

April 2017

North Essex Local Plans (Section 1) Viability Assessment

Main Report

Table of Contents

	Page
1.0 Introduction	2
2.0 National Policy & Guidance	6
3.0 Local Policy & Delivery Considerations	12
4.0 Approach & Methodology	16
5.0 West of Braintree Viability Assessment	28
6.0 Colchester Braintree Borders Viability Assessment	31
7.0 Tendring Colchester Borders Viability Assessment	34
8.0 Conclusions	37

A separate appendix provides further information relating to:

- *Illustrative Viability Appraisals for each site*

The viability assessment work undertaken as part of this study provided "as is" without warranty of any kind. In no event shall the authors or publishers be liable for any claim, damages or other liability, whether in an action of contract, tort or otherwise, arising from, out of or in connection with, or the use of information set out in this study. The assessments are not intended to replace other viability assessment work required for valuation, compensation or wider purposes. The assessments are not formal RICS 'Red Book' valuations or should be relied upon as such.

1. Introduction

1.1 Context

Understanding the viability of development is an important requirement of the planning system. It is a key factor in the overall assessment of the deliverability of plans and planning policies.

Critical to determining financial viability is the vision of the place that is to be created, the land use policies that set out acceptable land uses together with the associated infrastructure requirements. Key stakeholders must have a good understanding of the cost and value implications of decision making from an early stage.

This is particularly important in relation to the largest and most strategic sites such as the proposed Garden Communities across North Essex, as these sites will be of key significance in addressing future housing needs, as well as creating quality places for the future.

This report has been prepared to test the viability of policies as set out in the (strategic) Section 1 of the Braintree, Colchester & Tendring Local Plans, in line with the requirements of the National Planning Policy Framework ('NPPF') and other key guidance and best practice in relation to plan making and viability. As the Local Plan Section 1 identifies 3 strategic sites to be brought forward as Garden Communities, this study focuses upon a viability assessment of each of the sites as the prime spatial aspect of Section 1.

Given the early stage of concept evolution of each of the proposed Garden Communities, this is a strategic study, which in line with established policy & guidance is proportionate and pragmatic in its approach. The Garden Communities subject to this viability assessment are still in early stages of their design, and more detailed proposals will evolve through further processes.

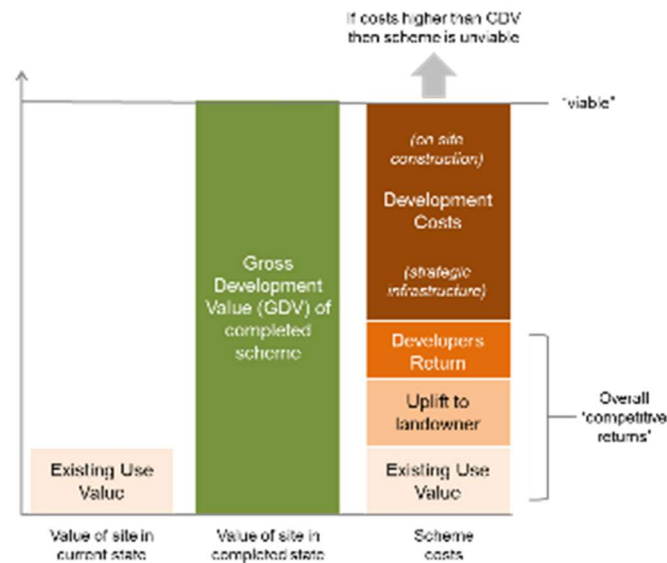
The assessments draw upon a range of data sources and assumptions and therefore present a general consideration of viability based upon the best available evidence. They examine the viability of initial concepts together with sensitivity and scenario testing to provide a broad overview of viability under alternative circumstances.

In light of the anticipated long lead in times, the sites are not anticipated to deliver development within the first 5 years of the Local Plan period. They have therefore been considered in terms of their overall 'developability', and related confidence in terms of delivery recognising that proposals are at a relatively early stage in their evolution.

Central to the methodology and approach applied through this study is the concept of residual land value. Residual land value is the value that can be attributed to land, after the total cost of construction and development activity, including all associated costs (fees, profits, finance, contingency, etc.) is deducted from the end value. When the residual land value is equal or above that deemed sufficient to provide a competitive return to sufficiently incentivise landowners and developers, the project can be considered to be 'viable'.

Figure 1.1 sets out an overview of the key cost and value components and relationship to viability.

Figure 1.1 Overview of viability



The results of this study provide suitable evidence inform policy development notably in relation to the consideration of affordable housing and other policy requirements, but do not bind the Councils to adopt the results or follow the guidance in relation to specific or individual sites.

1.2 Scope of this Assessment

This report provides evidence of the position of the sites in terms of viability and presents the following key information:

- An overview of national planning policy and guidance relevant to this study;
- The local policy context and broad approach being considered in relation to scheme delivery;
- The approach to cross cutting assumptions used in the viability assessments;
- Description of the individual Garden Community sites, the nature of development tested and site specific factors that have formed the basis of assessments;
- The results of the viability assessments comparing end values against project costs, to provide an overall assessment of viability.

1.3 Report Structure

The Report is presented in several chapters across 2 volumes:

- Main Report (this report): to set the context to the study, its relationship to national & local policy, the approach taken and key findings;

- Appendices: More detail on assumptions and sources alongside an illustrative full cashflow appraisal for each site;

1.4 Relationship to other evidence studies

This report draws from a broad range of information and technical studies prepared as part of the wider evidence base for the Local Plans. Such studies provide the underpinning data and assumptions which form the basis of the viability assessments undertaken as part of this study. The following studies are particularly significant:

- The **Garden Communities Concept Feasibility Study** (AECOM & Cushman & Wakefield, 2016). This study provided broad context to potential scales of development, constraints, opportunities & infrastructure needs. The study also provided context to the local property markets and addressed key assumptions to be taken forward in testing viability including market values, build costs, profit levels, finance costs and land value benchmarks.
- **North Essex Garden Communities Valuation Advice** (Cushman & Wakefield, 2017). This study provided further commentary and consideration of the property market in relation to strategic land and potential delivery of Garden Communities;
- **West of Braintree Concept Framework** (AECOM, draft findings only emerging at the time of this study). This report provides further definition to the scale and form of development on the West of Braintree Garden Community;
- **Colchester Braintree Borders Concept Framework** (David Lock Associates, draft findings only emerging at the time of this study). This study provides further definition to the scale and form of development on the Colchester Braintree Borders Garden Community, west of Colchester close to Marks Tey;
- **Tendring Colchester Borders Concept Frameworks** (David Lock Associates, draft findings only emerging at the time of this study). This study provides further definition to the scale and form of development on the Tendring Colchester Borders Garden Community, east of Colchester close to the University of Essex;
- **Infrastructure Delivery Plan** (Troy Planning, draft findings only emerging at the time of this study). This study draws together infrastructure implications relating to the Local Plans.

It is important to note that a broad range of evidence has been evolving concurrently with the preparation of this report. Aspects may therefore differ as other studies are finalised and this report may need to be updated accordingly.

In light of the proposed approach to delivery with a potential direct role for the Councils in funding and delivery via the creation of 'North Essex Garden Communities Ltd' and individual site specific Local Delivery Vehicles (LDVs), this study has also been able to draw upon additional technical and financial information that has been informing wider commercial considerations. Of note, property, cost and land negotiation consultants Arcadis have been providing further support to the project and

have reviewed key viability assumptions against their wider knowledge & experience. This has provided an additional level of robustness not normally available to standard viability assessments.

Separate but related to this study, the Councils have also commissioned a **North Essex Authorities Section 2 Viability Assessment** (Troy Planning & 3 Dragons, 2017). This study focusses on the Section 2 (local) aspects of the Local Plans considering whole plan viability considerations relating to other allocations and proposals across the area. The Section 2 study considers different typologies of sites across a broader range of locations and contexts, and with reference to detailed policies set out in individual Local Plans. As such there will be differences in approach and assumptions between the 2 studies, although they have been prepared in tandem and with close working and consideration.

A collaborative approach has been adopted to test assumptions and the viability methodology with respective landowners, developers and their advisors, and a wider workshop (to also cover the Section 2 viability approach) was held with local property market representatives to explain and obtain feedback on the approach and assumptions.

The approach has therefore drawn from the best available evidence, across a broad range of technical disciplines and professional inputs. However, given the status of the projects, much of this information can only be assumptions at this stage, and hence scheme viabilities will need constant review as further information becomes available.

2. Policy & Guidance

A number of industry recognised advice and guidance notes exist which respond to the need to test area and site-based development proposals for financial viability, as a basis for planning policy and development management. These include the Department for Communities & Local Government (DCLG) National Planning Policy Framework (NPPF), National Planning Practice Guidance (NPPG); the Royal Institution of Chartered Surveyors (RICS) Good Practice Note – “Financial Viability in Planning”; and work of the Local Housing Delivery Group (LHDG) - “Viability Testing Local Plans – Advice for Planning Practitioners”.

2.1 National Planning Policy Framework (NPPF)

The National Planning Policy Framework (NPPF) sets out how Government expects viability to be considered in planning, in the context of demonstrating the appropriateness of planning policies and planning decisions.

Of significance to the approach to the Local Plan Section 1, the proposed Garden Communities will require a reasonable lead-in time to further establish the policy basis, bring further clarity to aspects of infrastructure, and evolve more detailed schemes. As such they are not anticipated to deliver within the initial 5 years of the Local Plan. The NPPF refers to such proposals setting out that Local Plans must identify a supply of sites for future housing supply including that the Local Plan should:

identify a supply of specific, developable sites or broad locations for growth, for years 6-10 and, where possible, for years 11-15

Source: National Planning Policy Framework para 47

The approach to such ‘developable sites’ is further clarified in the footnote which states:

To be considered developable, sites should be in a suitable location for housing development and there should be a reasonable prospect that the site is available and could be viably developed at the point envisaged.

Source: National Planning Policy Framework footnote to para 47

As such, assessment and testing from a viability perspective needs to demonstrate that there is a ‘reasonable prospect’ that the site could be viably developed when proposed, recognising that there may be a degree of outstanding uncertainty over detailed assumptions or information. This is particularly relevant to the Garden Communities considering their overall scale and phasing.

Further key policy guidance is set out across paragraphs 173 and 174 of the NPPF which states:

173. Pursuing sustainable development requires careful attention to viability and costs in plan-making and decision-taking. Plans should be deliverable. Therefore, the sites and 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. To ensure viability, the costs of any requirements likely to be applied to development, such as requirements for affordable housing, standards, infrastructure contributions or other requirements 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.

174. Local planning authorities should set out their policy on local standards in the Local Plan, including requirements for affordable housing. They should assess the likely cumulative impacts on development in their area of all existing and proposed local standards, supplementary planning documents and policies that support the development plan, when added to nationally required standards. In order to be appropriate, the cumulative impact of these standards and policies should not put implementation of the plan at serious risk, and should facilitate development throughout the economic cycle. Evidence supporting the assessment should be proportionate, using only appropriate available evidence.

Source: National Planning Policy Framework paras 173 & 174

This makes it clear that considerations of viability must reflect matters of affordable housing, infrastructure and placemaking requirements, and all other factors that can have an impact to ensure that sound decisions can be taken.

2.2 National Planning Practice Guidance

National Planning Practice Guidance (NPPG) provides further detail about how the NPPF should be considered and applied. The NPPG contains general principles for understanding viability together with a range of other key factors to be considered as set out below.

Understanding Local Plan viability is critical to the overall assessment of deliverability. Local Plans should present visions for an area in the context of an understanding of local economic conditions and market realities. This should not undermine ambition for high quality design and wider social and environmental benefit but such ambition should be tested against the realistic likelihood of delivery. (para 1)

Evidence based judgement: assessing viability requires judgements which are informed by the relevant available facts. It requires a realistic understanding of the costs and the value of development in the local area and an understanding of the operation of the market. (para 4)

Transparency of evidence is encouraged wherever possible. (para 4)

Evidence should be proportionate to ensure plans are underpinned by a broad understanding of viability. (para 5)

Assessing the viability of plans does not require individual testing of every site more detailed assessment may be necessary for particular areas or key sites on which the delivery of the plan relies. (para 6)

Plan makers should not plan to the margin of viability but should allow for a buffer to respond to changing markets and to avoid the need for frequent plan updating. Current costs and values should be considered when assessing the viability of plan policy. Policies should be deliverable and should not be based on an expectation of future rises in values at least for the first 5 years of the plan period. This will help to ensure realism and avoid complicating the assessment with uncertain judgements about the future. (para 8)

Source: National Planning Policy Guidance (various paras)

2.3 Viability Testing Local Plans - Advice for planning practitioners

The Local Housing Delivery Group was set up as a cross-industry group involving a broad range of stakeholders with an interest in home building in England. As part of the core activity of the Local Housing Delivery Group, a working party was set up to develop advice on the best way to test the viability. The approach is recommended for use by local authorities and their consultants in relation to plan wide viability and the community infrastructure levy.

The Group published a document - 'Viability Testing for Local Plans: Advice for planning practitioners' in 2012 which defined viability as:

An individual development can be said to be viable if, after taking account of all costs, including central and local government policy and regulatory costs and the cost and availability of development finance, the scheme provides a competitive return to the developer to ensure that development takes place and generates a land value sufficient to persuade the land owner to sell the land for the development proposed. If these conditions are not met, a scheme will not be delivered.

Source: Viability testing of Local Plan page 14

The advice outlines several key principles that should be kept in mind when assessing the viability of the Local Plan and its policies:

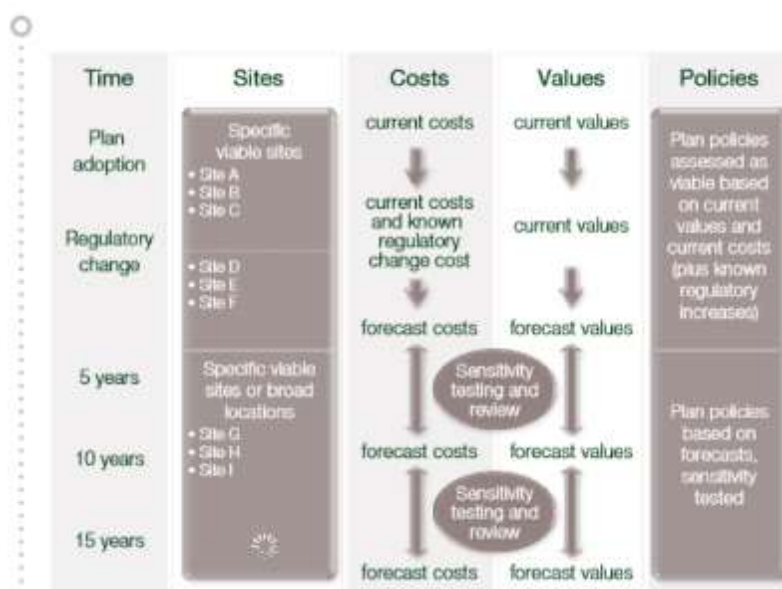
- *Consideration needs to be given to the cumulative impact of the plan policies, rather than treating policies in isolation or overlooking the potential impact of policies on the delivery of planned development.*
- *Planning authorities need to strike a balance between the policy requirements necessary to provide for sustainable development and the realities of economic viability. There should be both clear local justification for the adoption of policies, and reasonable returns for landowners and developers.*
- *An open and collaborative approach should be taken throughout the policy making process, to present and share approaches & obtain input on assumptions.*

- *The approach to assessing plan viability should recognise that it can only provide high level assurance that the policies within the plan are set in a way that is compatible with the likely economic viability.*
- *The assessment process should be iterative. Draft policies can be tested based on the assumptions agreed with local partners, and in turn those assumptions may need to be revised.*
- *The outcome of a viability assessment should not dictate individual policy decisions. Rather, the role of an assessment is to inform the decisions alongside all other factors.*
- *The consideration of overall viability is an important part of the evidence base on which decisions rest and which should be subjected to test, challenge, and debate at examination.*

Source: Viability testing of Local Plan pages 10-11

The guidance recognises that there will always be limits to testing viability and that there needs to be realistic expectations of the scope and accuracy of such testing. Assessments will depend heavily upon the nature and quality of assumptions, some of which will be hard to source data and can only be based upon best available information which for long term projects will be likely to change over time. It also references the difference between assessing viability for ‘deliverable’ sites within the first 5 years of a plan period against those of a ‘developable’ nature over the longer term, with the latter potentially involving a degree of forecasting and a need for scenario testing.

Figure 2.1: Approach to viability & timescales



Source: Viability testing of Local Plan page 28

The issue of viability benchmarks has been considered at length by the Local Housing Delivery Group and the guidance also takes a view on what constitutes an appropriate ‘Threshold Land Value’ that could be considered to determine the viability of a type of site.

The guidance advised against using market values in testing of planning policies and CIL. It considered that a reliance on historic transactions may not be appropriate, as any such deals would have been framed in the context of historic or current planning policy requirements, and therefore using these transactions as a benchmark would not be fully reflective of emerging or new policies and requirements.

Consideration of an appropriate Threshold Land Value needs to take account of the fact that future plan policy requirements will have an impact on land values and landowner expectations. Therefore, using a market value approach as the starting point carries the risk of building-in assumptions of current policy costs rather than helping to inform the potential for future policy. Reference to market values can still provide a useful 'sense check' on the threshold values that are being used in the model (making use of cost-effective sources of local information), but it is not recommended that these are used as the basis for the input to a model.

We recommend that the Threshold Land Value is based on a premium over current use values and credible alternative use values

Source: Viability testing of Local Plan page 29

The guidance recommends that benchmark land value “is based on a premium over current use values” with the “precise figure that should be used as an appropriate premium above current use value [being] determined locally”. The guidance considers that this approach “is in line with reference in the NPPF to take account of a “competitive return” to a willing land owner”.

The report encourages the residual land value approach, where the difference between the value and costs of development are compared with threshold land values, in assessing plan-level policies. The precise threshold figure that should be used as an appropriate premium above current use value was to be evidenced and determined locally. The guidance goes on to set out that care is needed not to set the threshold too close to the margins of viability, and that some form of ‘viability cushion’ should be allowed for albeit the scale of this is not defined and left to planning authorities to judge.

The report notes that the approach can be less straight forward for nonurban sites or urban extensions, where land owners may take a much longer term view over their assets. The report suggests that such issues may be overcome by making greater use of benchmarks, taking account of local partner views on market data and information but also cautions against reliance on historic data which may not be reflective of current circumstances.

2.4 Financial Viability in Planning (RICS 2012)

Given the importance of the issue of viability, the Royal Institute of Chartered Surveyors (RICS) produced a Good Practice Note on the subject around the same time as the Harman guidance. The note defined financial viability for planning purposes as:

An objective financial viability test of the ability of a development project to meet its costs including the cost of planning obligations, while ensuring an appropriate Site Value for the landowner and a market risk adjusted return to the developer in delivering that project.

Source: Financial Viability in Planning para 2.1.1

Site Value, either as an input into a scheme- specific appraisal or as a benchmark, is defined as:

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

Source: Financial Viability in Planning (RICS, 2012) para 2.3.1

The guidance recognises that the current use value of a site set against the residual value of competed development (net of development profit and development costs) represent the parameters within which a balance between reasonable allowances for land value uplift and planning obligations would be required. The guidance goes on to state that

3.4.4 For a development to be financially viable, any uplift from current use value to residual land value that arises when planning permission is granted should be able to meet the cost of planning obligations while ensuring an appropriate Site Value for the landowner and a market risk adjusted return to the developer in delivering that project (the NPPF refers to this as ‘competitive returns’ respectively). The return to the landowner will be in the form of a land value in excess of current use value....

3.4.5 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.

Source: Financial Viability in Planning (RICS, 2012) para 3.4.4-3.4.5

The guidance note states that assessments of site value may not be straightforward and encourages practitioners to be reasonable, transparent and fair in objectively undertaking or reviewing financial viability assessments. The guidance also notes that viability reviews are likely to be needed for longer term/multi phased schemes and/or projection modelling used to consider market value growth as a result of the development concerned, as this may not be reflected in the existing broader market intelligence. It is also recommended that financial appraisals are sensitivity tested as a minimum, and with more complex schemes further scenario/simulation analysis should also be undertaken.

3. Local Policy & Delivery Considerations

3.1 Local Plan (Section 1)

In accordance with the duty to cooperate, the Councils are working closely with each other to plan effectively for the long term.

The Councils have been working together to identify an agreed strategic approach (within a shared Section 1) to the allocation and distribution of large scale housing led, mixed use development, including employment opportunities and infrastructure provision, in the form of Garden Communities. Such communities must have a critical mass to ensure that all the facilities necessary including considerable new infrastructure such as education facilities, health, retail facilities, indoor and outdoor recreation facilities, community space, and significant employment opportunities.

As part of the development of their Local Plans the three District Planning Authorities included areas of search within their Preferred Options Consultations in 2016. These include three potential new settlements to be brought forward as new Garden Communities:

- Tendring Colchester Borders - East of Colchester, on the border of Colchester BC and Tendring DC, a new garden community to deliver up to 7,000-9,000 homes and other mixed uses;
- Colchester Braintree Borders - West of Colchester close to Marks Tey, on the border of Colchester BC and Braintree DC, a new garden community to deliver up to a 15,000-24,000 homes and other mixed uses; and
- West of Braintree in Braintree DC adjacent to the border with Uttlesford DC, a new garden community to deliver up to 7,000-10,000 homes and other mixed uses.

Figure 3.1: Proposed Garden Communities across North Essex



Each site is anticipated to commence in the current plan period and deliver circa 2,500 units each by 2032/33, but will continue to deliver a steady stream of housing and commercial development for many years into the future.

A broad policy for the development of new Garden Communities is proposed in the Strategic Section 1 of the Local Plan as set out below;

Policy SP7: Development and Delivery of New Garden Communities in Essex

The following three new garden communities are proposed in North Essex.

- *Tendring/Colchester Borders, a new garden community will deliver 2,500 homes within the Plan period (as part of an overall total of between 7,000-9,000 homes to be delivered beyond 2033)*
- *Colchester/Braintree Borders, a new garden community will deliver 2,500 within the Plan period (as part of an overall total of between 15,000 – 24,000 homes to be delivered beyond 2033)*
- *West of Braintree in Braintree DC, a new garden community will deliver 2,500 homes within the Plan period (as part of an overall total of between 7,000- 10,000 homes to be delivered beyond 2033)*

Each of these will be an holistically and comprehensively planned new community with a distinct identity that responds directly to its context and is of sufficient scale to incorporate a range of homes, employment, education & community facilities, green space and other uses to enable residents to meet the majority of their day-to-day needs, reducing the need for outward commuting. Delivery of each new community will be phased and underpinned by a comprehensive package of infrastructure.

The Councils will need to be confident, before any consent is granted, that the following requirements have been secured either in the form of appropriate public ownership, planning agreements and obligations and, if necessary a local infrastructure tariff.

The design, development and phased delivery of each new garden community will conform with the following principles

- i. *Community and stakeholder empowerment in the design and delivery of each garden community from the outset and a long-term community engagement and activation strategy*
- ii. *The public sector working pro-actively and collaboratively with the private sector to design, and bring forward these garden communities, deploying new models of delivery, sharing risk and reward and ensuring that the cost of achieving the following is borne by landowners and those promoting the developments: (a) securing a high-quality of place-making, (b) ensuring the timely delivery of both on-site and off-site infrastructure required to address the impact of these new communities, and (c) providing and funding a mechanism for future stewardship, management, maintenance and renewal of community infrastructure and assets. Given the scale of and time period for development of these new garden communities, the appropriate model of delivery will secure a comprehensive*

approach to the delivery of each new community in order to achieve the outcomes outlined above, avoid a piecemeal approach to development, provide the funding and phasing of both development and infrastructure, and be sustainable and accountable in the long term.

- iii. Promotion and execution of the highest quality of planning, design and management of the built and public realm so that the Garden Communities are characterised as distinctive places that capitalise on local assets and establish environments that promote health, happiness and well-being. This will involve developing a cascade of design guidance including concept frameworks, detailed masterplans and design codes and other guidance in place to inform and guide development proposals and planning applications. Planning applications and any local development orders or other consenting mechanisms for the garden communities will be expected to be consistent with approved design guidance*
 - iv. Sequencing of development and infrastructure provision (both on-site and off-site) to ensure that the latter is provided ahead of or in tandem with the development it supports to address the impacts of the new garden communities, meet the needs of residents and establish sustainable travel patterns.*
 - v. Development that provides for a truly balanced and inclusive community and meets the housing needs of local people including a mix of dwelling sizes, tenures and types including provision for self- and custom-built homes and provision for the aging population; to meet the requirements of those most in need including 30% affordable housing in each garden community.vi. Provide and promote opportunities for employment within each new community and within sustainable commuting distance of it*
 - vi. Plan the new communities around a step change in integrated and sustainable transport systems for the North Essex area that put walking, cycling and rapid public transit networks and connections at the heart of growth in the area, encouraging and incentivising more sustainable active travel patterns*
 - vii. Structure the new communities to create sociable, vibrant and walkable neighbourhoods with equality of access for all to a range of community services and facilities including health, education, retail, culture, community meeting spaces, multi-functional open space, sports and leisure facilities*
 - viii. Develop specific garden community parking approaches and standards that help promote the use of sustainable transport and make efficient use of land.*
 - ix. Create distinctive environments which relate to the surrounding environment and that celebrate natural and historic environments and systems, utilise a multi-functional green-grid to create significant networks of new green infrastructure including new country parks at each garden community, provide a high degree of connectivity to existing corridors and networks and enhance biodiversity*
 - x. Secure a smart and sustainable approach that fosters climate resilience and a 21st century environment in the design and construction of each garden community to secure net gains in local biodiversity, highest standards of energy efficiency and innovation in technology to reduce impact of climate change, water efficiency (with the aim of being water neutral in areas of serious water stress), and sustainable waste and mineral management*
- Ensure that the costs and benefits of developing a garden community are shared by all landowners, with appropriate measures being put in place to equalise the costs and land contributions*

- xi. Consideration of potential on-site mineral resources through a Minerals Resource Assessment as required by the Minerals Planning Authority.*
- xii. Establishment at an early stage in the development of the garden communities, of appropriate and sustainable long-term governance and stewardship arrangements for community assets including green space, public realm areas and community and other relevant facilities; such arrangements to be funded by the developments and include community representation to ensure residents have a stake in the long term development, stewardship and management of their community.*

These principles are elaborated upon in the North Essex Garden Community Charter.

A Development Plan Document will be developed for each of the garden communities to set out the principles of their design, development and phasing as well as a mechanism to appropriately distribute housing completions to the three Councils and this will be agreed through a Memorandum of Understanding.

In addition, within Section 1, a separate policy is also proposed for each site to provide further policy guidance in relation to their specific context and potential.

3.2 Delivery Structure & Governance

Delivery at the scale envisaged will require a comprehensive, focussed and partnership approach to scheme planning and delivery. It is intended that the Garden Communities will come forward through a partnership approach between the Councils and the private sector, with the public sector taking a key role. The public sector role is intended to provide confidence that the communities will be delivered in accordance with the Local Plan requirements; that infrastructure and social and community facilities that are needed to support the new development will be there from the very start of the community; and that housing and employment can be released more quickly to ensure that there are homes and jobs available for people when they need them.

The Councils have approved and started to implement a delivery and governance structure including establishing an arm's length organisation – 'North Essex Garden Communities Ltd' to evolve proposals and business plans further. It is further proposed that each separate project would have a dedicated 'Local Delivery Vehicle' (LDV) to lead with the delivery of each Community. Each LDV would act in a similar way to a 'master developer' – enter into agreements with landowners, raise necessary finance, deliver strategic infrastructure, and bring serviced plots to the market for building construction & sale.

The proposed delivery model offers the potential to enhance and improve scheme deliverability and viability, but the assessments set out within this study do not totally rely upon its full implementation. Instead, the assessments provide a balanced view on key assumptions to consider a range of potential delivery scenarios, with an anticipation that a partnership approach with a key role for the public sector would improve viability across a number of factors.

4. Methodology

Reflecting the background policy advice and guidance, this study adopts a residual value approach. Residual value is the value of the completed development less the costs of undertaking the development. The residual value can then be compared against what may be considered reasonable to pay for and enable the land to come forward.

As a strategic approach, the assessment compares the value of the scheme based upon a range of end uses and values against costs including the costs of building the development, professional fees, scheme finance and a return to the developer. Scheme costs also include a broad range of infrastructure & place making requirements necessary to deliver appropriate infrastructure, meet stated policy ambitions and Garden City principles. Details of the cross cutting assumptions are set out in this Chapter, with separate information pertinent to each Garden Community set out in following chapters.

Given the long-term nature of the proposals, the requirements for early investment in enabling infrastructure, and the fact that the schemes will only be partially complete within the current Local Plan periods, the assessments have considered the viability of the sites in the context of their full development potential.

In light of the nature and timescale of the schemes involved and associated assumptions, the assessment is based upon viability tests under a broad range of potential scenarios rather than 1 'base' assessment. The reasoning being that given the status of the proposals, which are still at conceptual stage, there will ultimately be a broad range of possible future circumstances. The approach will allow more thorough consideration of possible outcomes and avoid undue and inappropriate focus on any '1' scenario.

4.1 Viability Model

Given the complexity of the proposed schemes, in terms of scale, mix of uses, phasing and cashflow, the financial viability testing has been undertaken using the 'Garden City & Large Sites Model' (GCLS Model) originally developed within the Advisory Team for Large Applications (ATLAS) in the Homes & Communities Agency (HCA). This model is high level financial model that tests the viability testing of long term, large scale sites (and in particular Garden City proposals) at an early stage in the planning process

The GCLS Model is based upon a 'master developer' approach, as the largest sites are unlikely to be delivered through traditional housebuilder approaches. This involves one lead organisation (the master developer) who would be responsible for strategic investment in enabling works and strategic infrastructure. This would then enable plot developers (such as a range of different housebuilders and other developers) to buy serviced land and undertake the actual building work. Strategic costs are set against land receipts to drive the overall scheme viability. This accords to the

proposed delivery and governance model, with site specific LDVs proposed to act as the site specific master developers.

4.2 Key Assumptions

Any viability assessment depends heavily on the nature and quality of assumptions made. Initial analysis of the area from a physical, environmental, planning, and infrastructure perspective has been undertaken, which has informed the assumptions adopted as part of this study.

The following sub-sections set out key overarching assumptions that have been applied to all sites. Tailored analysis on each of the sites is then set out across subsequent chapters.

Strategic Infrastructure including Site Preparation & Enabling

Given the greenfield nature of the Garden Communities there will be significant costs in preparing and servicing the land for development, and creating strategic open spaces and landscaping. This has been budgeted at £20,000 per residential unit (equivalent to an average of £700,000 per net developable hectare at 35 dwellings per hectare). This estimate is based on experience of large scale schemes elsewhere but has been set at a relatively high level to reflect the need to create a high quality public realm and sense of place. This broad allowance would be expected to cover the following:

- Site preparation, enabling and groundworks.
- All on-site and off-site land drainage and utilities requirements arising from the development.
- Structural landscaping including meeting any ecological requirements.
- Primary and secondary road layout to provide access to plots for development by housebuilders & commercial developers.
- All the costs involved in providing distribution infrastructure up to the site boundary of plots to be disposed to subsequent housebuilders and commercial developers.
- The provision of strategic public open space including parklands and sports fields but excluding buildings such as sports halls and pavilions.

In addition to the above, each site must also include appropriate provision towards wider policy, placemaking and infrastructure requirements which need to be related in scale and kind to each separate site. These will vary between each specific site given their individual context, but will need to address key policy and placemaking requirements including:

- All local social and community needs, including the provision of new education (schools), health and community facilities;
- Any necessary additional upgrades or new provision for utilities, including power, water supply, waste water treatment and telecoms;
- Appropriate contributions towards local and strategic transport improvements related to each site, including substantial investment in sustainable transport measures.

- Contributions towards creating mixed use communities including providing serviced commercial land and where necessary additional support to stimulate commercial activity;
- Contributions towards securing key garden city principles – such as allowances to enable community ownership & stewardship of assets via the provision of capital endowments.

All strategic infrastructure costs have been programmed in to ensure that works are provided in a timely manner, with considerable early investment. This is reflected in individual scheme cashflows.

The scope and scale of contributions for each Garden Community and are set out across Chapters 5 to 7 of this report. These have drawn from the wider evidence base and in some cases have been based upon the mid points of cost ranges. The cost of such works will need to be further refined through subsequent detailed masterplanning and site survey work over time.

Build Construction Costs

Construction cost assumptions are based on location-adjusted figures from the Build Cost Information Service (BCIS) for Quarter 2 2016, supplemented with agency consideration of prevailing build cost rates. The BCIS data provides industry wide data on build costs across multiple property types

In light of the ambition to create higher quality development, the base construction costs for the residential units have been enhanced by an additional 10% to take account of higher quality finishing and materials.

Table 4.2.1 Assumed Build Construction Costs

Use Type	Cost per sq. ft.	Cost per sq. m
Residential	£108	£1,167
B1	£142	£1,527
B2/B8	£75	£804
Retail	£71	£759

Source: Concept Feasibility Study (AECOM/C&W, 2016)

BCIS figures do not incorporate an allowance for externals and plot connections, which typically add 10-15% depending on the location and scale of development. An additional allowance of 15% has been added on top of the values set out in Table 4.2.1 for 'On plot' external works such as immediate access, gardens and utility connections, incidental open space and estate roads which is reflective of levels of costs incurred on live developments.

Profit

Given the anticipated approach to scheme delivery, profit has been considered both in respect of the master developer and the separate plot developers.

- The master developer is undertaking the infrastructure work to create the serviced plots to sell to plot developers (who take the 'market risk' on residential sales and commercial development).

- For plot developers (housebuilders and commercial developers), different profit rates would apply to different developments. Standard private (market) residential units has a higher profit expectation than affordable housing as for the latter, this reflects the reduced level of risk associated with developing affordable housing build & occupation. Commercial profit is also set at a different rate to reflect the approaches of commercial developers

Table 4.2.2 Assumed Profit rates

Use Type	Profit (on GDV)	Related to
Residential (private)	20%	On value
Residential (affordable)	6%	On value
Commercial	17.5%	On value
Master developer	15%	On strategic infra costs

Source: Concept Feasibility Study (AECOM/C&W, 2016)

Professional Fees

Professional fees will be applicable to the activities of both the master developer (related to strategic works) and plot developers (related to residential & commercial construction). Assumed rates reflect several site characteristics including:

- The site areas are mostly rural, greenbelt land which does not possess the same degree of complications associated with brownfield delivery.
- The scale of the project affords significant fees and potential economies of scale for professional consultants who would be expected to be able to provide competitive rates to reflect the sheer volume of business.
- Professional fees typically incur a premium charge if the sites and end product are overly complex, but it is envisaged that although there will be a variety of style of homes, there should be relatively few complications.

Table 4.2.3 Assumed Professional Fees

Fee Type	Fees
Professional fees (master developer – strategic works)	6.0%
Professional fees (plot developers)	8.0%
Sales & Agent fees (all)	1.0%
Legal fees (all)	0.5%
Marketing (plot developers - private residential)	1.0%
Marketing (plot developers - commercial)	2.0%

Source: Concept Feasibility Study (AECOM/C&W, 2016)

The assessments have also included additional allowances for strategic planning costs in addition to professional fees to cover initial scheme masterplanning, planning & technical work up to substantive planning approvals.

Finance costs

The assessments assume that all scheme options costs are 100% debt funded at a flat finance rate of 6.0%. This guidance is based upon experience in reviewing significant residential led schemes of similar size and nature.

The delivery & governance model being proposed may be able to facilitate lower market rates, given the role of the public sector in direct delivery and scheme de-risking. Given the considerable upfront expenditure on infrastructure and timescale before going cashflow positive, any lower interest rate would have a considerable positive impact on viability. For the purposes of this study, any lower rate has not been accounted for.

Contingency

A contingency allowance for unforeseen costs is prudent, especially given the current early consideration of the projects and reliance on initial assumptions.

Allowances for cost overruns and optimism bias are already reflected to a degree in initial estimates for the capital cost of certain infrastructure elements, in particular education facilities and transport works. In addition, the site enabling allowances are relatively high thus providing a degree of flex in terms of unforeseen ground conditions or considerations. Therefore, any additional allowance for contingency would be over and above allowances already made.

The initial Concept Feasibility work suggested a contingency requirement for infrastructure works of 10% to provide sufficient cover for unforeseen costs. This was considered would provide a healthy margin to cover unforeseen costs, and would be expected to reduce as the scheme progresses to a more detailed stage.

Additional spend (on top of initial contingencies and optimism bias) of up to 10% have been considered across all strategic infrastructure costs through the scenario tests to provide an additional contingency 'cushion'.

Development Programme

There will be many influences on a forecast housing trajectory from the Garden Communities. It will essentially be dictated by the rate of sales that developers want and are able to achieve in light of site conditions, business strategies and wider market demand. The key influences on such large scale greenfield sites such as the Garden Communities include:

- The location, nature, and scale of the site, as well as its layout and phasing approach. This will influence how many separate housebuilders can be active on site at any one time;
- The scale of demand within the wider housing market, General economic conditions such as job security and job mobility, and general consumer confidence about buying/moving, as well as mortgage availability;

- The business strategy and physical capacity of the development model and key stakeholders. This includes the approach to strategic infrastructure and ability to raise sufficient finance, provide serviced development plots to the market, as well as the individual approaches of housebuilders & plot developers in the local area set against wider business plans and strategic land portfolios; and
- The type and variety of products (multiple tenures, types & sizes being brought to the market), pricing, and extent of competition from other properties for sale both within the site itself and wider geographic area.

Large sites such as Garden Communities would typically involve multiple developers who would be active from multiple outlets at any one time. Recent activity has seen developers bringing forward around 40-50 units per annum from a single outlet, as this allows them to sustain quality and prices and reduce prelim costs by having a single site team. The precise number of active sales outlets at any one time would vary, but typically start with a few (especially when creating a new 'place') and increase over time to a steady state. How many active outlets exist on one site would vary depending on the influences set out above. Some of the larger national builders can operate more than one outlet off a single site, and running these as entirely separate construction and sales outlets under different brands or aimed at different market segments.

There is available evidence of large site build out rates to enable a considered and reasonable position to be adopted. Current evidence suggests that annual completions on any one site have very seldom gone higher than 400-500 units pa even under very strong market conditions.

As the number of separate sales outlets grow, the overall build rate will increase. In all scenarios, it is assumed that the first 2 years are at circa ¼ and ½ the rate respectively, in order to reflect a build-up of market demand.

Table 4.2.4 Assumed Development Trajectory & Build out rate

Garden Community	Infrastructure Start on Site	First completions	Max trajectory pa (within plan period 2032/33)
West of Braintree	2022/23	2023/24	300
Colchester Braintree Borders	2023/24	2024/25	350
Tendring Colchester Borders	2021/2022	2022/23	250

The assumptions are in line with build out rates suggested within the Concept Feasibility Study of up to 300 units for West of Braintree, 360 units pa (for Colchester Braintree Borders), and 240 units pa for Tendring Colchester Borders.

The Councils and landowners will however have broader ambitions to increase build rates beyond current market norms. This would improve viability by speeding up the rate of return to enable pay back of debt quicker thus reducing finance costs. The Concept Feasibility Study also set out several

factors where the proposed delivery mechanism (i.e. including the influence of the LDVs in partnership with the current landowners) could help to drive higher build out rates by:

- Public sector funding accelerating the delivery of infrastructure and significantly de-risking the overall development for plot developers and the master developer (with whom it is in partnership).
- Through marketing and promotion of the Garden Communities by the public sector, demand levels are 'deepened' allowing a faster delivery of units without compromising the minimum land price.
- The promotion and inclusion of alternative residential tenures/ sectors within the scheme to widen demand; e.g. self and custom build housing, sheltered housing, private rental stock and Starter Homes. In order to deliver these tenures (particularly at an early stage of the developments) may require additional support from the public sector to ensure it is viable.

The build rates set out at Table 4.2.4 may therefore underestimate achievable rates, and any faster delivery would significantly improve viability by enabling earlier receipts thus offsetting against infrastructure costs and lowering finance charges.

Residential sales values

Research into residential values was part of their background work for the Concept Feasibility Study and subsequent advice to the Councils. The assessment has considered comparable evidence of transacted properties in the area and also properties on the market to establish appropriate values for each scheme for testing purposes. Key messages emerging from the background analysis indicates that:

- West of Braintree achieves the highest values out of the Garden Communities. The area is characterised by market towns with good amenity value and schools, typically attracting a relatively wealthier buyer demographic. It is however a location which has not witnessed development of this scale and nature over recent years.
- Colchester Braintree Borders has seen little comparable newbuild activity and thus it is difficult to determine current pricing levels, although there has been some activity such as at Stanway. That market is different however to values in the rural villages & towns.
- The Tendring Colchester Borders area was considered to have lower values compared to Braintree and Marks Tey with existing development on the Colchester fringe characterised by higher density, small homes on large estate developments, lacking a wider amenity offering (restaurants, shops etc.). Local villages such as Wivenhoe and Elmstead Market however display a different offer and price to that of the Colchester Fringe. The Garden Community concept will be distinct and introduce a new higher quality product and offer and hence provides the ability to push values higher than originally considered.

In addition, the Local Plan (Section 2) whole plan viability work has considered the full areas of the three Districts and set out a number of value areas for use in testing smaller scale typologies of development for viability. These are very broad in terms of the areas they cover and recognise there would be different circumstances in specific localities. As such a more site specific approach has

been adopted for this study with bespoke values associated to each Garden Community. Table 4.2.5 summaries the assumptions utilised as part of this study.

Table 4.2.5 Residential sales values (private market housing averages)

Use Type	Value per sq. ft.	Value per sq. m
West of Braintree	£340	£3,660
Colchester Braintree Borders	£310	£3,337
Tendring Colchester Borders	£300	£3,229

Source: Concept Feasibility Study (AECOM/C&W, 2016) & wider benchmarking

Affordable Housing

There will also be a value attributable to affordable housing. Given the strategic nature of this assessment, affordable housing values have been generated based upon an assumed percentage of the private sale housing open market value. Such values have been applied as an average across each tenure type, given it is too early to do any more detailed analysis. The tenure split for formal affordable housing has been modelled based on 80% Affordable Rent and 20% Intermediate/Shared Ownership.

The potential provision of Starter homes has also been modelled albeit at the time of preparing this study such units do not yet fall within the formal definition of affordable housing. Whilst square metre values may be higher for Starter Homes than Intermediate/Shared Ownership, they are effectively a discounted sale product and as such after allowances for fees and profit, equivalent land values between Shared Ownership and Starter Home tenures are anticipated to be similar.

Table 4.2.6 Residential sales values (affordable averages)

Use Type	% of OMV
Affordable Rent	50%
Intermediate / Shared Ownership	75%
Starter Homes	80%

Placemaking Impacts on Value & Garden Community Premium

Several studies have considered the potential impact of high quality place making on value, such as an RICS information paper 'Placemaking & Value' (2016) and a research paper by Savills "Development: The Value of Placemaking (2016).

The RICS document was based upon research carried out by property consultants CBRE, who analysed residential property value data obtained from the Land Registry, site observations and discussions with developers and agents, as well as with community groups and planners. Most of the case studies were large residential-led, mixed-use urban extension schemes that have created entirely new places with their own sense of identity. As such they are reasonably comparable to the proposed Garden Communities, albeit they are of generally smaller scale and within existing town-wide contexts. The research found that placemaking did add value over and above general market

rates. However, there was considerable disparity in the size of the premium, with the case studies achieving between five per cent and 50 per cent above locally achieved sales values.

The Savills research was based upon a simplified land value model for a theoretical urban extension of 3,000 homes. The modelling showed that by spending an extra 50% on 'placemaking' – which was deemed to relate to a higher spend on infrastructure and build costs (assuming spending £45,000 per residential unit on infrastructure as opposed to a base model of only £30,000), this could boost sales values by 20% and sales rates by 50% resulting in higher residual land values. The research paper also highlighted the importance of taking a partnership and patient approach. The enhanced infrastructure spend is comparable to the infrastructure costs anticipated for each Garden Community which range from £48,000 to £52,000 per residential unit (as set out in Chapters 5 to 7).

The approach to the Garden Communities has incorporated high costs for enabling works to support the creation of a high quality public realm, as well as an uplift upon standard build costs in order to deliver higher build quality. It could therefore be anticipated that a 'Garden Community premium' may be achieved, and as such scenarios have tested values at 5% and 10% above assumed residential values (as set out in Tables 4.2.5 and 4.2.6).

Commercial Land Values

The Concept Feasibility Study included some initial analysis of local commercial markets, albeit that was set in the context of historic and current activity. The scope, scale and timing of development across the Garden Communities make it difficult to accurately predict commercial property trends and demands. This study has therefore considered values in light of:

- **B1 office development.** The Tendring Colchester Borders site is closely associated to activity at the University of Essex and other commercial centres on the A120 and A12 and as such a value assumption has been included for office space in this location. The West of Braintree and Colchester Braintree Borders will need to create brand new markets and as such a prudent approach has been adopted to assume a cost neutral approach (thus the assessments include all costs to service the land but do not assume land value from B1 office development in these 2 locations). This would be expected to change over time as market activity gets established.
- **B2/B8 industrial /warehousing.** Colchester Braintree Borders is considered to offer the strongest potential given its location at the intersection of major transport corridors (A12 & A120). West of Braintree is considered to be slightly less strong, but it is still well located to the A120 and access both east to the A12 and west to the M11. Tendring Colchester Borders is considered to be less strong given its location and relationship to other local employment areas.
- **Retail.** All sites will provide similar opportunities, with a slightly higher value assumption applied to Tendring Colchester Borders given the site's proximity to other urban populations and the University of Essex campus.

Table 4.2.7 Assumed Commercial Values

Site & Use	West of Braintree		Colchester Braintree Borders		Tendring Colchester Borders	
	Rent psf	Yield	Rent psf	Yield	Rent psf	Yield
B1 (offices)	-	-	-	-	£16.25	7%
B2 / B8 (industrial & warehousing)	£7.50	6.0%	£8.00	6.0%	£7.00	6.5%
Retail (district & local centres)	£15.00	6.5%	£15.00	6.5%	£15.50	6.5%

Approach to Inflation & value change

Development across each of the proposed Garden Communities is not due to commence for several years and will continue for many years into the future and span several economic cycles. It is therefore to be expected that costs and values will change over time to accord with inflation and value growth. However, due to the difficulties inherent in forecasting, especially over such long-time frames, no build cost inflation or sales growth has been applied to the assessments at this stage.

Historically property value growth has outpaced cost inflation therefore this assessment presents a prudent approach. In addition, strategic costs generally occur early in the development programme with property sales continuing further into the future and as such the impact of compounding would mean that value growth would have a higher proportionate impact on scheme viabilities over time.

Any inclusion of inflation would therefore be expected to considerably improve scheme viability based upon historic trends.

4.3 Scenario Testing

As the Garden Communities are still at a relatively early stage in their design and development, the viability assessment has been based upon a range of potential scenarios, to test and consider the impact of alternative potential circumstances. The scenarios presented over the following Chapters for each Garden Community have considered the following:

Affordable Housing

The level and type of affordable housing will have a key impact on viability, hence viability tests have been undertaken to assess alternative levels and tenure mixes of such housing. The scenarios have tested 20%, 25% and 30% Affordable housing levels for the Colchester Braintree Borders and Tendring Colchester Borders Garden Communities, and 20%, 25%, 40%, 35% and 40% for the West of Braintree Garden Community. At each band 2 tenure mixes have been tested:

- 80:20 Affordable Rent:Shared Ownership; and
- Including 10% as Starter Homes (with other affordable at the 80:20 split).

Starter Homes are not yet within the formal definition of affordable housing, but are likely to be drawn into the definition, together with an expectation for 10% of the tenure from appropriate sites. Land values are anticipated to be the same for Shared Ownership and Starter Homes so there is little

or no impact on overall scheme viability between the tenures. Hence the 10% related to starter homes could alternatively be considered as Shared Ownership/Intermediate to fall within the current formal definition.

Infrastructure costs

The assessments have been based upon a clear set of costed infrastructure requirements, elements of which already take into account contingency and optimism bias. However, considering a degree of uncertainty scenarios have also considered potential higher infrastructure costs, using the 'contingency' as a proxy to such additional costs. Scenarios have been run to consider 0%, 5% and 10% additional sums across all strategic infrastructure cost items.

Garden City Premium

The appraisals have been based upon current day values based upon existing evidence. However, the proposals are founded on creating quality new communities driven by allowances for higher than average build costs which will be different to current and/or historic figures. There is evidence to suggest that quality placemaking can generate value enhancement, hence scenarios have been run to address 0%, 5% and 10% value enhancement due to a 'garden city premium'.

A matrix of residual land value outcomes is presented for each of the sites over Chapters 5 to 7, and illustrate the overall residual converted back to an equivalent per (gross) acre figure. This residual is the final figure at the end of the scheme after accounting for all scheme costs and income.

4.4 Viability benchmarking

The Garden Communities as being proposed are generally located on greenfield agricultural land beyond the current boundaries of existing towns & settlements. Such agricultural land will be worth circa £10-15,000 per acre for agricultural purposes, with additional value for buildings and other structures that relate to the farm holdings.

As set out earlier in this document (Chapter 2) the general approach as advocated by policy and guidance is to consider what constitutes an appropriate 'competitive return' to landowners, albeit what this means in precise value or uplift terms is not defined.

Guidance relates to the potential use of benchmarking. In the North Essex context, there has been some strategic land activity such as on the fringes of Braintree and Colchester for much smaller urban extension type development directly plugged in to existing development and infrastructure. The proposed Garden Communities are of such a scale, form, and context that it is difficult to draw clear comparisons from such historic land transactions or recent/current market behaviour.

It is important to stress that there is no single factor which will dictate whether land will come forward for development. The decision to bring land forward will depend on the nature of the owner, their circumstances, the nature of their land holding (i.e. working facility or asset), the strength of demand for the site's current use in comparison to others; the owner's perception of the value of the site, which in turn is influenced by prices achieved by other sites. Given the lack of truly

comparable evidence it is difficult for all stakeholders to determine the minimum land value that sites should achieve.

The Concept Feasibility Study (AECOM & Cushman & Wakefield, 2016) indicated that a land value in the order of £100,000 per gross acre, based upon experience of large strategic sites was sufficiently more than current agricultural values and could form an indicative assumption for testing. Whilst such professional knowledge and experience is useful to provide a perspective on existing behaviour and the level of likely expectation, it will not fully relate to the form, scale and nature of proposed new Garden Communities or full knowledge of the associated policy, placemaking and infrastructure requirements.

Other evidence and viability studies undertaken for other Local Plans take varied approaches to this matter and suggest a range of possible benchmarks. These generally present an overview of policy & guidance as set out in Chapter 2 of this study, but then go on to define a benchmark purely on the professional judgement of the viability assessor which is ultimately unrelated to formal and relevant local evidence or analysis.

A key factor is the amount it is assumed that landowners and developers will need to bring development forward. In planning terms, it is not necessary to have regard to the price paid for the land when determining viability, the benchmark is effectively that it must be worth more for development than it is in its current use; which for the Garden Communities is predominantly agricultural. There will often be practical and legitimate reasons to allow higher sums for example to take better into account the position of individual landowners and any particular circumstances affecting their approaches, such as family or taxation considerations.

For projects such as new standalone Garden Communities, where land supply is greenfield and of considerable scale, the 'bottom line' in terms of land value will be the value of the site informed by the current use value, but likely to be a multiple of this value or a reasonable uplift to provide sufficient incentive to landowners to bring their land to the market.

This assessment sets out a matrix of equivalent residual land values (per gross acre) and identifies those scenarios which achieve outcomes above current (agricultural) uses. The residuals are colour coded to illustrate how far in excess the outcomes are, to inform consideration as to whether the returns could be considered to provide a reasonable prospect of coming forward.

5. West of Braintree Viability Assessment

The approach has been based upon assessing the scheme emerging from the West of Braintree Borders Concept Framework (AECOM, 2017) which further evolves the options set out in the North Essex Garden Communities Concept Feasibility Study (AECOM, 2016).

The proposed site is located adjacent to the A120 dual trunk road within the A120 Corridor; approximately 5km west of the centre of Braintree and 10km east of the M11 corridor and Stansted Airport, accessed directly to the west along the A120.

The area is broadly defined by the village of Rayne and Pods Brook to the east, the village of Great Saling to the north, the villages of Stebbing and Stebbing Green to the west and to the south a combination of the B1256, A120, Fitchway and the village of Rayne. Principal access into the site is provided by the A120 via the B1256, with the A120 providing connectivity east to Colchester and beyond to the international sea ports of Harwich and Felixstowe.

The vast majority of the land is in productive agricultural use with a small number of detached residential/commercial properties. These are connected by a limited network of country lanes that pass through the site centrally and to its periphery, connecting to settlements beyond. The landscape is typically flat and open in character with medium to large fields divided by hedgerows and some areas of woodland copse. There are a number of mature woodland blocks, which together with Pods Brook and Pods Lane are the areas of highest ecological value.

The emerging concept involves the creation of new neighbourhoods set into the landscape and incorporating key open space & ecological corridors through the site.

5.1 West of Braintree Land Use Breakdown

The following conceptual land use breakdown has formed the basis of the viability assessment and scenario testing process. The precise scope of land uses will emerge through further masterplanning.

Table 5.1.1 West of Braintree Land Use breakdown

Land Use	Comment	Hectares	%
Residential	Net residential	243 ha	50%
Open Space	All – strategic, formal & informal provision.	165 ha	34%
Infrastructure	Strategic highways corridors, utilities, community facilities including schools)	61 ha	12.5%
Employment B1, B2 & B8	Offices, Industrial, storage & distribution	8 ha	1.7%
Retail	Local & District centres	9 ha	1.8%
Total		486 ha	100%

Residential density has been assessed based upon 35 dwellings per hectare, over the 243 hectares equivalent to circa 8,500 homes.

5.2 West of Braintree Infrastructure Requirements

The creation of a new settlement in this location will need to be accompanied by significant investment in infrastructure to provide all the necessary social and community facilities alongside transport improvements. Such items will be unique to the context of the site and have been drawn from a broad range of sources and assumptions. For the purposes of this viability assessment, the following key strategic infrastructure items have been costed as part of the study. They have also been programmed in at appropriate points in the scheme assessments to reflect the need to ensure that all infrastructure is provided in an effective and timely manner in accordance with the phasing of development.

Table 5.2.1 West of Braintree Land Use breakdown

Infrastructure	On/Off Site	Total Cost
Site Preparation & primary infrastructure	On	£170m
Education Facilities (new schools & early years' provision)	On	£76m
Community & Health Facilities	On & Off	£19m
Leisure & Sports Facilities	On	£23m
Sustainability Measures	On	£4m
Country Park	On	£5m
Rapid Transit & Flagship Cycle route (within site)	On	£5m
Transit Hub	On	£6m
Travel Planning Measures	On	£13m
Utilities (upgrades/new provision)	Off	£13m
Water (supply & waste upgrade/provision)	Off	£9m
Active Modes connections (pedestrian & cycle)	Off	£7m
Local Road improvements	Off	£22m
Employment support (contributions)	On	£8.5m
Off site public transport improvements	Off	£14m
Sub-regional rapid transit (contribution towards)	Off	£13m
Endowment (for management of open space)	-	£30m
Total all infrastructure/requirements		£439m

The total infrastructure requirements (exclusive of professional fees and any additional contingencies) add up to circa **£52,000 per residential unit**. The approach assumes that certain major infrastructure works that will have broader sub-regional benefit and/or serve a wider area (including any rapid transit link) would benefit from sizeable contributions from the project, but not full funding.

5.3 West of Braintree Viability Scenarios

The outcomes of the viability assessment scenarios, based upon the cross cutting assumptions set out in Chapter 4 and the site-specific components set out in this Chapter are set out in Table 5.3.1 below. These illustrate the final residual land values calculated back to an equivalent value per acre.

Table 5.3.1: West of Braintree Viability Assessment Scenario Outcomes

Housing Tenure Mix			Cost Uplift (% on infrastructure)			Value Uplift (GC premium)		
Private Sale	Affordable	Starter Homes	0%	5%	10%	0%	5%	10%
80%	20%	0%	£316k	£296k	£276k	£296k	£386k	£473k
80%	10%	10%	£353k	£334k	£315k	£334k	£425k	£513k
75%	25%	0%	£279k	£259k	£237k	£259k	£348k	£434k
75%	15%	10%	£318k	£298k	£278k	£298k	£387k	£474k
70%	30%	0%	£241k	£219k	£196k	£219k	£309k	£394k
70%	20%	10%	£281k	£261k	£239k	£261k	£379k	£435k
65%	35%	0%	£202k	£178k	£153k	£178k	£270k	£354k
65%	25%	10%	£244k	£222k	£199k	£222k	£311k	£396k
60%	40%	0%	£160k	£134k	£105k	£134k	£229k	£313k
60%	30%	10%	£204k	£180k	£155k	£180k	£272k	£355k

The assessments show that residual land values are comfortably above current (agricultural) values across all scenarios, including the highest levels (40%) of affordable housing.

6. Colchester Braintree Borders Viability Assessment

The approach has been based upon assessing the largest and most ambitious scheme emerging from the Colchester Braintree Borders Concept Framework (DLA, 2017). This therefore assesses the most complex potential scenario, with smaller scale options anticipated to have equal or lesser viability challenges.

The site is located approximately 5 miles to the west of the centre of Colchester and east of Coggeshall at a key intersection between the A120 and A12. Both roads are subject to emerging proposals to be upgraded and realigned in this location as part of wider strategic improvements. The main rail line between London and East Anglia passes through the centre of the site with an existing station at Marks Tey. There is some existing development around Marks Tey generally taking the form of small scale ribbon development along main roads. There are a number of country lanes and small villages across the local area which is generally flat agricultural land.

The concept involves the creation of a new settlement containing a number of new neighbourhoods linked together by infrastructure corridors and a network of strategic open space. The development is bounded to the south by new potential realignments of the A120 and A12, which enables comprehensive development of the site including a new town centre adjacent to the railway line and existing A12.

6.1 Colchester Braintree Borders Land Use Breakdown

The following conceptual land use breakdown has formed the basis of the viability assessment and scenario testing process. The precise scope of land uses will emerge through further masterplanning.

Table 6.1.1 CBB Land Use breakdown

Land Use	Comment	Hectares	%
Residential	Net residential	676 ha	52%
Open Space	All – strategic, formal & informal provision.	345 ha	26.5%
Infrastructure	Strategic highways corridors, utilities, community facilities including schools)	195 ha	15%
Employment B1, B2 & B8	Offices, Industrial, storage & distribution	40 ha	3%
Retail	Local & District centres	46 ha	3.5%
Total		1,300 ha	100%

Residential density has been assessed based upon 35 dwellings per hectare, over the 676 hectares equivalent to circa 24,000 homes.

6.2 Colchester Braintree Borders Infrastructure Requirements

The creation of a new settlement in this location will need to be accompanied by significant investment in infrastructure to provide all the necessary social and community facilities alongside

transport improvements. Such items will be unique to the context of the site and have been drawn from a broad range of sources and assumptions. For the purposes of this viability assessment, the following key strategic infrastructure items have been costed as part of the study. They have also been programmed in at appropriate points in the scheme assessments to reflect the need to ensure that all infrastructure is provided in an effective and timely manner in accordance with the phasing of development.

Table 6.2.1 CBB Land Use breakdown

Infrastructure	On/Off Site	Total Cost
Site Preparation & primary infrastructure	On	£473m
Education Facilities (new schools & early years' provision)	On	£213m
Community & Health Facilities	On & Off	£53m
Leisure & Sports Facilities	On	£65m
Sustainability Measures	On	£12m
Country Park	On	£5m
Rapid Transit Loop (within site)	On	£42m
Park & Ride facility	On	£4m
New Railway Station (contribution)	On	£50m
Transit Hub	On	£6m
Travel Planning Measures	On	£36m
Utilities (upgrades/new provision)	Off	£30m
Water (supply & waste upgrade/provision)	Off	£12m
Active Modes connections (pedestrian & cycle)	Off	£2m
Local Road improvements	Off	£9m
Provision of Major new road junction	Off	£41m
A120 upgrade (contribution towards)	Off	£36m
Sub-regional rapid transit (contribution towards)	Off	£24m
Employment support (contributions)	On	£18m
Endowment (for management of open space)	-	£50m
Total all infrastructure/requirements		£1,182m

The total infrastructure requirements (exclusive of professional fees and any additional contingencies) add up to circa **£50,000 per residential unit**. The approach assumes that certain major infrastructure works that will have broader sub-regional benefit and/or serve a wider area (including any rapid transit link, funding of the A120, and some off-site highways improvements) would benefit from sizeable contributions from the project, but not full funding.

6.3 Colchester Braintree Borders Viability Scenarios

The outcomes of the viability assessment scenarios, based upon the cross cutting assumptions set out in Chapter 4 and the site-specific components set out in this Chapter are set out in Table 6.3.1 below. These illustrate the final residual land values calculated back to an equivalent value per acre.

Table 6.3.1: CBB Viability Assessment Scenario Outcomes

Housing Tenure Mix			Cost Uplift (% on infrastructure)			Value Uplift (GC premium)		
Private Sale	Affordable	Starter Homes	0%	5%	10%	0%	5%	10%
80%	20%	0%	£185k	£161k	£134k	£161k	£255k	£337k
80%	10%	10%	£224k	£201k	£178k	£201k	£291k	£382k
75%	25%	0%	£147k	£120k	£89k	£120k	£216k	£304k
75%	15%	10%	£188k	£164k	£138k	£164k	£257k	£344k
70%	30%	0%	£107k	£71k	£19k	£71k	£177k	£265k
70%	20%	10%	£150k	£123k	£93k	£123k	£219k	£306k

The assessments show that:

- Residual land values incorporating a Garden Community value premium makes all scenarios comfortably above current (agricultural) values.
- At 20% and 25% affordable housing, all scenarios outperform current agricultural values with the inclusion of starter homes generating higher residuals across all scenarios.
- At 30% affordable housing, high cost contingencies could start to impact on viability, although should premiums on values be achieved, residuals would be higher than current (agricultural) value. The inclusion of starter homes generally improves viability.

7. Tendring Colchester Borders Viability Assessment

The approach has been based upon assessing the scheme emerging from the Tendring Colchester Borders Concept Framework (DLA, 2017) which further evolves the options set out in the North Essex Garden Communities Concept Feasibility Study (AECOM, 2016).

The site is currently primarily agricultural on the fringes beyond the eastern boundary of Colchester's urban area, together with areas of woodland and the valley of Salary Brook. Key road connections generally run from west to east bounding and through the site with the A133 to the south, Bromley road to the north and A120 to the east. Neighbouring villages of Elmsted Market and Wivenhoe are located in reasonable proximity to the proposals although will be segregated from development by natural open space, landscaping and new parkland.

The proposals involve the creation of a stand-alone Garden Community beyond the immediate boundary with the urban area of Colchester, in between the A120 and A133 and close to the University of Essex. The site involves considerable areas of retained and improved open space including utilising the Salary Brook corridor as a landscape and open space asset between the existing urban boundary of Colchester and the proposed Garden Community. The development facilitates the provision of a potential link road between the A120 and A133 together with new employment space associated to the transport corridors and University.

7.1 Tendring Colchester Borders Land Use Breakdown

The following conceptual land use breakdown has formed the basis of the viability assessment and scenario testing process. The precise scope of land uses will emerge through further masterplanning.

Table 7.1.1 Tendring Colchester Borders Land Use breakdown

Land Use	Comment	Hectares	%
Residential	Net residential	213 ha	50%
Open Space	All – strategic, formal & informal provision.	106 ha	25%
Infrastructure	Strategic highways corridors, utilities, community facilities including schools)	64 ha	15%
Employment B1, B2 & B8	Offices, Industrial, storage & distribution	28 ha	6.5%
Retail	Local & District centres	15 ha	3.5%
Total		425 ha	100%

Residential density has been assessed based upon 37.5 dwellings per hectare (slightly higher than the other two Garden Communities given this site's closer relationship to the urban area of Colchester), over the 213 hectares equivalent to circa 8,000 homes.

7.2 Tendring Colchester Borders Infrastructure Requirements

The creation of a new settlement in this location will need to be accompanied by significant investment in infrastructure to provide all the necessary social and community facilities alongside transport improvements. Such items will be unique to the context of the site and have been drawn from a broad range of sources and assumptions. For the purposes of this viability assessment, the following key strategic infrastructure items have been costed as part of the study. They have also been programmed in at appropriate points in the scheme assessments to reflect the need to ensure that all infrastructure is provided in an effective and timely manner in accordance with the phasing of development.

Table 7.2.1 Tendring Colchester Borders Land Use breakdown

Infrastructure	On/Off Site	Total Cost
Site Preparation & primary infrastructure	On	£159m
Education Facilities (new schools & early years' provision)	On	£72m
Community & Health Facilities	On & Off	£18m
Leisure & Sports Facilities	On	£22m
Sustainability Measures	On	£4m
Country Park	On	£5m
Public Realm improvements to A133	On	£6m
Provision for on-site rapid transit route & facilities	On	£30m
Travel Planning Measures	On	£12m
Utilities (upgrades/new provision)	Off	£17m
Water (supply & waste upgrade/provision)	Off	£10m
Active Modes connections (pedestrian & cycle)	Off	£6m
Local Road improvements (including contribution to A120 – A133 Link Rd)	Off	£13m
Sub-regional rapid transit (contribution towards)	Off	£6m
Endowment (for management of open space)	-	£23m
Total all infrastructure/requirements		£403m

The total infrastructure requirements (exclusive of professional fees and any additional contingencies) add up to circa **£51,000 per residential unit**. The approach assumes that certain major infrastructure works that will have broader sub-regional benefit and/or serve a wider area (including provision of the A120-A133 link road and any rapid transit link) would benefit from sizeable contributions from the project, but not full funding.

7.3 Tendring Colchester Borders Viability Scenarios

The outcomes of the viability assessment scenarios, based upon the cross cutting assumptions set out in Chapter 4 and the site-specific components set out in this Chapter are set out in Table 7.3.1 below. These illustrate the final residual land values calculated back to an equivalent value per acre.

Table 7.3.1: Tendring Colchester Borders Viability Assessment Scenario Outcomes

Housing Tenure Mix			Cost Uplift (% on infrastructure)			Value Uplift (GC premium)		
Private Sale	Affordable	Starter Homes	0%	5%	10%	0%	5%	10%
80%	20%	0%	£118k	£83k	£42k	£83k	£200k	£296k
80%	10%	10%	£156k	£125k	£91k	£125k	£234k	£328k
75%	25%	0%	£67k	£23k	-	£23k	£155k	£254k
75%	15%	10%	£111k	£75k	£33k	£75k	£199k	£289k
70%	30%	0%	£26k	-	-	-	£106k	£213k
70%	20%	10%	£60k	£14k	-	£14k	£148k	£249k

The assessments show that:

- Residual land values incorporating a Garden Community value premium makes most scenarios comfortably above current (agricultural) values.
- At 20% affordable housing, all scenarios outperform current agricultural values
- At 25% affordable housing, most scenarios outperform current (agricultural) values, with the inclusion of starter homes generating higher residuals across all scenarios.
- At 30% affordable housing, additional cost contingencies may hinder viability, although premiums on values do generate residuals higher than current (agricultural) value. As at 25%, the inclusion of starter homes generally improves viability.

8. Conclusions

This report has been prepared to test viability in line with the requirements of policy, guidance, and best practice in relation to plan making and viability. As the Local Plan Section 1 identifies 3 strategic sites to be brought forward as Garden Communities, this study has focused upon a viability assessment of each of the sites which need to be considered in terms of their overall 'developability', and related confidence in terms of delivery.

Given the early stage of concept evolution of each of the proposed Garden Communities, this can only be a strategic study, which is proportionate and pragmatic in its approach. The assessments draw upon a range of data sources and assumptions and therefore present a general consideration of viability based upon the best available evidence. They examine the viability of initial concepts together with sensitivity and scenario testing to provide a broad overview of viability under alternative circumstances.

The assessments have drawn from a broad range of sources, some of which are still evolving and may be subject to change, and are based upon both cross cutting assumptions and information bespoke to each Garden Community.

This study generally reveals:

- Whilst varying in detail between each site, they have similar levels of strategic Infrastructure requirements (of circa £50,000 per residential unit) to enable the delivery of all necessary social, community, utilities, primary infrastructure and wider necessary transport improvements and policy requirements;
- A key differential between the sites is residential sales values, with these being strongest West of Braintree, lower around the Colchester Braintree Borders area, and lower again for Tendring Colchester Borders. The Garden Community on the Tendring Colchester Borders therefore generates the lowest residual land values of the three sites;
- Having said that, the majority of scenarios tested across each of the Garden Communities generate residual land values well in excess of current (agricultural) values;
- The ambition for high quality placemaking should feed through into higher sales values improving residual land values across all scenarios;
- Residual land values are higher at lower rates of affordable housing. Tenure mix will also be important, with a higher proportion of shared ownership, intermediate and potential starter homes generating higher residual land values.

A generally prudent approach has been taken to several assumptions. A more ambitious approach could potentially improve viability including opportunities afforded by the proposed delivery model involving a more proactive role of the public sector working alongside the private sector.

However given the relatively early stage of concept evolution there may also be elements of cost or value which could change as more information becomes available over time. As such, it is recommended that the viability of the sites is actively monitored on an ongoing basis.