the existing use value of the site and high enough to persuade the landowner to sell (i.e. it provides an adequate return) then the proposed development scheme was considered viable. If the RLV was negative, viability testing is undertaken at a range of affordable housing targets to determine what amount might be acceptable to both parties. Alternatively, where profit was the output, the viability appraisal tested whether the level of profit, expressed as a simple return on value or cost, was adequate for the developer. Again, in cases where it appeared to fall below a reasonable level, the determination assessed the level of planning obligations required to create an acceptable return to the developer. The two main issues that result are the basis of land value required where the output was profit and the basis of profit where the outcome was land value. Allied to these issues are the benchmarks against which the outputs are assessed. If the output is a RLV then what should this be compared to (i.e. what is an acceptable return to the land owner) and if the output is profit, what is an acceptable profit margin?
4.2 Input uncertainty

It is widely accepted that input uncertainty is a major issue in valuation as a whole (IVS, 2014) and in development appraisal in particular (Coleman et al, 2012). Risk analysis is a basic part of any development appraisal but it appears to be only intermittently carried out in the appeal cases.

Forecasting of costs and values has been attempted in a few cases but was rejected in 2008 in Godalming (APP/R3650/A/08/2063055) and in 2009 in Bristol (APP/P0110/A/08/2069226). However, also in 2009, it was deemed reasonable for multi-phase schemes developable over many years (Lydney APP/P165/A/08/2082407). In the same year, the inspector rejected forecasting in another large development site at Innsworth in Gloucester (APP/G1630/A/09/2097181). But this inspector recommended that in larger longer term developments a further review during the development period was undertaken, acknowledging that viability moves through time. This approach was later adopted in Beverley (APP/E2001/V/08/1203219) in 2010.

Basic risk analysis in the form of sensitivity analysis has been carried out on some valuations within some schemes but the impact this had on the decisions is unclear within the inspector reports.

4.3 Profit

There is no evidence from the appraisals that there is a generally accepted level of profit from development. In evidence for the Clay Farm and Glebe Farm, Cambridge appeal (APP/Q0505/A/09/2103592 & 99) the developer’s target return was quoted to be in the band of 18% to 21% of GDV. In the Jericho Canalside, Oxford appeal (APP/G3110/A/08/2070447) it was agreed that the target should be 15% of GDV or 20% of costs although they also agreed that this was site specific and would vary depending on the state of the market, the site and the scheme. However, in the majority of cases where the level of developer’s profit is discussed, figures equal to or in excess of the two targets agreed at Jericho were used. In the Shinfield Road, Reading case (APP/X0360/A/12/2179141) the Inspector determined that:

“The appellants supported their calculations by providing letters and emails from six national house-builders who set out their net profit margin targets for residential developments. The figures ranged from a minimum of 17% to 28%, with the usual target being in the range 20-25%. Those that differentiated between market and affordable housing in their correspondence did not set different profit margins. Due to the level and nature of the supporting evidence, I give great weight to it. I conclude that the national house-builders’ figures are to be preferred and that a figure of 20% of GDV, which is at the lower end of the range, is reasonable.”

In this case, in the model put forward by the appellant, the default settings were 20% of GDV for private sales and 10% of GDV for affordable housing (and 20% on the costs of commercial land use), resulting in a blended target profit margin of 18% of GDV. Larger schemes are regarded as more risky, hence the relatively high benchmark set for the Shinfield Road site, which was for 126 dwellings. In the Poplar Business Park case (APP/E5900/A/217892) the profit margin for affordable housing was assumed to be 7% of GDV, and the scheme was regarded as unviable. Consequently, the inspector determined a 20% affordable housing provision against a 35% target.

Given that not all of the development viability appraisals were based on the standard residual model but had elements of cash flow within them, it might be expected that the pre-finance IRR and the project IRR of the development cash flow would have been preferred benchmarks but this was not the case. Even when IRR was calculated, it was the basic returns on GDV and/or cost which dominated discussions on viability.

4.4 Finance

Assumptions regarding finance are linked to those relating to profit. 100% debt financing appears to be universal and unchallenged and even the rate used appears non-contentious with 7% adopted in four out of five cases where it is mentioned. As stated above, the return to the developer is included as a cash sum, calculated as a ratio to total development costs or gross development value. In reality very few developments are funded using 100% debt finance. Instead financing arrangements are usually a mixture of debt and equity funding and the developer typically funds a proportion of the development costs as an equity provider. Consequently a true measure of return on the developer’s investment should be a function of this equity stake, i.e. a return on equity or, more correctly, an equity IRR.
4.5 Landowner’s return

The determination and role of land value in development viability assessment is the key battleground within the appeals. With a relatively consistent target for developer’s profit (despite the shortcomings of the capital sum approach), the main issue centres on whether a policy-compliant level of planning obligations can be supported by the scheme whilst ensuring an acceptable return to the landowner. As indicated above, within the residual valuation framework, the uncertainty surrounding valuations gives parties to the case scope to vary the inputs and the outcomes. Over and above this valuation variation, there is also scope for a more conceptual scrutiny of the application of residual valuation models and the subsequent determination of threshold land value, below which it is assumed the landowner would not be prepared to sell and therefore development land would not come forward.

Figure 1 shows that a typical development viability appraisal would include the cost of planning obligations required by policy in the appraisal, together with development costs and developer’s profit. The residual land value (i.e. the landowner’s return) that balances the right-hand side of the scales with the left is then compared to a threshold land value. If it is higher, this means the development is viable at the required level of planning obligations. If it is lower, then it is not.

Figure 2 illustrates the uplift in land value from existing use value (EUV) that is possible when a site is granted planning permission. A rational landowner would require a premium over and above EUV to compensate for the fact that the land has some development potential. In a DVA, the remaining share of the uplift up to the full RLV is assumed to take the form of planning obligations. The key issue, therefore, is estimating what the landowner would regard as an acceptable premium over and above EUV. This determines the benchmark or threshold land value.

From figure 2 it can be seen that, all else being equal, the higher the EUV, the less uplift is available for planning obligations. There have been cases (discussed below) in which developers have sought to determine the level of threshold land value by reference to the price paid for the site. This raises an important practical question about the assumptions made by both sellers and purchasers. Purchasers could have paid too little or too much for a site based on inaccurate assumptions; perhaps purchasers’ expectations in terms of planning permission were unrealistic for example. Also, ‘perceived’ high and low prices may be due to the fact that prices are a distribution. There is an extensive real estate literature on valuation accuracy and bias that suggests a wide variation in valuations and prices in both residential and commercial markets; with development sites being cited as one of the most variable situations. These issues of valuation and price uncertainty affect both price based and valuation-based approaches to DVA.
Second, given that development land values are residuals and highly geared in relation to development values and costs, prices of development land can be volatile in the short term. An historic price may have been right at the time but should that price be relevant to a viability appraisal undertaken at a different time in a different market state? Perhaps more pertinently as far as DVA is concerned, what if a purchaser paid a price that reflected the possibility that they could appeal the level of policy compliant planning obligations under the current viability regime?

Regardless of the motivation, if values have fallen, a threshold land value within the DVA based on purchase price would be at a level higher than current values would suggest. This, in turn, would reduce the share available for planning obligations, passing some of the value that would otherwise flow to the community back to the developer.

The use of price in DVA has been the subject of a number of appeals. In 2005, an appeal decision in Norwich (Appeal Ref APP/G2625/A/04/1154768) rejected price paid in favour of a valuation that reflected the cost assumptions relating to the known policy planning obligations. However, in contrast to the Norwich decision, in a later 2006 case in Chilworth, the purchase price was used (Appeal Ref APP/Y3615/A/06/2016787). The decisions continued to flip-flop and in April 2008, in Homerton Road, London, it was decided that site value should not be based on purchase price. But the reason was that in this particular case the price was too high and had ignored policy requirements (Appeal Ref APP/U5360/A/07/2059530). However, later that same year, using an appraisal model where land cost went in as an input and developer’s profit was the output, a developer successfully argued that the site value should be based on purchase price (Jericho, Oxford Appeal Ref APP/G3110/A/08/2070447). Given that the site was sold by tender and other bids were close to the purchase price, the inspector accepted its relevance even though it had taken place nine months earlier. The appeal was upheld and the inspector set a contribution of 35% affordable housing rather than the policy requirement of 50%.

In 2010, in an appeal related to a multi-phase residential development in Cambridgeshire (Appeal Ref APP/Q0505/A/09/2103599), the Planning Inspectorate took the opposite view. It was decided that the price paid for the land was irrelevant on this larger scheme. If the landowner was allowed to use the purchase price in any subsequent modelling, they were essentially insuring against any risk of market movements downwards. The Inspector was not prepared to accept such a fundamental transfer of risk.

Similarly, in March 2010 in Welwyn Garden City, an Inspector repeated that the correct approach was current existing use value and not price paid, reiterating that the developer carries the risk, not the local authority (Appeal Ref APP/C1950/A/09/2113786). Later in the same year, the Planning Inspectorate dismissed an appeal in London (Appeal Ref APP/E5900/A/10/2127467) in which the developer argued that the current site value should be based on the price paid for the site back in September 2007 (£13m) marked down using a land price index to a value of £9.3m. The current use value of the site in its industrial use was approximately £3m and, together with the Council’s estimate of residual land value at £6m, this meant that the policy target of 35% affordable housing was viable.

It would appear that developers trying to use the price they paid for the site in the DVA are not succeeding if it is decided that either they overpaid for the site by not taking the correct level of planning obligations into account when purchasing or the price is out of date. Where the price is recent and perceived to be a “correct” price, it might be taken into account. The next question that arises from the appeals concerning land value is what should threshold land value be based upon if it is not purchase price?

A second possibility discussed in the guidance and allowed in some appeals is the existing use value with or without an uplift to persuade a landowner to bring the land forward. The uplift appears arbitrary. In the case of Hampton Hill (APP/L5810/A/05/1181361) in 2007, both parties agreed that existing use value should be the basis for the threshold land value. The local authority argued that no uplift should be applied and that the landowner should therefore accept existing use value only as an acceptable return. The appellant argued that the threshold land value should be EUV plus 25%. The Inspector found for the appellant. However, in the Flambard’s Way, Godalming appeal in 2008 (APP/F3650/A/08/2063055), although the Inspector also favoured a threshold land value that was based upon EUV, the Secretary of State called in the appeal and preferred a market value approach.

This third possibility is recommended by the RICS. However, as indicated previously, it assumes all planning obligation policies are fully reflected in the valuation. The RICS states:

“Site Value should equate to the market value subject to the following assumption: that the value has regard to development plan policies and all other material planning considerations and disregards that which is contrary to the development plan.” [RICS, 2012b, 12]

Market value based on comparable transactions was adopted in Holsworthy (APP/W1145/Q/13/2204429) and in King Street, London (APP/H5390/A/13/2209347). It is not clear whether these transactions, on which the market value was based, fully took into account the existing policies.
Alternative Use value (AUV) is also relevant in development viability modelling. It is defined as the market value taking into account viable alternative, policy compliant uses. For it to be a relevant alternative to existing use value, it must be assumed that all policy compliant obligations have been factored into the AUV, so reducing its value to one that can support these obligations. The inter-action of planning obligations within AUV and the proposed scheme are discussed in the next section. In the 2009 appeal on a site at 189 Streatham Rd, Mitcham (APP/T5720/A/08/2087666), the agent for the appellant argued that the threshold land value should be derived from the EUV, the AUV and the purchase price (within reason). The appellant paid £1.6m for the site and they used this figure as the EUV to be input into the appraisal. The appellant argued that the RLV ignoring planning obligations would have to be below £359,000 (compared to a purchase price of £1.6m) for some affordable housing to be viable. The council argued that the purchase price was not relevant to the decision on how much affordable housing was viable and that EUV/AUV were the appropriate bases for threshold land value. In this particular case, regardless of whether EUV or AUV was used, no amount of affordable housing was viable so the Inspector’s decision did not provide any detailed comments on the basis for land value. The same thing happened in a number of appeals where the site value for the proposed development, even when planning obligations are zero, was below EUV or AUV; they were not viable within the context of current planning policy (for example appeal refs APP/D3125/A/09/2104658, 660, 663 in Woodstock, Oxford in 2009 and APP/X5210/A/12/2173598 in St Edmund’s Terrace, London in 2012).

A further approach is to base threshold land value on estimates of EUV and RLV ignores planning obligations. The latter is not observable in the market but is the output from a standard residual land valuation, assuming no planning obligations. Referring to figure 2 above the difference between these two values is land value uplift. Instead of trying to determine a threshold land value that would induce the landowner to deliver the site to the market, and a target level of planning obligations that the local authority requires, the uplift is simply shared in some way between these parties. This approach was adopted in the 2012 Shinfield Road, Reading appeal (APP/X0360/A/12/2179141) where the gap between existing use value and RLV ignoring planning obligations was split 50-50, a split suggested by the appellant. The inspector in the 2008 Bath Road, Bristol case also previously suggested that the correct approach was based on the difference between residual land values and existing use values (APP/P0119/A/08/2069226).
5.0 Discussion

The grant of planning permission can produce significant uplifts in land value and planning policy now acknowledges that the three major stakeholders (landowners, developers and the community) can all participate in that added value. But the mechanism by which this participation is implemented is fraught with difficulty. The central theme of the development viability appeal cases that were investigated is the application of residual development appraisal modelling in general and the determination of threshold land value and its role in the modelling in particular.

There are some general issues concerning the institutional background that has arguably failed to deliver a coherent modelling process for property development in the UK (see Crosby et al, 2013 and Coleman et al, 2012). But added to that is evidence from recorded planning appeals of a confused picture concerning the ability to determine the correct framework for assessing appropriate returns to developer, landowner and community. For example, developer’s return is highly site and market specific and significantly influenced by project finance structure. To date, the industry’s response to these issues is to adopt broad rules of thumb regarding level of developer and landowner return and to assume very simplistic financial structures. While some of this generality might (arguably) be acceptable for area-wide DVAs, it does not seem appropriate for site-specific DVAs.

One of the main problems with development appraisal is the sensitivity of the residual output to changes brought about by input uncertainty and time. Sites are individual and site values change quickly and with far more volatility than developed real estate and other assets. As a consequence, fixing cost and value inputs through time magnifies the geared changes in RLV. Figure 3 illustrates this point. The lines track changes in RLVs for residential, commercial and industrial land uses in Reading over a ten-year period from 2001 to 2010. Fixing a threshold land value through this volatility means that the apportionment of uplift between landowner and community will vary widely over time. DVA needs to operate within a flexible time framework that allows the impacts of changing market states to be reflected in the modelling process. Many of the appeals are associated with market shifts and the failure of DVA to flex in both downturns, when landowners and developers suffer, and in upturns. There seems little comment of the situation when a buoyant property market, with highly volatile development residual values, increases the development gains for landowners and developers – with no additional returns to the community. A mechanism is required that can travel in both directions.

However, there appears little doubt that the central issue is the determination of threshold land value within the viability process. The value of a site that has potential for a change of use will be the higher of (a) its existing use value or (b) alternative use value. If (b) involves development activity that requires planning consent then it is usually estimated using the residual valuation method. There is little argument within both government policy and industry guidance that a developer should be able to obtain an appropriate risk-adjusted return from the development scheme. The landowner will therefore receive the RLV that remains after the costs of development (including developer’s profit and planning obligations) have been deducted from the estimated value of the completed development (gross development value). Essentially, figure 2 is rearranged so that the share of uplift for planning obligations is input as a development cost, thus reducing the RLV as shown in figure 4.
Figure 3  
RLVs for residential, commercial and industrial land uses

<table>
<thead>
<tr>
<th>Year</th>
<th>£ per hectare</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>8,500,000</td>
</tr>
<tr>
<td>2005</td>
<td>7,500,000</td>
</tr>
<tr>
<td>2002</td>
<td>6,500,000</td>
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<tr>
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</tr>
<tr>
<td>2009</td>
<td>500,000</td>
</tr>
<tr>
<td>2010</td>
<td>-500,000</td>
</tr>
</tbody>
</table>

- Residential RLV (no CIL) per ha assuming dph and 100 sqm dwelling size
- Industrial RLV (no CIL) assuming 75% site cover (£/ha)
- Office RLV (no CIL) assuming 75% site cover (£/ha)

Source: Compiled by authors using data from DCLG, VOA and CBRE

Figure 4  
Components of land value 2

Residual land value of site assuming it has planning permission for change of use and taking account of the cost of planning obligations

- Uplift to landowner
- Value in existing use (disregarding hope value)
This residual development technique is a recognised valuation method for assessing the market value of development land and it gives some weight to guidance put forward by the RICS that the market value of a development site should be the basis for threshold land value. At any point in time the RLV (the market value of a development site) will reflect relevant policy on planning obligations, i.e. the ‘cost’ of these obligations are included in the valuation as an input. Theoretically, a landowner should be willing to sell a development land when its RLV is higher than existing use value and the price reflects the new use. On this basis there does not appear to be a problem and the RICS guidance is correct. However, it appears that this model may have been misapplied in practice. Some of this misapplication surrounds the crucial market value special assumption concerning the inclusion of policy compliant planning obligation assumptions. If they are not fully taken into account in DVA, landowners and developers can manipulate the situation to their financial benefit. These issues are discussed below.

In the appeals, some appellants have argued that the market value of the site should not be used and the historic purchase price for the site should be used instead. However, Planning Inspectors in a number of cases have identified this as an attempt to shift some of the risk of development activity from the developer to the community even though developers use risk-adjusted profit margins in their original decision-making. One of the significant risks associated with development is input uncertainty caused by market changes over time. Once land price has been fixed at the commencement of the developer’s involvement, the impact of subsequent market changes will fall on the developer. If they are able to shift any downside risk associated with these market shifts onto the community by fixing the land price in any subsequent viability appraisal, that appraisal should incorporate a more moderately risk-adjusted return to the developer in order to reflect the reduced level of risk. There was no evidence of such risk adjustment by appellants trying to use purchase price in DVAs. The historic purchase price should never be used in a DVA.

If the use of market value is deemed to be the correct approach, as indicated above, its practical derivation is problematic. Normal valuation practice is to assess developments with relatively homogeneous characteristics by direct capital value comparison using a unit of comparison such as a price per square metre or, for residential land, price per hectare with suitable adjustments for location and physical differences. For more individual development sites, especially in the commercial sector, a residual method is used (see RICS guidance notes on comparative valuations (RICS, 2012a) and development land (RICS, 2008)).

In the appeals, DVA was based on the residual method but the direct comparison method was often used to determine either the land value input where profit was the output or the benchmark against which to compare with the RLV output, excluding planning obligations, to determine the appropriate level of planning obligations. This introduces an element of circularity into the appraisal explained below, which can be used by appellants to their advantage.

If the land value used in the viability assessment is derived from sales of similar sites, developers can argue that the land value benchmark should be based on these transactions – it is prime facia evidence of market value. In fallen markets this may not be as favourable as using historic price but is the next best alternative.

If market values of comparable sites are to be used as the basis for the determination of threshold land value, the critical assumption is that the comparable evidence is adjusted to take account of current policy in relation to planning obligations. If this were done correctly then the market valuation would necessarily confirm that the policy compliant planning obligations were affordable and there would be no reduction in planning policy obligations on appeal, precisely because of the circularity issue. The input land values are adjusted to take account of the cost of planning obligations, and those are the obligations that the DVA is trying to estimate. Both the use of either a current purchase price or a current market value therefore suffers from the same issue. If the price and the valuation are correct under the planning obligation policy special assumption, they will automatically confirm that the policy planning obligations are affordable. The planning obligations will only be unviable if the market value is less than the EUV. A simple example will illustrate. Two similar sites, A and B, each have a RLV before planning obligations of £100,000. The developer already owns site A, having paid £85,000 in a much better market, and wants to buy the other one as well. The owner of site B is holding out for £80,000 given the price paid for the site A. Current planning obligations are expected to cost £30,000 so a residual valuation identifies the RLV after planning obligations to be £70,000 for each site. However, the developer has just won an appeal on another site and the inspector referred to market values evidenced by transactions. The developer now purchases site B for £80,000 and submits an appeal in relation to site A quoting the market comparable of £80,000 to argue for a reduction in planning obligations to £20,000. If the RLV had been adjusted to take account of the policy compliant planning obligations, the outcome should have been £70,000 and a decision that the site was viable. Theoretically, the use of a policy compliant RLV will always produce a policy compliant set of planning obligations unless, as indicated above, the RLV falls below EUV or AUV.

It is unclear whether planning inspectors realise that actual purchase prices and market valuations of comparable sites raise the same circularity issue. What is clear is that a number of decisions have used purchase price or market value based on comparable transaction evidence and this is an open invitation for developers to overpay for sites in the knowledge that the current application of DVA will enable them to use these prices in assessing reduced
levels of planning obligations; either directly by inserting the price or indirectly by using the prices as comparables for market valuations. What is the solution? In early cases, one approach was to adopt EUV plus a premium to persuade landowners to release the land. However, this takes no account of the substantial variations in the uplift from EUV to RLV. For example, a planning consent to allow residential development on a greenfield site can generate a very large uplift in land value whereas a consent to change the use of a brownfield site from commercial to residential land use might generate a much smaller uplift from EUV. The greenfield site would require very substantial premiums to persuade a landowner to sell. In a number of the appeal cases, EUV was above RLV even before any planning obligations were deducted. In these cases no planning obligations were required. Effectively the EUV plus a premium approach is confounded by the heterogeneity of development sites.

Finally, we are left with the approach that was adopted in the appeal involving the site at Shinfield Road, Reading (op cit). In that case the landowner and community shared equally the land value uplift from EUV to a RLV that ignored the effect of any planning obligations. This approach addresses the issue of changing viability through time and avoids the circularity issue that afflicts threshold land values that are based on market values or purchase price.

It does not resolve any of the difficulties associated with input uncertainty. But those are inherent within the residual valuation method and no resistance to the use of this method in DVA was found in the appeal cases. This is despite the theoretical and practical criticisms levelled at it (see Coleman et al 2013, Crosby et al 2013). The decision in the Shinfield case amounted to a proportionate sharing of the land value uplift, essentially a tax on the development gain. Consequently, despite its advantages over alternative approaches, it might be viewed as a politically difficult solution to implement.

AUV does impact on this proposed solution. If there are no planning obligations associated with the AUV, then AUV becomes the starting point for the uplift in value. If there are planning obligations associated with the AUV then the solution becomes less complicated. Assuming the same basis for planning obligations in both the grant of the proposed permission and the alternative use planning permission (say 50% of the uplift), the AUV can be ignored and the planning obligations for the proposed development are simply 50% of the difference between RLV for the proposed development and the EUV, as if the AUV didn’t exist.
6.0 Conclusions

This research has examined appeal cases relating to scheme-specific DVAs where the level of planning obligations was one of the issues in dispute. It has identified threshold land value as the main point of contention. The discussion in this paper has therefore concentrated on this aspect.

The present position is confused and conflicting. There is evidence within appeal cases that planners, planning inspectors and surveyors acting as evidence providers are doing so within a poor quality modelling environment. Coleman et al (2012) indicate how little change there has been in the development appraisal modelling framework compared to the investment property modelling framework over the same time period. The appeal cases have provided evidence that the institutionalised background has not supplied the expertise necessary to carry out rigorous development modelling in the English planning system and that educators, trainers, learned societies, and industry have failed to deliver this expertise. In particular, the research questions whether planning inspectors are sufficiently versed in the expertise of development appraisal and finance to be able to spot the inconsistencies.

The paper has examined the various approaches to determining land value and supports the view that the use of historic purchase price is flawed as it attempts to transfer one of the primary risks of development – changes in market state and its impact on costs and values within the development – to the community. The risk-adjusted rate of return already rewards developers for taking these risks. In addition the paper suggests that the market value approach is only theoretically correct if applied as per the assumptions set out in the RICS Guidance Note. A correct application of market value would protect the community from changes in market state and ensure that any site brought forward for development would be able to provide policy compliant planning obligations. If market value is based on comparable evidence without proper adjustment to reflect policy compliant planning obligations, this introduces a circularity, which encourages developers to overpay for sites and try to recover some or all of this overpayment via reductions in planning obligations. However, a correct interpretation of market value would not persuade landowners to bring forward sites for development in weak land markets and so acts against the policy imperative. A possible solution lies in the use of existing use value but, if that is not related to the development in any way, it becomes a very blunt instrument that takes no account of a landowner’s perspective when deciding to bring a site forward for development.

The problem centres on the difficulty in selecting an appropriate threshold land value, whether it is reliant upon purchase price, comparison-based market value or EUV plus a premium. One solution is to avoid setting a threshold land value altogether. By estimating EUV and an RLV that ignores planning obligations, the Shinfield appeal case split the uplift in value between the landowner and the community. This approach has the trace of a development gains tax – the rate was 50% in the Shinfield case – but it tracks changing market states and shares the profits of development between developers, landowners and the community in a way that is more equitable and responsive than current approaches.

In addition to the conclusions on threshold land value that dominate the DVA issue, we also make two further recommendations, one concerning the reporting of cases and the availability of information and the other the timing of reviews.

Publically available information on these cases varies widely and needs to be made more transparent and consistent. In some cases there is only the basic planning information and the Inspector’s report; in others, details of the appraisals and viability assessments are available for scrutiny. If landowners and developers wish to challenge area-wide and site specific community contributions, they need put their reasoning and evidence, including financial details, into the public domain.

Finally, one of the main problems with development appraisal is the sensitivity of the residual output to changes brought about by input uncertainty and time. Sites are heterogeneous and site values change quickly and with far more volatility than developed real estate and other assets. As a consequence, fixing cost and value inputs through time magnifies the geared changes in RLV. In weak markets fixed planning obligations will act against the policy imperative, which attempts to bring sites forward for development, and in strong markets may restrict the amount that the community receives relative to landowners and developers. This has important implications for the Community Infrastructure Levy.
7.0 References


8.0 Appendices
Appendix A: Threshold Land Value

The Homes & Communities Agency (HCA) provided the first detailed evaluation of threshold land value in an annex to user notes for a viability-modelling tool. The discussion in the annex covered all the alternatives that have been proposed in later formal guidance. However, whilst they evaluated a number of options, they did not make strong recommendations regarding which approach should be adopted. The options discussed were:

1. Market Land Value

The market value of land was stated to be “a relevant benchmark, as it is tangible evidence of the value at which land has been released for development.” The central problem with this approach was explicitly identified as its circularity: “market values are influenced by expectations of planning obligations, introducing circular logic to the appraisal” (HCA, 2010, 8). The effect of this circularity is to reinforce the status quo in terms of policy (see Crosby, McAllister and Wyatt, 2012). In the hypothetical example set out above, the threshold land value would be £1,200,000 with the landowner capturing two thirds of the uplift in value created by the planning permission granted for residential planning permission compared to the alternative use value.

2. Percentage of Gross Development Value

The HCA noted that some area-wide viability studies had used percentage of gross development value (GDV) as a benchmark to assess threshold land value. The percentage uplift from current use value to residual value is a form of development land value taxation and the proportion of completed scheme value would seem to be a simple heuristic rather than a logically based threshold value. Comparable market prices, in the rare cases where they exist, will have been reduced to the extent that they ‘price in’ the prospect of planning policy requirements, as noted above. It might be argued that valuers are capable of adjusting market evidence of land prices to take this into account (see RICS, 2012 for example) but there has been no investigation as to whether this is a robust approach. Crosby et al (2012) argue that there is no economic reason to expect land costs to be any specific proportion of development value. In the hypothetical example above, since the ratio is a product of previous transactions using the 20% of GDV as a threshold would tend to reinforce the policy status quo.

3. Premium over Existing or Alternative Use Value

Whilst all approaches to threshold land value axiomatically involve a premium over the value in current use, one proposed method is to anchor the threshold land value to existing use value (EUV) rather than to market value of the proposed use. HCA (2010, 9) stated

“benchmarks and evidence from planning appeals in a range of 10% to 30% above EUV in urban areas. For greenfield land, benchmarks tend to be in a range of 10 to 20 times agricultural value”.

In the hypothetical example, this would suggest a wide range in Threshold Land Value. Assuming a multiplier of 10 or 20 from EUV, a threshold of £200,000 to £400,000 would result. Assuming £400,000 and a gain of £1,800,000 created by planning permission, this means that the landowner obtains just over 22% of the financial gain created by the planning permission.

It should be noted that alternative uses require planning permission and would be subject to policy requirements. Consequently, alternative use values, like market values, would be price-adjusted to reflect these and so the circularity problem arises once again.

Share of Land Value Uplift

The HCA document also noted that some area-wide viability studies had used the concept of share of uplift in land value (between existing use value and theoretical residual land value ‘unencumbered’ by planning obligations) as a basis for estimating threshold land value. In the hypothetical example, assuming an uplift of £1,800,000 and an AUV of £200,000, a 50/50 share of the financial gain from planning permission between the community and the landowner would produce a threshold land value of £1,100,000.

Following this guidance, a number of organisations representing sometimes conflicting and sometimes overlapping groups have produced further guidance. Prompted by the Housing Minster, the Local Housing Delivery Group’s remit was to produce:

“...practical advice for planning practitioners on developing viable Local Plans underpinned by a commitment from the HBF (Home Builders Federation) and LGA (Local Government Association) to engage their members in applying this advice and continuing to develop the guidance over time, as we all get to grips with the implementation of the new National Planning Policy Framework (NPPF).” (Local Housing Delivery Group, 2012, 4)
It seems clear that an attempt was being made to create some consensus among representatives of the community (represented by LGA) and the real estate development sector (represented by the HBF) about the approach, method and assumptions for viability testing. However, with regard to the crucial issue of Threshold Land Value, the guidance is ambiguous. It begins by stating the commonly accepted premise that TLV “should represent the value at which a typical willing landowner is likely to release land”. It then advises the viability modeller to base TLV “on a premium over current use value” or on alternative use value. However, almost immediately this statement is qualified. The report suggests that the premium above current use value should be determined locally and be based on evidence. There is no hint as to how this should be done or where the evidence might come from. Indeed, the complexity surrounding the use of TLV is revealed when reasons as to why the premium might significantly vary are described (Local Housing Delivery Group, 2012: 30):

- In areas where landowners have long investment horizons and they are content with current land use, the premium will be higher than in those areas where key landowners are more minded to sell. Essentially, the premium will vary over space.
- Landowner’s return will vary substantially depending on whether the land is urban or rural. The report suggests referring to “… market data and information on typical minimum price provisions …” and “… if local market evidence is that minimum price provisions are substantially in excess of the initial benchmark assumptions, then the plan will be at significant risk unless Threshold Land Values are placed at a higher level, reflecting that market evidence” (p30). There is significant blurring between a TLV set using current use value plus premium or market prices.
- Similarly, due to the effect of hope value, landowners’ returns will differ substantially between small, edge or settlement, greenfield sites and other large greenfield sites.
- A ‘viability cushion’ should be established to ensure ‘marginal’ sites still come forward, to guard against the potential that small changes to external circumstances could render many sites unviable. In other words, the premium will vary over time. There is no guidance as to how such a cushion should be derived or what magnitude it should take.
- Some sites are allocated as development sites in the development plan and costs are incurred in their promotion.

The guidance then points out that “reference to market values can still provide a useful sense-check”, albeit using market values “risks building-in assumptions of current policy”.

The drawbacks of TLV based on current use value plus a premium are twofold. First, there is no empirical basis for the level incentive premium that is unlikely to be the same for all types of development or points in time. As the Prince’s Foundation for the Built Environment asks: will landowners sell at prices developers can afford given the scarcity of capital, burden of sunk land costs, level of debt on balance sheets, money needed to finance full range of infrastructure levies and planning obligations? Some landowners are locked into option agreements that they cannot fulfil, others (such as family landowners) have investment horizons that are far longer than most. Others are becoming partners with developers and house builders, the contractual details of which cannot be reflected in a simple premium.

Second, if the premium is based on a percentage of current use value, this does not relate to the value of the land in its developed state. Rational landowners would seek a return that reflects the value of the proposed development. Geltner et al (2007) suggest that this return comprises two value premiums over and above current use value. The first is a ‘growth premium’ that reflects the present value of the future growth in value of the land after it has been developed. The second is an ‘irreversibility premium’ which reflects compensation for giving up the option to develop some time in the future. Basing TLV on current use value plus a percentage of current use value would not properly account for these premiums.

This issue of landowner’s return, based on a share of uplift in value, was raised by Barker (2004). Planning Gain Supplement (PGS) was to be based on the uplift between current use value and ‘Planning Value’. This raised some methodological questions: how would a valuer be able to find evidence of current use value (defined as market value without hope of future development). Planning value was to reflect all factors affecting market value including planning obligations. In fact, planning value would ‘often be the price paid for the land’ and ‘it will often fall to the developer to take account of PGS liability when negotiating the purchase of the land’ (p7). So planning value is reduced to reflect PGS liability and is used to determine the amount of PGS liability. Barker did not resolve the circularity issue.

Recent guidance from the Homes and Communities Agency (HCA, 2012a) provides little clarification, stating that establishing a TLV is ‘difficult’, although it does expand on this by explaining that:

“The threshold of existing use value, or existing use value plus a premium, may not be the best benchmark for testing viability in some land markets, particularly land currently in agricultural use. In these cases, because the value uplift resulting from a planning consent is much more significant than for urban sites, landowners (sic) expectations may be better benchmarked by a comparable or other assumed land value” (HCA, 2012: 5)
Almost simultaneously the RICS were also producing guidance on DVA. With regard to Threshold Land Value, the emphasis in this guidance was somewhat different to the Local Housing Delivery Group. The RICS guidance states that “site value should equate to market value subject to the following assumption: that the value has regard to development plan policies and all other material planning consideration and disregards that which is contrary to the development plan” and further that “site value … may need to be further adjusted to reflect the emerging policy/CIL charging level.” This is in recognition of the fact that more planning obligations and CIL will reduce land values.

The most recent guidance from the DCLG on the issue seems most aligned to the RICS approach but also contains similarly ambiguous guidance. After acknowledging that the assessment of land or site value is central to the consideration of viability, it is stated that whilst “… in all cases, land or site value should reflect policy requirements and planning obligations and, where applicable, any Community Infrastructure Levy charge … it should be informed by comparable, market-based evidence wherever possible.”

The main ambiguity is whether it is current or future planning requirements and obligations that should be reflected. The statement that they should be informed to market-based evidence would suggest that it is the former, raising the problem of circularity that plagues definitions of Threshold Land Value that are based on historic transaction evidence.

There would appear to be two issues of concern in relation to the concept of TLV; the way in which it is set and the level at which it is set. Getting these ‘wrong’ could manifest in two ways: an unexpectedly low number of development sites would come forward (i.e. land owners would be reluctant to sell) and marginal sites in particular would not come forward.
Table 1

<table>
<thead>
<tr>
<th>Appeal decision date</th>
<th>Appeal case Number</th>
<th>Address</th>
<th>Scheme</th>
<th>Issue [planning to viability]</th>
<th>Appraisal model</th>
<th>Handling of landowner’s return</th>
<th>Handling of developer’s return</th>
<th>Handling of input uncertainty</th>
<th>Decision and remarks</th>
</tr>
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<tbody>
<tr>
<td>2007 APP/ L810/ O/13/1361</td>
<td>Hampton Hill, Hampton.</td>
<td>2B retirement flats</td>
<td>Sufficient provision for AH. Planning policy requires 40% on site but offsite in exceptional circumstances (all subject to viability), and it was agreed by both parties that this case was an exception.</td>
<td>Three Dragons ToolIt</td>
<td>Both parties agreed that the land value input into the viability appraisal should be based on RLV. In this case the RLV was £2,820,000. The council argued that benchmark for the landowner’s return should be RLV and the appellant argued that it should be RLV+25%.</td>
<td>Both parties agreed on a residual approach that calculated the developer’s profit rather than land value. The resultant developer’s profit was 12.4% of GDV, considered to be lower than the benchmark 15% of GDV but acceptable in the case of a large scheme like this.</td>
<td>None</td>
<td>Appeal allowed. The inspector agreed with the appellant’s argument and offered of AH contribution. The benchmark was £3,525,000 (i.e. £2,820,000 + 25%). There was no hint of RLV ignoring the obligations being part of the argument for the 25%.</td>
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<td>2007 APP/ Y816/ A/07/ 2016787</td>
<td>Hayward depo, Dorking Rd, Dorking.</td>
<td>6 apartments and B Houses</td>
<td>Whether the scheme makes adequate provision for AH. The appellants offered 5 AH units (shared ownership). The LPA considers 6 as the right number but that 2 should be shared ownership and 4 social rented.</td>
<td>Not known</td>
<td>The main issue of contention between the parties relates to the MV of the site. A valuation in 2006 values the site between £600,000 and £700,000, much lower than the purchase price. There was no comparable evidence to support this valuation and there was evidence that the EUV of the site was much higher. Infinity Homes had a contract to purchase the site and their associated appraisal assumed 8 market units and 6 AH (social rented) units. The inspector preferred the MV submitted by Infinity Homes. The appellant used the acquisition price as an appraisal input so it was the benchmark. There was no comment on whether it disregarded the cost of planning obligations.</td>
<td>Developer’s profit was the output.</td>
<td>None.</td>
<td>The appeal was allowed. The inspector accepted the appellant Infinity Homes’s approach as it was more substantiated. High EUV affected decision, but no comment on whether the purchase price disregarded planning requirements.</td>
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<td>2008 APP/ U5360/ A/07/ 2059350</td>
<td>Lesney factory, Homerton Rd, London E1.</td>
<td>Mixed development including 202 dwellings</td>
<td>Whether the development makes sufficient provision for AH and other POs. Both parties agreed that the appeal scheme would not be sufficiently viable to allow AH provision.</td>
<td>Not known</td>
<td>EUV was used as the basis for the land price.</td>
<td>Developer’s profit was the output.</td>
<td>The inspector dismissed a viability model that was based on projected values.</td>
<td>None.</td>
<td>The appeal was dismissed. Too much was paid for site knowing planning obligations and the 50% London wide AH target.</td>
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<tr>
<td>2008 APP/ P3650/ A/07/ 2063055</td>
<td>Flambard Way, Godalming.</td>
<td>Large, mixed use residential (225 flats) and commercial development.</td>
<td>Whether the scheme makes sufficiently viable to provide 50% AH. The appellants argued that only 35% was viable. The local plan (which states the 50% target) had been adopted for almost a year at the time the site was purchased.</td>
<td>One party used their own Excel based model.</td>
<td>The LPA estimated the EUV of the site to be not in excess of £3,800k. Their consultant’s appraisal included 50% AH plus other policy-compliant POs in one model the purchase price (£3,576,000) was input as the land value and in another the land value was the output (which, it was argued, if found to be £1,350,000 (assuming no social housing grant), which was considerably higher than the EUV. The appellant argued (successfully) that EUV should be based on purchase price and that this figure should go into the appraisal as an input.</td>
<td>Developer’s profit was the output. 15% of GDV (20% of costs) was agreed as the benchmark. Both parties were anchoring to benchmarks adopted in area-wide viability appraisals and other anecdotal evidence. But they also both state that profit is dependent on the state of the market; the scheme and site.</td>
<td>With and without social housing grant.</td>
<td>Using an appraisal model where land cost went in as an input and developer’s profit was the output, the developer successfully argued that EUV should be based on purchase price. The inspector accepted that the price paid was relevant if the developer could prove that it was not excessive or over-inflated. Given that the site was sold by tender and other bids were close to the purchase price, the inspector accepted its relevance and set a contribution of 35% affordable housing rather than the policy requirement of 50%. So the price paid nine months before appeal was taken into account when assessing viability.</td>
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<tr>
<td>2008 APP/ O3110/ A/07/ 2070447</td>
<td>Jericho Canalside, Oxford.</td>
<td>54 dwellings (including 18 AH units) plus canal facilities.</td>
<td>Whether the scheme is sufficiently viable to provide 50% AH. The appellants argued that only 35% was viable. The local plan (which states the 50% target) had been adopted for almost a year at the time the site was purchased.</td>
<td>One party used their own Excel based model.</td>
<td>The LPA estimated the EUV of the site to be not in excess of £3,800k. Their consultant’s appraisal included 50% AH plus other policy-compliant POs in one model the purchase price (£3,576,000) was input as the land value and in another the land value was the output (which, it was argued, if found to be £1,350,000 (assuming no social housing grant), which was considerably higher than the EUV. The appellant argued (successfully) that EUV should be based on purchase price and that this figure should go into the appraisal as an input.</td>
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<td>Handling of input uncertainty</td>
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<td>2009</td>
<td>APP/02139/A08/2085226</td>
<td>67-73 Bath Rd, Longwell Green, Bristol</td>
<td>29 sheltered apartments.</td>
<td>Whether the scheme makes suitable provision for AH. Policy target was 33.3% affordable housing.</td>
<td>HCA Economic Appraisal Tool.</td>
<td>LPA argued that the scheme makes suitable provision for AH. Policy target was 33.3% affordable housing.</td>
<td>LPA argued that the scheme makes suitable provision for AH. Policy target was 33.3% affordable housing.</td>
<td>Parties agreed on-site AH.</td>
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<td>2009</td>
<td>APP/P165/A08/2082407</td>
<td>Land off Lydney Bypass and Highfield Road, Lydney.</td>
<td>Up to 750 dwellings, school, infrastructure and open space.</td>
<td>Amount of AH. Policy was 42%. Original proposal was 30%, later reduced to 13% given economic conditions but rising to 20% if grants could be arranged.</td>
<td>The service land cost (the estimated amount that a house-builder would pay for the serviced land) is then input into a house-builder appraisal. This is another simple equation that balances all of the house-builder’s costs: service land cost (SLC), building costs (BC), builder’s profit (BP), builder’s finance cost (BF) with houses sales revenue or gross development value (GDV). Anything left over would represent the amount of money available to pay for affordable housing (AH). So: SLC + BC + BF + P + PO = GDV (Equation 1)</td>
<td>The LA assumed a 20% return on costs as the benchmark. Appellant used current costs and the Council forecasted costs and values.</td>
<td>The Inspector dismissed the appeal and the SoS upheld this decision. The High Court subsequently rejected all grounds of a judicial review. The Inspector decided that, in multi-phase strategic sites developable over many years, forecasting is reasonable. Comment - The unimproved land cost was based on market evidence of land transactions where the land had been allocated for housing development and the prices paid would have reflected the requirement to pay planning obligations. Also, there seems little point in separating a DVA into two components. If we assume (as was the case in the DVS’s appraisal) that landowner’s profit and builder’s profit are the same percentage of costs (i.e. that LP and BF can be merged into a single profit on costs figure P) and that finance is available to the landowner and the builder at the same rate (i.e. that LP and BF can be merged into a single finance cost FC), then substituting equation 2 into equation 1 we get: ULC + IC + BC + FC + P* + PO* = GDV. *(Includes affordable housing) It can be seen that this is the standard residual DVA model.</td>
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<tr>
<td>2009</td>
<td>APP/G1450/A08/2084559</td>
<td>Maunsell House, 154-160 Croydon Road, Beckenham.</td>
<td>Change of use from office to residential - enlargement to comprise 55 dwellings, including 6 key worker and AH.</td>
<td>Whether the development is policy compliant concerning the provision of affordable housing or a payment in lieu thereof.</td>
<td>EUV was used as an input. The parties agreed on an RLV with no affordable housing (£2.773 million). b) The RLV with 35% affordable housing (£1.923 million) and c) the EUV of the site (£2.482 million). These agreed values determine that, without affordable housing, the scheme would yield margin below the EUV of 8% below the generally accepted margin necessary to induce such development to proceed. Self-evidently, with a 35% AH target, such a scheme must also be, in the view of the appellant, considered non-viable.</td>
<td>Developer’s profit was the output.</td>
<td>The Inspector accepted the principle of EUV. The Inspector considered a 20% uplift scenario as was reasonable in this case.</td>
<td>33.3% viability the proposal would allow a contribution of £115,000 (1 or 2 affordable units well below the target of 33.3%). The Council sought £421k based on previous appeal decisions. Decision - Purchase price not considered an appropriate land value input or benchmark. The appeal decision approved the methodology of current sales, costs and land values.</td>
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</table>
### Case Study Examples

#### Case 1: Financial Viability Appraisal

**Proposal:** A mixed development including 14 dwellings.

**Developer's Return:** £7.8m.

**Council's Return:** £7.62m (profit on costs).

**Conclusion:** The development was acceptable based on financial viability.

#### Case 2: Landowner Appraisal

**Proposal:** A development site for 300 homes.

**Developer's Return:** £13.25m.

**Council's Return:** £11.7m (profit on costs).

**Conclusion:** The development was not viable based on financial viability.

#### Case 3: Strategic Decision

**Proposal:** A mixed development including 14 dwellings.

**Developer's Return:** £10.75m.

**Council's Return:** £8.65m (profit on costs).

**Conclusion:** The development was viable based on financial viability.

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**Note:** These case studies illustrate the application of financial viability appraisal in planning decisions. The outcomes vary based on the specific circumstances and data used in the appraisal process.
<table>
<thead>
<tr>
<th>Appeal decision date</th>
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<th>Address</th>
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<tr>
<td>2009</td>
<td>APP/D3105/X/09/21006566/E660.663</td>
<td>Oxford Street, Woodstock.</td>
<td>30 dwellings plus health centre.</td>
<td>Issues include EUV and developer’s profit.</td>
<td>EUV + 10%</td>
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<td>Appeal refused but nothing to do with viability issues. It would appear that the development is not able to produce more than 17% profit on cost when the Inspector puts the best argued valuation case together with a land value of EUV plus 10%. As all of these parameters are well below most estimates of reasonable profit and uplift in EUV, the inspector didn’t really have to get into any arguments or decisions on what is reasonable.</td>
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<td>2009</td>
<td>APP/R1010/A/10/2473912</td>
<td>Field House Farm, Emmett Carr Lane, Renishaw, South Yorkshire.</td>
<td>19 dwellings on a green belt site.</td>
<td>Whether development is appropriate.</td>
<td>Residual</td>
<td>Profit at 25% of GDV made up of 15% developer’s return, 2% bank interest and finance, development company overhead at 7%, marketing 2%.</td>
<td></td>
<td>None</td>
<td>Dismissed as inappropriate development. This case is included in the schedule as it has an example of a residual valuation. Appellant’s valuation attached puts in a site value of £735,000 and a profit and then gets to residual of £705,000 which they attribute to the land costs. It is a bizarre calculation which does not get dissected.</td>
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<td>2010</td>
<td>APP/P0119/AO/2009/211044</td>
<td>Southmead Rd &amp; Gloucester Rd, Filton.</td>
<td>65 sheltered dwellings.</td>
<td>Methodology for assessing commuted sum.</td>
<td>Assessed based on perceived market evidence of land values.</td>
<td>17% GDV</td>
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<td>Appeal allowed. The Council’s argument that land value evidence reflected obligation for AH provision and so should be inflated to allow 100% market housing value was rejected.</td>
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<td>2010</td>
<td>APP/R1805/A/09/2113788</td>
<td>Former Rochie buildings, Broadwater Road, Welwyn Garden City.</td>
<td>207 unit residential scheme with affordable housing.</td>
<td>The LPA policy was a mix of 30% AH and 35% in the area in which the site was located. The LPA argued for 67 AH units (30%) including 43 sited关联 and 13 shared ownership units. The appellants submitted an application with 14 social rented units, a £108 financial contribution and additional money via an escalator mechanism should GDV increase by 8%.</td>
<td>Three Dragons Toolkit</td>
<td>Both parties used price paid for the site. The Inspector repeated that the correct approach was current value and not price paid, reiterating that the developer carries the risk, not the local authority.</td>
<td>The parties disagreed on developer’s return (15% of GDV assumed in 3D Toolkit, 17% GDV proposed by appellant). The appellants held land value (i.e. price paid for the site in this case) constant and input was profit relative to different amounts of AH. The parties argued about internal overheads involved since site purchase, interest rate 7% (assumed in 3D Toolkit but 9% proposed by appellant) and abnormal costs.</td>
<td>An escalator mechanism was proposed. Increases in GDV would be shared between developer and LPA 50/50 with the LPA’s share paid as a commuted sum capped at £1,604,941.</td>
<td>Appellant argued land value used in the Council’s appraisal, 17% GDV. Appeal allowed. The Council’s argument that land value evidence reflected obligation for AH provision and so should be inflated to allow 100% market housing value was rejected.</td>
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<tr>
<td>2010</td>
<td>APP/N1215/AO/2009/2117135</td>
<td>Former Royal Hotel, Newbury, Dillingham.</td>
<td>Viability</td>
<td>Methodology</td>
<td>HCA appraisal tool</td>
<td>20% of what is not made clear.</td>
<td>Appeal allowed. The Council argued that site-specific inputs should be used in the appraisal but the Inspector felt that this would compromise commercial confidentiality and so generic inputs should be used.</td>
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<td>2010</td>
<td>APP/D0713/A/10/2173485</td>
<td>1 Learning Lane, Leeming Bar, Northallerton.</td>
<td>Viability</td>
<td>Methodology</td>
<td>Market evidence &amp; profit levels.</td>
<td>Profit level at 15% based on net market evidence accepted</td>
<td>Appeal dismissed.</td>
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<td>2010</td>
<td>APP/E1900/A/10/2117467</td>
<td>Sun Wharf, 212 Old Ford Road, London.</td>
<td>141 dwellings plus ancillary space.</td>
<td>Appellant proposed 17% AH (by habitable rooms). During the appeal this changed to a baseline 21% AH up to a max 35% with a two-stage cascade mechanism.</td>
<td>Three Dragons Toolkit</td>
<td>The benchmark land value approach is the point of contention between the parties. The appellant’s figure of £9.3m is a deflated adjustment of the £13m acquisition price, a figure far higher than current EUV (£3.3m). When the EUV is used in the Council’s appraisal, the RVL is £6.3m and 35% AH is viable.</td>
<td>17% GDV on main development, 6% on affordable housing.</td>
<td>Appeal dismissed. The inspector felt, under the appellants’ approach, market movements were being used to determine the amount of AH and this was not acceptable. The decision confirmed Clay Farm &amp; Welwyn Garden City appeals approach and that purchase price was only to be considered as contextual information.</td>
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### Table: Financial viability appraisal in planning decisions: theory and practice

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<td>2011</td>
<td>Former Victoria and Eli Lily Sites, Kingsclere Road, Basingstoke, RG21 5AX</td>
<td>Not an appeal. Assessment for a college of technology and 499 residential units.</td>
<td>Argus used by developer using residual and also cash flow function.</td>
<td>Developers paid the equivalent of £23.6 million for the residential component in 2007 assuming 35% AH. Developers now estimate that if 25% grant aid AH and £1 in other Sec 106 payments, worth only £18.34 million. Suggested that the £23.6m was an appropriate benchmark value as the EUV on purchase. Used residual to show that it was not viable to give total amount of AH. They use 10% of costs and 8.84% on value to show that if the LPA would agree to 25%, the developer is taking a hit as well.</td>
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<td>2012</td>
<td>APP/ R10830/ Q/11/ 2163378</td>
<td>Abbey Nurseries, Abbey Road, Rhuddlan, LL18 5RJ.</td>
<td>Residential development of 38 units – 10 houses, 8 town houses and 2, 10 unit apartments.</td>
<td>Appeal against original permission which asked for 3 of the apartment units to be AH. Now unviable to provide the AH.</td>
<td>No information but assume they used original purchase price but as profit the residual and the nature of the appeal, it would have been original purchase price.</td>
<td>Appellant argued that existing prices now only enabled them to make a profit of 13.1% if AH provided against an original target of 30%. LPA argued for higher apartment values and that it still gave 17.6% on costs.</td>
<td>Inspector refused to accept that the 20% return on cost at the outset should be used as a benchmark when the development was well under way as this one was. Similar to the cases that refuse to use price paid in that it transfers risk to the LPA away from the developer.</td>
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<td>2012</td>
<td>APP/ J0373/ A11/ 2168756</td>
<td>Runnell Farm, Chapal Road, Blackpool.</td>
<td>Residential development of 63 dwellings.</td>
<td>Appeal based on delay in LPA coming to a decision.</td>
<td>Development viability assessment had been carried out in 2014 under grounds that viability had changed and valuations produced to that agreed POs were affordable at the time.</td>
<td>Return on costs and GDV at 20%/25%.</td>
<td>Viability is not an issue yet – The appeal was allowed and permission granted including the provision for Sec 106 payments over £2 million.</td>
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<tr>
<td>2012</td>
<td>2173598</td>
<td>St Edmund’s Terrace, London.</td>
<td>Three linked residential sites.</td>
<td>Trying to get around the sliding scale of AH by claiming the site separate. Some discussion of AH and viability.</td>
<td>RUV was the output benchmarked against EUV. Finding, as with Poplars Business Park, that the EUV much higher than residual site value. But not clear whether RSV was including or excluding policy based obligations.</td>
<td>All experts assumed MV as the benchmark land value set against EUV or just EUV. One expert stated that the comparables for MV must be looked at carefully for the level of AH assumed. They then use that evidence to get to a site value for the Poplars BP that doesn’t justify policy statement levels of AH.</td>
<td>Appeal granted with no AH provision. The Residual Land Value is compared with the benchmark. To show a viable development, the residual land value needs to be above the site value. Taking the appellant’s £24.25m site value, or even a reduction in this for the uncertainties discussed in the case, but not below the £1.3m figure of the alternative use value, gives a negative figure for P0s, and by a significant margin. Affordable housing provision is not viable.</td>
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<td>2012</td>
<td>APP/ J5900A/ 2178920</td>
<td>Poplar Business Park.</td>
<td>392 dwellings, 8,000 sqft light industrial and 36,000 sqft offices plus ancillary space.</td>
<td>Target was 35% AH. Appellant showed that the scheme could only support 13% (by area) AH. LPA showed that 25% (measurement unknown) was viable. LPA refused 15% offer, Appellant subsequently offered 28% (by habitable rooms) by lowering their profit margin.</td>
<td>LPA used the 3D toolkit. Appellant used ProDev. Argus was also used by experts of both parties.</td>
<td>All experts either assumed MV as the benchmark land value set against EUV or just EUV. One expert stated that the comparables for MV must be looked at carefully for the level of AH assumed. They then use that evidence to get to a site value for the Poplars BP that doesn’t justify policy statement levels of AH.</td>
<td>All experts assumed 20% GDV for MH, one assumed 15%, another 6% and the third one 7% for AH.</td>
<td>Appeal granted at 20% AH and 50% agreed.</td>
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**Continued**
### Table: Financial Viability Appraisal in Planning Decisions: Theory and Practice

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<td>2012</td>
<td>APP/ X0380/ A/12/ 2179/41</td>
<td>The Manor, Shinfield, Reading.</td>
<td>126 dwellings</td>
<td>Amount of affordable housing. LPA seeking 40% of the additional new dwellings to be affordable (in line with policy) plus £2,028,920 in developer contributions. The appellants asserted that a maximum of 9% was viable plus £2,312,568 in developer contributions.</td>
<td>LPA expert used Argus Developer.</td>
<td>The LPA estimated EUV/AUV to be £2,335,000 and the appellants calculated it to be £2,425,000 based on the site’s EUV for storage with no hope value for residential development. LPA relied upon a valuation based on a substantial office scheme on the appeal site. This was based upon the outline planning permission for offices on the site in 2003 that was renewed in 2008 but which has since lapsed. The appellant sought a TV of £4,750,000, which is roughly the mid-point between the EUV and RLV assuming planning permission for housing but no obligations. The LPA considered that EUV of £1,865 would ensure a competitive return. The LPA’s estimate of RLV (assuming policy compliant PDs is 40% AH and £2,185,293 in contributions) was £895,000. The appellant’s estimate was £2,109,055 less 20% to £1,688,000 to reflect the risk of purchasing a site without planning consent.</td>
<td>Appealed</td>
<td>No indication of any forecasting or sensitivity analysis.</td>
<td>Appeal allowed. The Inspector comments on the inappropriateness of using purchase price and the clear viability of the site. But it appears despite the finding that it is not the job of the planning system to protect the landowner developer against market changes, that is precisely what the inspector does in this case because it becomes clear the appellant will not bring the land forward unless he gets some of the losses back from what appears to be a straightforward poor investment decision.</td>
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<td>2013</td>
<td>APP/ C2791/ A/12/ 216 2160H5/0 6756</td>
<td>Water way, York. Development within Classes B1c, C1, C2 and D1 of Use Classes Order plus parking and new access arrangements.</td>
<td>151 dwellings</td>
<td>What level of affordable housing provision, if any, would be appropriate were a new planning permission to be granted to replace the planning permission granted on appeal.</td>
<td>Inspectors adopted an approach that took account of the existing use value which was assessed at around £1.3 million and a residual site value including 25% AH at around £3.9 million. The inspector concludes that the viability assessment shows that the site is perfectly capable of delivering 25% AH and being viable.</td>
<td>Appeared to accept Appellant’s 20% return on costs.</td>
<td>Appeal allowed. The Inspector comments on the inappropriateness of using purchase price and the clear viability of the site. But it appears despite the finding that it is not the job of the planning system to protect the landowner developer against market changes, that is precisely what the inspector does in this case because it becomes clear the appellant will not bring the land forward unless he gets some of the losses back from what appears to be a straightforward poor investment decision.</td>
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<td>2013</td>
<td>APP/ W1345/ 0/13/ 2004/429</td>
<td>Former Holsworthy Showground, Trewyn Road, Holsworthy.</td>
<td>151 dwellings</td>
<td>40% promised in 2010; 20.5% now sought under section 106BC. AH target was 40% but parties agreed the scheme wasn’t viable at this level now. Appellant proposing 20.5% reducing AH content from 60 to 31 homes and other amendments. The LPA argued for 55 affordable homes.</td>
<td>Appellant used Argus.</td>
<td>The benchmark land value was comparable land sales in the locality.</td>
<td>Appellant suggested a developer’s return of 20% on market and AH and the LPA 17.5%. The 20% GDV assumed by the appellant equated to an IR of 43% (but this dropped to 26% in a revised appraisal).</td>
<td>Appeal allowed. The Inspector comments on the inappropriateness of using purchase price and the clear viability of the site. But it appears despite the finding that it is not the job of the planning system to protect the landowner developer against market changes, that is precisely what the inspector does in this case because it becomes clear the appellant will not bring the land forward unless he gets some of the losses back from what appears to be a straightforward poor investment decision.</td>
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<td>2014</td>
<td>2007462</td>
<td>Mast Pond, What?, Wolswich.</td>
<td>16 storey 100 unit proposal increased by 7% in 2012 to assist affordable provision.</td>
<td>AH provision – zero provision sought under section 106BC within redevelopment scheme of the South East London Aquatic Centre site.</td>
<td>LPA sought 20 affordable homes in the original permission. Developer now asking for the complete removal of the affordable housing element, which it said would result in a profit margin of ten per cent. The inspector agreed and removed provision.</td>
<td>LPA sought 20 affordable homes in the original permission. Developer now asking for the complete removal of the affordable housing element, which it said would result in a profit margin of ten per cent. The inspector agreed and removed provision.</td>
<td>No indication of any forecasting or sensitivity analysis.</td>
<td>Appeal allowed. The Inspector comments on the inappropriateness of using purchase price and the clear viability of the site. But it appears despite the finding that it is not the job of the planning system to protect the landowner developer against market changes, that is precisely what the inspector does in this case because it becomes clear the appellant will not bring the land forward unless he gets some of the losses back from what appears to be a straightforward poor investment decision.</td>
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<td>2014</td>
<td>2207560</td>
<td>279 Kings Road, London</td>
<td>Mixed use retail residential and cinema.</td>
<td>Adequate contribution toward affordable housing based on differences within 7 valuation model inputs.</td>
<td>No idea from the appeal report.</td>
<td>The LPA assessment of the market value of the site was based on other comparable land transactions in the vicinity, and was clearly compared to a commercial investment property EUV.</td>
<td>Appellant – original DVA adopted a 22.5% profit on cost residential and 15% profit on cost commercial. This was updated in December 2013 to 20% on cost residential and 15% commercial. The final update was to 20% on speculative commercial. LPA provided evidence of a cinema-led scheme at 10% on cost. LPA suggested 15% speculative commercial, reducing to 10% for pre-lets. Both parties must have agreed residential profit level.</td>
<td>Appeal dismissed. Developer must abide by section 106 agreements. This was a pure valuation dispute on residual valuation inputs.</td>
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<tr>
<td>2014</td>
<td>2207649</td>
<td>Moss House Road, Marton Moss, Blackpool, FY4 5JF</td>
<td>Viability; direction of residential development: 584 dwellings.</td>
<td>Appeal (also relevant to former decision Number 21) – Application to change the agreed level of off-site AH provision due to reduced viability between 2012 permission and present.</td>
<td>Residual valuation</td>
<td>Appellant uses land costs to show that residual profit levels have fallen from 6.66% on GDV and 6.69% on costs to 4.7% and 4.78% respectively, even if POs fall from £14,720,000 to £9,441,781 million for Moss House Road. The land costs appear to be related to price paid while the LPA expert uses a full profit to determine a RLV of £7.85 million, assuming the original level of planning obligations.</td>
<td>LPA assumes 20% profit on GDV/25% on cost appropriate. Appellant uses residual profits to show reduced viability. Agreed 16.8% on GDV appropriate.</td>
<td>No forecasting or sensitivity analysis in the valuations.</td>
<td>Inspector allowed the appeal. It was agreed that changes in the planning permission have reduced the viability. The two parties agreed a profit of 16.8% on GDV and inspector confirmed that amount. AH content reduced to just over £5m.</td>
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<td>2014</td>
<td>2209347</td>
<td>King St, London</td>
<td>Affordable housing.</td>
<td>Whether or not the proposed development should include an element of AH.</td>
<td>Various residual and existing use valuation models.</td>
<td>“Base land value” in dispute. Appellant valued at £12m using MV which was EUV with no hope value for development. The appellants had purchased the site for £11.05m in 2013 and received two offers in 2014 (£12m and £13.25m). LPA used RLV assuming 40% AH at £3m. LPA assessed MV at £7.68m.</td>
<td>Appeal decision silent on profit as the main area of dispute is the market value of the site by comparison. Some inflation was allowed in the residential sale prices used.</td>
<td>The inspector takes the evidence of the appellant which suggests that the base land value is market value and subsequently decides that no AH is appropriate.</td>
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9.0 Acknowledgements

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