



North Essex Authorities (NEAs) Section One Shared Strategic Plan

Viability Technical Seminar

Explanatory Paper

December 2019

North Essex Authorities Viability Explanatory Paper

1. Overview

- 1.1 The Inspector has requested further information on the approach to calculating the Internal Rate of Return that has been undertaken as part of the Viability Assessment Update (VAU, EB/086).
- 1.2 The approach in the VAU on this matter is explained over paragraphs 4.39-4.45 of the VAU. The respective IRRs for each scenario test are presented alongside the residual land value outcomes in Section 5 of the VAU, and recalculated in light of certain amended assumptions in the VAU Supplementary Information (EXD/058).
- 1.3 The key points set out in the VAU that have informed the approach are:
 - The use of the IRR metric is considered to be an acceptable and appropriate mechanism to consider the viability of the Garden Communities (GCs) through a discounted cash flow approach.
 - The use of the IRR approach is an established method for considering viability for planning purposes and has been applied elsewhere (albeit not as part of testing the soundness of Local Plans).
 - The IRR calculations have been derived from and are consistent with the modelling approach, scenarios and assumptions included in the VAU. It illustrates the equivalent IRR based upon the specific models as set out in the VAU and requires no additional assumptions.
- 1.4 The IRRs are presented for each scenario, The VAU explains further how in practice there would be a commercial agreement between master developer, investors and landowners which would define any specific distribution of returns between the parties, especially under scenarios that may generate high residual land values (such as the inflation scenarios).

2. Discounted Cashflow Approaches

- 2.1 Discounted Cash Flow (DCF) analysis is a financial approach to valuing a project, company, or asset using the concepts of the time value of money. It is used in investment finance and corporate financial management.
- 2.2 The use of metrics such as the Internal Rate of Return (IRR) and the Net Present Value (NPV) are both types of discounted cash flows analysis. Both approaches include taking estimated future payments from a project and discounting them into a Present Value (PV). The difference between the NPV and the IRR is that the NPV shows a project's estimated return in monetary units at a defined point in time and the IRR reveals the percentage return needed for a project to break even. In fact, the IRR is the return needed for the NPV to be zero. Both the tools are acceptable methods of assessing discounted cashflows. In summary:
 - The NPV is the sum of the present values of all cash flows on the project, including the initial investment, with the cash flows being discounted at an

appropriate discount rate. Depending on the context of the specific project, if the NPV is above zero, then it is be considered viable.

- The IRR is the discount rate that sets the net present value equal to zero. It is the percentage rate of return, based upon incremental time-weighted cash flows. If the IRR is above an appropriate (hurdle) rate then it can generally be considered viable.

2.3 Whilst the approach may be common across the financial sector, instances of its application as part of the planning viability process in the planning system are limited. Care is needed not to simply transfer the consideration of the topic from one financial sector or market to another, as such markets and sectors will have different approaches and considerations.

3. Use of Discounted Cashflow approach in Planning Viability

3.1 The Internal Rate of Return (IRR) calculation has been applied on several long-term phased developments primarily in London as part of assessing scheme viability. It has been considered at development management stage related to discussions on scheme viability and as part of negotiations on planning obligations. Due to its application in London, it has been referred to within several planning guidance documents notably the London Boroughs of Islington and Southwark Supplementary Planning Documents on development viability (both produced in 2016), and the Greater London Authority Supplementary Planning Document relating to Affordable Housing and Development Viability (2017). Extracts from these planning documents where the approach is referred to are included at Appendix A of this note.

3.2 All of these recognise that the residual land value approach will be the standard and commonly applied approach, but that the Councils may consider IRRs as an alternative approach. None refer to the use of the NPV approach as suggested by Mr O'Connell and CAUSE.

3.3. The use of IRR as an alternative approach was referred to in the initial practice RICS guidance note (Viability in Planning, RICS, 2012). This includes commentary relating to refinements to the traditional residual valuation methodology to consider potential alternative approaches. The guidance refers to such approaches more commonly assessing the viability of a project before consideration of funding & finance, thus enabling the impact of financing on return to be assessed separately. It sets out that a scheme's cash flow (including land price but excluding financing costs) can be discounted at an appropriate rate which can establish a zero Net Present Value (NPV). It refers to this discount rate representing a scheme's IRR which can be compared with the required rate of return.

3.4 The RICS defines the key terms in the 2012 note thus:

- Net present value (NPV): The sum of the discounted values of a cash flow, where each receipt/payment is discounted to its present value at a discount rate equal to a target rate of return or cost of capital.

- Internal rate of return (IRR): The rate of interest (expressed as a percentage) at which all future cash flows are discounted in order that the net present value of those cashflows, including the initial investment, would equal zero. It is found by trial and error by applying present values at different rates of interest in turn to the net cash flow. It is sometimes called the discounted cash flow rate of return. In development financial viability appraisals the IRR is commonly, although not always, calculated on a without-finance basis as a total project IRR.

3.5 Furthermore, the RICS study paper 'Financial Viability Appraisal in Planning Decisions – theory and practice', makes reference to the role of discounted cash flow approaches, as set out below.

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 [Development Viability Appraisals] 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.

Source: Financial Viability Appraisal in Planning Decisions: Theory and Practice (RICS, April 2015)

- 3.6 The approach to assessing viability through the use of a discounted cash flow approach can therefore either involve consideration of a scheme NPV (through consideration of an appropriate discount rate), or through the calculation of the project IRR.
- 3.7 Any DCF approach will be highly sensitive to the timing of costs and revenues. Small changes to the development programme and timing of scheme costs and revenues can have a large impact on the calculations and can distort the actual potential return. This situation should be expected for long term schemes where detail around specific timings may not be fully

certain at early planning stages and need to be based upon the best available assumptions. It is for this reason that some of the London Boroughs who have experience of the use of an IRR approach when determining development viability as part of the planning process consider it with some caution. For example, high costs can be presented earlier in calculations than they may actually occur or returns spread out longer into the future which can distort and push down a scheme IRR.

3.8 In addition to the highly sensitive nature of the approach to the timings of costs and values, the DCF approach has wider considerations and complexities. For example, it cannot differentiate between target returns on the various components of a scheme; for example, private and affordable housing and mixed-use development, which, conventionally will attract markedly different levels of risk and profit expectations.

3.9 Overall, the consideration of an IRR can be useful as a further measure of viability. It has been considered as an acceptable metric in practice. Across London, the Councils with experience of the approach generally require viability to be tested via traditional residual valuation methodologies rather than relying on an IRR approach alone.

4. Approach to the IRR calculations in the VAU

4.1 The approach set out in the VAU considers the viability of each Garden Community primarily through the residual valuation methodology, but also to present the respective IRRs for each scheme under each separate scenario.

4.2 The IRRs are derived from the cashflows of all costs and values and based upon all the assumptions and figures in the VAU. This includes the calculations of residual land values, profile of land purchase costs and application of finance costs. Where the scenarios generate different residual land values and associated finance costs, these are included in the IRR calculations to maintain consistency, and to avoid the need to apply any different or additional assumptions (such as any different land value figure or timing of land purchases).

4.3 The VAU includes an allowance for masterdeveloper profit to recognise that such a return is likely to be required for a specific body that would be responsible for funding and delivering strategic infrastructure. When considering an IRR as the metric of return, the approach in the VAU has been to consider this masterdeveloper profit as an element of the overall return to the body responsible for funding and delivery and therefore should form part of the IRR calculation.

4.4 The IRRs are calculated excluding finance costs and master-developer profit, to combine these into an overall consideration of return. Given that the core methodology is based on a constant assumption on scheme finance costs (at 6%) and masterdeveloper profit (at 15% of relevant strategic costs), then once these are excluded and the IRRs calculated, the resulting values are similar and slightly above the previous finance rate. The values do differ slightly as they are influenced by the actual timing of costs and returns in each cashflow.

- 4.5 Mr O'Connell indicates that Hyas has confused profit with the cost of financing and considers the masterdeveloper profit as a return that will need be payable in any event to someone.
- 4.6 The NEAs disagree with this assertion. There is no confusion in the Hyas work. The two items are separate in the modelling and the approaches explained in the original viability work (EB/013) and VAU (EB/086 paragraphs 4.23-4.27). As set out above, the two items are both elements of a consideration of 'return' and where the analysis is amended to reflect an assessment of an overall return, such as through the consideration of a scheme wide IRR, then both elements will be relevant.
- 4.7 The strategic infrastructure costs included in the work reflect tender prices which include (all in) contractor costs and therefore there is no specific need for any additional separate profit to be included in the models. This is a standard approach to the costing of strategic works and their inclusion in viability assessments. No separate profit allowance is normally included on strategic infrastructure costs, as the profit is generally only applied to the overall Gross Development Value. The only reason for its inclusion in the VAU modelling has been to recognise that a masterdeveloper is anticipated to be involved in sites such as the GCs and that (through a residual land value approach) an allowance should be included. It is reasonable to include this allowance as a defined profit on cost or return metric.
- 4.8 However the masterdeveloper body will be responsible for funding and delivering the strategic works and therefore would consider their returns in the round. If the consideration is to be based upon the overall IRR, it should encompass all the 'return' that would accrue to them. The IRR calculation should therefore relate to the finance costs as well as and any other returns that the modelling was generating to such a body.
- 4.9 Mr O'Connell also considers that land acquisition costs should be excluded, and that the DCF approach should be applied to calculate an NPV of the overall cashflow. Mr O'Connell goes on to describe matters such as Net Asset Value, Debt Value and Enterprise Value. Mr O'Connell goes on to assert that no investor would contemplate such projects. It will be for the Technical Seminar to review such matters in a proportionate manner and enable rounded conclusions to be drawn on the reasonableness of such a position.
- 4.10 The NEAs continue to support the general approach of the VAU, the core methodology of which itself is consistent with and supported by other respondents who are involved in land development and viability appraisal. There will undoubtedly be wider influences and considerations on scheme funding and financing, and the overall economic context will change over time. The sites are being actively supported by a range of parties who believe the schemes to be viable, deliverable including the ability to secure funding. This includes well experienced property advisors and active developers.
- 4.11 There are various approaches that can be deployed when assessing viability. As set out in the VAU, representations, Hearing Statements and other viability modelling prepared by a number of property advisors, the residual land value

approach is a well understood and accepted approach in the planning system. Such methodologies have formed the basis of Local Plan examinations across the country, and none have been found unsound due to the use of that methodology or lack of the application of discounted cash flow methodologies.

- 4.12 Mr O'Connell and CAUSE suggest that the NPV method should be applied. This requires a defined and agreed discount rate. This can be difficult to derive as there may be different opinions and influences on what rate may be appropriate. This is true in the context of the representations on the VAU and debate on scheme financing as set out by Mr O'Connell and CAUSE and to be debated at the Hearing Sessions. The application of the IRR method does not require debate or agreement around an initial assumption, since the rate of return is simply derived from the underlying cash flows.
- 4.13 The application of the NPV methodology as set out by Mr O'Connell and CAUSE are based upon the conversion of the cashflow to generate an NPV that could be considered to be available for land purchases. CAUSE suggest this is a simple calculation. Part of this simplicity is that it does not include any consideration of the phasing (or scale) of any specific land purchases. It assumes that all land value is considered at a defined date. In the material submitted by CAUSE the assumed date of this (relating to their consideration of the Colchester Braintree Borders GC) is 2020. This is 8 years in advance of any housing delivery from the site.
- 4.14 The approach is inconsistent with the VAU assumption on a rolling programme of land purchases. This assumption is addressed through Matter 7 Question 7, and the commentary set out in the NEA Hearing Statement paragraphs 7.7.1-7.7.9. This sets out the position of the NEAs, and the relevant statements made by other representations on this matter.
- 4.15 The NEAs would suggest that it is not the consideration of IRRs per se that Mr O'Connell and CAUSE indicate to be inappropriate or irrelevant, it is actually the position on two key assumptions:
- The appropriate discount rate to be applied (and the relationship to an assumed finance rate);
 - The timing (and scale) of land purchases.
- 4.16 The appropriateness of the finance rate will be considered during the Matter 5 and Matter 7 hearing sessions. The NEAs would reiterate that it is common practice in viability assessments to assume all-debt financing, i.e. all development costs are financed by borrowing. This is a simplified approach which avoids the complexity of assessing alternative approaches to scheme funding and financing which cannot be fully known at an early stage. It is common practice and an accepted approach at all Local Plan examinations.
- 4.17 The appropriateness of the timing of land purchase will be considered during the Matter 7 hearing session. The NEAs would reiterate that the scheme would be delivered through phased purchase of land, at defined minimum payments. This limits the appropriateness and compatibility of calculating an equivalent NPV, as it would not indicate the actual modelled land payments.

Appendix A: Extracts from Supplementary Planning Guidance/Documents

Council / Policy	Reference
Greater London Authority. Homes for Londoners Affordable Housing & Viability SPG (2017)	3.36 The Mayor will normally consider profit as a factor of gross development cost (GDC) or gross development value (GDV). An 'internal rate of return' (IRR) approach of measuring profit, which is associated with a long-term development programme and assumed growth in values and build costs, is sensitive to the timing of costs and income. If IRR is relied on a full justification must be provided for the assumed development programme, the timing of cost and value inputs and the target IRR. Where this is the case profit should also be considered as a factor of GDC and/ or GDV
London Borough Viability Group London Borough Development Viability Protocol (November 2016)	7.3 Authorities will normally consider profit as a factor of gross development value (GDV) and / or gross development cost (GDC). An 'internal rate of return' (IRR) approach of measuring profit, which is associated with a long-term development programme and assumed growth in values and build costs, is sensitive to the timing of costs and income. If IRR is relied on a full justification must be provided for the assumed development programme, the timing of cost and value inputs and the target IRR. Where IRR is used as a measure of profit, authorities may also consider profit as a factor of GDC/GDV.
London Borough of Southwark. Development Viability SPD (March 2016), Appendix 2: Financial Viability appraisal inputs	We would expect schemes to demonstrate profit on cost and profit on value. The council will take Internal Rate of Return (IRR) into account if requested by the applicant, provided the development programme and timings of costs and values are fully justified.
LB Islington Development Viability Supplementary Planning Document (January 2016)	<p>6.36. An alternative approach that has been applied on some longer term and phased developments is the use of Internal Rate of Return (IRR). This is a metric for measuring scheme viability which is typically used to provide a time weighted measure of an investment' s return to help determine whether to commit investment capital.</p> <p>6.37. IRR is a different measure of profit from an assessment based on profit as a percentage of GDV or GDC. The two should not be treated interchangeably although both approaches are sometimes undertaken. The IRR approach is driven by scheme cash flows and is highly sensitive to the</p>

timing of costs and revenues. Small changes to the development programme and timing of scheme costs and revenues, which may be uncertain at planning stage, can have a large impact on IRR. As such, depending on the quality of information available, the use of an IRR approach when determining development viability as part of the planning process has the potential to be more unstable.

6.38. In some viability appraisals that the council has reviewed, it has been found that development costs have been assumed to occur at an unrealistically early stage in the programme while income has been received later than would reasonably be expected. This has led to the result that when the IRR has been calculated it is shown to be disproportionately low, as values have been artificially postponed and costs front loaded, maximising the negative impact on IRR.

6.39. The council has also dealt with schemes where a target IRR has been adopted that it considers has not been adequately justified in view of market conditions and the scale and risk profile of the development.

6.40. Where a development programme and the timing of costs and income are uncertain or likely to change, this approach is likely to be less reliable. If an applicant considers that the IRR provides useful information for assessing development viability, alongside profits on costs/values it is particularly important that a full justification is provided for the assumed development programme and the timing of cost and income inputs.

6.41. As the decision-making authority, the council has no means of control relating to timing of the development programme which could have a significant bearing on the outcome of an IRR based approach. As such, the council will only rely on IRR as a measure of profit if it is satisfied that the development programme, timing of cost and value inputs and target IRR have been fully justified and are reasonable. In these cases, the council will also consider profit as a factor of GDC/ GDV alongside IRR.