



February 2020

# Garden City & Large Sites Financial Model

User Guide

## Introduction

*All viability assessments, including any undertaken at the plan-making stage, should reflect the recommended approach in national planning guidance, including standardised inputs, and should be made publicly available.*

National Planning Policy Framework, para 57

*The role for viability assessment is primarily at the plan making stage. Viability assessment should not compromise sustainable development but should be used to ensure that policies are realistic, and that the total cumulative cost of all relevant policies will not undermine deliverability of the plan.*

Planning Practice Guidance para 002

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.

Changes to the National Planning Policy Framework (NPPF) and Planning Practice Guidance (PPG) in 2018 and 2019 have given additional emphasis to the need to understand scheme viability. There is now more detailed guidance on the approach and relevant assumptions, along with a greater emphasis on front-loading the consideration of viability as a key part of plan-making.

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 new urban extensions, garden villages & towns, new communities and new settlements. These sites will be of key significance in addressing future housing needs, as well as providing opportunities to create quality places for the future.

Dealing with viability, particularly in the context of early planning for complex strategic sites can be difficult to tackle. There is no one size fits all approach, and various methodologies and appraisal tools can be used ranging in their complexity and suitability.

A collaborative approach involving the local planning authority, business community, developers, landowners and other interested parties improves understanding of deliverability and viability. Transparency of evidence is encouraged, and achieving shared understanding and agreement on the key variables to be used and the mechanics of an approach are important in securing robust outputs.

### **Role & Objectives of the Garden City & Large Site (GCLS) Financial Model**

The GCLS Model is high level financial model that can enable viability testing of long term, large scale sites (and in particular Garden City proposals) at an early stage in the planning process. It is an open source model capable of being used by relative non-professionals and without the requirement for specialist software. It is designed for use on large scale schemes with a development period of up to forty years.

The GCLS Model has been created primarily to enable early awareness raising on viability implications of strategic options. It can help support an informed dialogue between Local Authorities, scheme promoters and potentially Central Government at an early stage in decision making. A key aspect of the model is that it is 'open' in the sense that all parties can see all data and computations.

It provides a tool to test and consider options for sharing added value between landowner, developer, funders and community, including timing of payments. The model includes functionality to enable alternative scenarios to be tested in relation to the nature of the project and timing of payments in or out of the scheme under

different market conditions. It can help partners to explore partnership opportunities and test multiple scenarios through changing key assumptions.

## **GCLS Model Structure & Characteristics**

The general approach is based upon a series of input worksheets which users can populate with scheme specific information. This then combines the information into an overall financial analysis.

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 scheme viability.

## **Approach to completing the worksheets**

Whilst the intention is for the tool to be able to be used by a wide cross section of key players, users will need to be sufficiently confident and capable of understanding how the model works and what is needed to drive it.

The spreadsheets have a simplified user interface and provide a flexible tool to enable users to input key data and assumptions through a series of linked worksheets. Various assumptions about development typologies, scheme trajectories, infrastructure costs & timing can be included and amended to test alternative scenarios.

Each worksheet contains a limited number of cells for users to input relevant local data. Users only need to add data into the cells coloured tan colour. The other cells will automatically populate based upon data entered into these cells. The worksheet is locked to minimise risk of errors to other formulas. The worksheets can however be unprotected at any time to check the basis of formulas and calculations.

Some of the worksheets have in built checks to ensure that data is being input correctly. Error messages may appear when key elements have not been completed properly.

Assessing viability requires judgements which are informed by the relevant available facts. It requires sufficient understanding of the costs and the value of development in the local area and an understanding of the operation of the market.

A number of assumptions will need to be made based upon estimates and forecasts. The sheets contain a blend of pre-populated values based upon industry norms, with scope to amend values to fit local circumstances. Some key elements will always require user input (ie site size or specific infrastructure items). It is for the parties using the model to determine the input values for all key assumptions.

The remainder of this user guide provides an overview of the various parts of the model and some notes as to how to complete the necessary sections. It also makes reference to industry norms and comparable assumptions, albeit users must always reflect on the individual context of each project being considered.

## **Disclaimer**

The GCLS Model is 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 or other dealings in the Model. The Model is not intended to replace other viability assessment work required for valuation, local plan making or development management purposes. No part of the model is a formal RICS 'Red Book' valuation or should be relied upon as such. Users of the Model should consult with professional advisers if they wish to obtain advice which they can rely on.

## Worksheet 0: Summary Coversheet

GARDEN CITY & LARGE SITE FEASIBILITY MODEL		v1.9	Feb-20																														
SUMMARY COVERSHEET																																	
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Local Authority		Document Reference																															
Scheme Promoter		Date																															
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### Data Inputs & Comments

#### 0.1 Project Information

Project Name	User to add name of the project. This is then repeated in the header of the subsequent worksheets.
Local Authority	User to add Local Authority/ies (where the project is located).
Scheme Promoter	User to add the name of the promoter/developer (if known).

#### 0.2 References

Project Reference	User to add their own reference name/code for the project (if any). This is then repeated in the header of the subsequent worksheets.
Document reference	User to add any specific reference code for the spreadsheet file
Date	User to add appropriate date

#### 0.3 Scheme Summary Data

Total Gross Site Area	No user input required – all values taken from 'Worksheet 1 – Landuse'. These provide an overview of key scheme content metrics.
Average Residential Density	
Total Dwelling Units	
Affordable Housing	
Total all commercial floorspace	
Total Scheme population	

#### 0.4 Baseline Appraisal Key Data

6.1 Baseline Appraisal Key Data	
Total all costs before finance	<p>These values provide an overview of key scheme financial metrics. Two columns pick up two scenarios: one without land and finance charges (to the scheme wide cashflow), one with land and finance charges.</p> <p>Most values taken from 'Worksheet 6 – Baseline Appraisal'.</p> <p>The Residual Land Value (RLV) per hectare is calculated based upon the overall scheme balance divided by the total (gross) hectares. For the second scenario, any additional minimum land value is treated as a cost and included in the calculation.</p> <p>Peak debt is the maximum negative cashflow position from the baseline appraisal.</p> <p>Year cashflow goes positive is the year in which the cumulative cashflow turns positive from the baseline appraisal (with year 1 being 2018/19)</p>
Total value	
Balance	
Residual land value per hectare	
Net Present Value	
Internal Rate of Return	
Modified IRR	
Peak debt	
Year cashflow goes positive	

#### 0.5 S106/CIL per residential unit

Total S106 per unit	Total S106 per unit is the sum of all planning obligations by the number of residential units (from 'Worksheet 2 – Scheme wide').  Total CIL per unit is the average total charge per private unit (Note additional CIL receipts may be generated through other land uses).
Total CIL (average per private unit)	

## Worksheet 1: Landuse Assumptions

WORKSHEET 1: LANDUSE ASSUMPTIONS			Project Ref: 0		
<b>Total Site</b>					
Total Gross Site Area	1.1	hectares			
<b>Split By Use</b>					
Residential	50.0%	125 ha			
Open Space (strategic, formal & informal)	30.0%	75 ha			
Infrastructure (incl roads, utilities, community facilities)	10.0%	25 ha			
Employment B1/Offices	4.0%	10 ha			
Employment B2 B8 / Industrial	2.0%	5 ha			
Mixed Use	2.0%	5 ha			
Check	100.0%	250 ha			
<b>Total Residential Units</b>					
Average dwellings per hectare	40.0	dwh			
Total Dwelling Units	1.3	dwellings			
Residential floorspace average per hectare	30.000	sqm / ha			
Residential floorspace average per acre	1.4	sq ft / acre			
<b>Total Population</b>					
Average Household size	2.4	per unit			
Total Population	1.4	residents			
<b>Housing Tenure</b>					
Overall Percentage Private Units	70%	User to define typology			
Of which:	Private Type 1	100%	private site		
	Private Type 2		User to define		
	Private Type 3		User to define		
Overall Percentage Affordable Units	30%	User to define typology			
Of which:	AH Type 1	80%	Affordable Rent		
	AH Type 2	20%	Intermediate		
	AH Type 3				
<b>Commercial Floorspace</b>					
Use	Total Ha	Plot Density	Spreads	Sqm (gross)	
Employment B1/Offices	10	40%	2	80,000	
Employment B2 B8 / Industrial	10	40%	2	40,000	
Mixed Use	5	40%	1.6	20,000	
Total all commercial	25			140,000	

### Data Inputs & Comments

#### 1.1 Project Information

Total Gross Site Area	User to add the total (gross) site area. This should include all land including open space and infrastructure requirements.
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#### 1.2 Split by Use

User to add percentage split of uses on the site to add up to 100%. For large sites there will be considerable non-residential land required such as for parks, schools etc. The model has a pre-populated illustrative breakdown which should be amended to fit any particular local requirements., subject to consideration of the following

- Typically the actual residential component will be within the range of 40-60% of the total gross site area, towards the higher end of that range subject to how many other strategic uses (such as employment) may be required on the site.
- Open space will relate to the nature of the scheme and extent of strategic open space, country parks, playing pitches, other formal and informal open space that the site is expected to accommodate. This should also include aspects such as SUDs and drainage network, or other landscaping components that form part of the open space & landscape approach.
- Infrastructure which will include all other non-revenue generating infrastructure requirements such as strategic roads (excluding local estate roads on serviced plots), utilities (new gas, energy, water), and sufficient land for new community facilities (schools & community centres, etc).
- Other land for employment space. This is split to recognise there will be different possible requirements and related values for office, industrial, and retail/commercial leisure activities.

#### 1.3 Total Residential Units

Average dwellings per hectare	User to add average density for the residential component. This should be the net density to be applied to serviced residential land, and will tend to lie in the range of 30 to 50 dwellings per hectare depending upon the nature of the scheme.
Total dwelling units	No user input required. This calculates the total residential capacity based upon the hectares of residential land and dwellings per hectare added above.
Residential floorspace	No user input required. This calculates the total average sqm per hectare and sq ft per acre of residential floorspace. This can be a useful proxy and is calculated based upon the split of residential typologies (at 1.5) and unit floorspace assumptions (on 'Worksheet 3. Site Based')

#### 1.4 Total Population

Average household size	User to add an average number of people per household. In 2015, the average number of people per household was 2.4
Total population	This calculates the total population from all residential units

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**1.5 Housing Tenure**

Overall Percentage of private units	User to add the overall percentage of private residential units.
Of which: Private typologies	The user has the ability to define three separate private tenure typologies (if necessary) and set out their respective percentages of the total (ie % the 3 private tenure types should add up to 100%). There will generally be one private tenure type (open market sale), but users may want to add others if relevant to the project (such as build to rent, discounted market, custom build). The user can then define different cost/value assumptions relating to these typologies into 'WorkSheet 3. Site based' which will then drive different land values.
Overall Percentage of affordable units	User to add the overall percentage of affordable residential units.
Of which: affordable typologies	The user has the ability to define three separate affordable housing tenure typologies (if necessary) and set out their respective percentages of the total. This could include tenures such as affordable rent, social rent, intermediate, etc.

**1.6 Commercial Floorspace**

The total hectares per use will automatically populate in the first column depending upon the values added into the site breakdown at 1.2. User to add and amend assumptions here as appropriate to convert the site area to the overall gross sqm of commercial floorspace by each use. The plot density is the percentage of the plot area (hectares) to accommodate the actual building, and storeys is the number of building storeys. Note these will be average figures to apply across all land allocated to these uses. Initial values are in the model based upon industry norms.

## Worksheet 2: Scheme Wide Cost Assumptions

WORKSHEET 2: SCHEME WIDE COST ASSUMPTIONS				Project Ref:			
<b>SCHEME WIDE ENABLING WORKS</b>				<b>SUMMARY ALL INFRASTRUCTURE</b>			
<b>Physical Costs: Site Preparation &amp; Enabling</b>				<b>Summary of infra costs (excluding fees, finance)</b>			
Barclay generic cost per residential unit	£15,500	2.1	£15,500	Sub Total All Enabling Costs	£25,498	£12.9/m	
				Sub Total All Planning Obligations	£25,498	£12.9/m	2.5
				Total Enabling Costs, contingencies & inflation	£50,996	£25.8/m	
				Total (including fees, contingencies & inflation)	£76,494	£38.7/m	
<b>SCHEME WIDE COMMUNITY INFRASTRUCTURE</b>				<b>SCHEME WIDE ADDITIONAL COST ASSUMPTIONS</b>			
<b>On Site: Core Social Infrastructure</b>				<b>Professional Fees &amp; Other Costs</b>			
Education	£25,000	£12.5/m	£25,000	Strategic Planning Costs (master/tenants & approvals) - per plot	£100	£0.05/m	
Community, Health & Wellbeing	£2,000	2.2	£2,000	Scheme Year First Strategic Planning Costs (scheme)	£100	£0.05/m	
Open Space	£2,000		£2,000	Number of years Strategic Planning Costs applicable	2	£200,000	
Environmental Protection & Heritage	£200		£200	Professional Fees (including all fees for scheme wide works)	£10,000	£5.0/m	2.6
Sub Total	£29,200		£29,200	Stamp Duty Land Tax (on land value)	£100	£0.05/m	
				Agent Fees (on land value)	£100	£0.05/m	
				Legal Fees (on land value)	£100	£0.05/m	
<b>SCHEME WIDE OTHER ITEMISED INFRASTRUCTURE</b>				<b>MASTER DEVELOPER / LDV RETURN</b>			
Utilities: Sewer: Flow & SIPPW Primary Sub-Station	£5.0/m		£5.0/m	Allowance for master-developer/LDV/infra costs	£10.0/m	£10.0/m	2.7
Utilities: Sewer: Flow & SIPPW Overhead of the sewer system	£2.0/m		£2.0/m	Master-developer/LDV/infrastructure contractor profit rate	£10.0/m	£10.0/m	
Utilities: Electricity Distribution Works	£1.5/m		£1.5/m	<b>CONTINGENCIES</b>			
Utilities: Potable Water: connections to the street & to the house with a tap-off	£1.0/m		£1.0/m	<b>Contingencies by Type</b>			
Utilities: Water: Water: water to the house & to the house & to the house	£1.0/m		£1.0/m	Scheme Wide Enabling Works	£10.0/m	£10.0/m	
Utilities: Water: Water: Water: water to the house & to the house & to the house	£1.0/m		£1.0/m	Scheme Wide Community Infrastructure	£10.0/m	£10.0/m	
Utilities: Gas: Gas: Gas: gas to the house & to the house & to the house	£1.0/m		£1.0/m	Scheme Wide Other Itemised Infrastructure	£10.0/m	£10.0/m	2.8
Utilities: Gas: Gas: Gas: gas to the house & to the house & to the house	£1.0/m		£1.0/m	Other Item			
Utilities: Telephone: Telephone: Telephone: Telephone: Telephone: Telephone	£1.0/m		£1.0/m	On Plot: Construction Costs	£10.0/m	£10.0/m	
Contingency: Land & Highways Infrastructure	£10.0/m	2.3	£10.0/m	<b>SCHEME WIDE DISCOUNT RATE, FINANCE &amp; MIRR ASSUMPTIONS</b>			
Contingency: Strategic Highways Works	£10.0/m		£10.0/m	<b>Contingencies by Type</b>			
Contingency: Strategic Highways Works	£10.0/m		£10.0/m	Discount Rate (for use in NPV calculations, see finance costs)	£10.0/m	£10.0/m	
Contingency: Strategic Highways Works	£10.0/m		£10.0/m	General Finance Rate (for Barclay Approval)	£10.0/m	£10.0/m	
				Cost Scheme Wide Costs (not financed)	£10.0/m	£10.0/m	2.9
				Finance Rate (for MIRR calculation)	£10.0/m	£10.0/m	
				Reinvestment Rate (for MIRR calculation)	£10.0/m	£10.0/m	
<b>Other Items</b>				<b>INFLATION</b>			
Contingency: Travel plan services	£10.0/m		£10.0/m	<b>Type</b>			
Contingency: Travel plan services	£10.0/m		£10.0/m	Construction: On scheme wide costs	£10.0/m	£10.0/m	2.10
Contingency: Travel plan services	£10.0/m		£10.0/m	Construction: On plot based build costs	£10.0/m	£10.0/m	
Contingency: Travel plan services	£10.0/m		£10.0/m	Value Inflation: On plot based building capital value	£10.0/m	£10.0/m	
Contingency: Travel plan services	£10.0/m		£10.0/m				

## Data Inputs & Comments

### 2.1 Scheme Wide Enabling Works

This can be used to calculate the cost for site preparation, enabling works and the strategic provision of new services. The appropriate figure to add will depend heavily upon the local context such as topography and ground conditions. It should also relate to how much information is available to understand specific abnormal costs relevant to the scheme. Where there is limited information available in terms of site specific abnormalities (for example it is not known how much primary road infrastructure may be needed or what utility works are required), then a higher per unit value can be used to account for such costs. As a guide, costs for site preparation and secondary infrastructure on large residential sites range from £300k and £600k per gross hectare. The Harman report indicated a figure of £17-23k per unit. Other studies have applied a £20k per unit average which provides a sensible starting point in the absence of further information. Where more information is available on site specific abnormal costs (which should be itemised and included at 2.3) this figure should be reduced accordingly to only pick up the outstanding cost items that are relevant. Where itemised costs are identified at 2.3, and the scheme wide enabling works value is only covering general site preparation and enabling works, the figure could be reduced to £5-10k per unit. Also note that external works on serviced land parcels (for example costs accruing to housebuilders to build local estate roads, servicing, paths, etc, as part of their bespoke developments) will be picked up on 'Worksheet 3: Site Based'.

### 2.2 Scheme Wide Community Infrastructure

This section enables a simplified approach to be taken to calculating community/social infrastructure costs based upon generic per unit values. This would avoid needing to directly calculate the total numbers and typologies of individual facilities. These cells could be left blank, and itemised costs for specific requirements added under 2.3 if that approach was considered more appropriate. Care should be taken to ensure there is no double counting.

Education	An amount can be added to cover all anticipated education infrastructure costs (construction of new primary, secondary schools and any relevant pre-school & post 16 requirements)
Community & Health	An amount to cover any anticipated community facilities and health infrastructure requirements (as costs to fall on scheme – net of any commercial value).
Open Spaces, Leisure & Sports	An amount to cover any specific costs in these areas, such as provision of sports halls or facilities. The physical construction costs of new open space should be covered elsewhere (either through itemised costs as part of 2.3, or within the enabling works at 2.1)

Environmental / sustainability / waste	An amount to cover any other specific cost in these areas, such as to achieve certain environmental standards, waste / recycling requirements, etc. Costs could be presented under 2.3 if there are particular itemised requirements. An alternative approach could be to include within residential build cost assumptions in 'Worksheet 3: Site Based'
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### 2.3 Scheme wide other itemised infrastructure

User to add additional specific infrastructure requirements that are unique to the project. These should be itemised, provided with a reference number (if appropriate), and given an overall cost. They should also be defined as either related to enabling works (ie physical works necessary to bring the site forward for development) or as obligations (ie those items that would be defined as planning obligations/S106 items).

Standard costs associated with site preparation and enabling works can be addressed through 2.1, so only works considered as 'abnormal' should be listed here. Examples of types of such abnormal costs could include:

- Primary road network (only strategic roads which would open up the site – on plot estate roads and local servicing would be covered through plot external costs in 'Worksheet 3 – Site Based Assumptions');
- New utilities, such as new electricity sub-stations, waste water treatment works, etc;
- Abnormal decontamination, ground work or drainage requirements (such as provision of new lakes, surface water attenuation, etc). Note general allowances for baseline enabling works creating strategic open space is included within 2.1 hence these should only include any specific abnormalities.
- Any other unique costs for additional facilities or features, for example provision of park & ride facilities, bus stations, on site rapid transit, cultural & civic facilities, etc

The timing of spend and delivery of such items is addressed through 'Worksheet 5: Infrastructure Spending'.

### 2.4 Scheme wide: Other Items

User to add any necessary allowances or contributions. Examples could include contributions towards general travel planning/public transport service subsidies, employment/economic development initiatives, stewardship/ongoing management and governance of the place.

### 2.5 Summary Figures

These summarise the total costs of items 2.1 to 2.4 (above) and indicate the equivalent cost per unit. This provides a useful sense check of the overall scale of costs, as well as those that are enabling works related, and those that are planning obligations/S106 items. Note that these summary costs exclude other on-plot external works (which are calculated as part of 'Worksheet 3: Site Based Assumptions').

### 2.6 Scheme Wide Additional Cost Assumptions

Strategic Planning Costs - When first accrue - Number of years	User to add an allowance for the initial promotion and masterplanning costs relating to evolving the concept and progressing it through to approval. For the very largest projects this can run into several £m. An allowance of £300-£500 per unit may be sensible starting point. User to set out which year such costs become payable, and for how long they may be spread out over.
Professional Fees	User to add an allowance for the more detailed design works relating to the physical infrastructure and site wide works. A rate of 8-10% may be a sensible starting point.
Stamp Duty Land Tax	User to add the appropriate rate of SDLT. This will not necessarily be a cost born by the masterdeveloper, but is a cost related to the plot level transactions to developers and needs to be accounted for as part of the appraisal.
Agent Fees	User to add an allowance for agents fees on the land sales. A rate of 1% may be a sensible starting point.
Legal Fees	User to add an allowance for legal fees on the land sales. A rate of 0.5% may be a sensible starting point.

### 2.7 Allowance for master-developer / LDV / contractor profit

Masterdeveloper / lead contractor profit	User can add a profit, overhead and/or development management fee that may accrue to the overall masterdeveloper or lead contractor who would undertake the site wide enabling and infrastructure works. This profit will then be taken as cost to the scheme calculated as a % of costs for the site wide enabling and infrastructure works. As planning risk has been minimised the rate will be lower than traditional developer expected profit margins, and a figure between 5-15% may be a sensible starting point. If the nature of delivery is likely to involve a masterdeveloper as strategic investor, this cell should be left blank to allow the overall scheme IRR to be calculated based upon the level of overall return.
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## 2.8 Contingencies

User to add an allowance for contingencies on the capital works to allow for any potential cost over-runs. The appropriate rate should relate in part to the level of risk, and a suitable range could be between 2.5-10%. Users can include different rates of contingency depending upon the type of spend. Note this section also includes the contingency assumptions which would then be also applied to construction costs on the serviced land plots.

## 2.9 Scheme Wide Discount Rate, Finance & MIRR Assumptions

Discount Rate	The rate to be used as part of the calculation of Net Present Value (NPV) which discounts future values to present day values. User to add an appropriate rate. HM Treasury recommends a discount rate of 3.5%, and lower rates for projects anticipated to last for over 30 years.
General Finance Rate	The rate to be used as part of baseline financial appraisal (Worksheet 6) for the site wide works costs (only) – the financing of building works on serviced plots is addressed through Worksheet 3. User to add subject to current market lending conditions. A rate of 6%-7% may be a sensible starting point.
% of Scheme Wide costs debt financed	Where it is known that the overall balance will not be fully debt financed, the user can indicate an appropriate proportion to apply the finance rate to. User to add the appropriate proportion. A 100% rate may be a sensible starting point.
Finance Rate & Reinvestment Rate (for MIRR)	The appraisal includes both the Internal Rate of Return calculation and a Modified Internal Rate of Return calculation. For the latter this requires a cost rate of finance, and a reinvestment rate to be used as part of baseline financial appraisal (Worksheet 6). User to add subject to current market lending conditions. A rate of 6% may be a sensible starting point.

## 2.10 Inflation

Cost inflation (scheme wide)	This cell allows the user to add a rate of cost inflation to apply to the strategic site wide infrastructure costs (only). Once applied, the inflation rate would apply annually from year one on a constant basis.
Cost inflation (on residential serviced plots)	This cell allows the user to add a rate of cost inflation to apply to the construction costs on the serviced residential plots (ie the actual building and external works construction costs).
Value inflation (residential)	This cell allows user to add a rate of value inflation to apply to the per sqm values of buildings to be constructed. Once applied, the inflation rate would apply annually from year one on a constant basis. Various organisations provide forecasts for house price growth. These can differ by region and forecaster.

## Worksheet 3: Site Based Cost & Value Assumptions

WORKSHEET 3: SITE BASED COST & VALUE ASSUMPTIONS				Project Ref: 0		
<b>RESIDENTIAL</b>	Private Type 1	Private Type 2	Private Type 3	Affordable Rent	Intermediate	User to define
Unit Size (sq m)	100	100	100	100	100	100
Capital value (per sq m)	£850	£850	£850	£850	£850	£850
Build cost (per sq m)	£850	£850	£850	£850	£850	£850
<b>Sales related fees</b>						
Profit on sales (to plot developer) (on sales value)	20.0%	20.0%	20.0%	6.0%	6.0%	6.0%
Sales fees (on sales value)	1.0%	1.0%	1.0%	0.5%	0.5%	0.5%
Legal fees (on sales value)	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Marketing costs (on sales value)	2.5%	2.5%	2.5%	1.0%	1.0%	1.0%
<b>Other costs</b>						
External works & estate roads (on build cost)	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
Professional fees (on build cost)	10.0%	10.0%	10.0%	8.0%	8.0%	8.0%
Finance Rate (for site based works) (on build cost)	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%
Percentage of cost subject to finance charges	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Community Infrastructure Levy Rate (£ per sq m)	£1.0m	£1.0m	£1.0m	£1.0m	£1.0m	£1.0m
Equivalent Land value (£ per ha)	£1.0m	£1.0m	£1.0m	£1.0m	£1.0m	£1.0m
<b>COMMERCIAL</b>	B1 / Offices	B2, B8 Industrial	Retail/Leisure			
Assumed rent (per sqm)						
Assumed Yield						
Equivalent Capital Value (per sq m)						
Build cost (per sq m)	£1,300.00	£600.00	£600.00			
<b>Sales related fees</b>						
Profit on sales (to site developer) (on sales value)	20.0%	20.0%	20.0%			
Sales fees (on sales value)	1.0%	1.0%	1.0%			
Legal fees (on sales value)	0.5%	0.5%	0.5%			
Marketing costs (on sales value)	2.0%	2.0%	2.0%			
<b>Other costs</b>						
External works & estate roads (on build cost)	10.0%	10.0%	10.0%			
Professional fees (on build cost)	10.0%	10.0%	10.0%			
Finance Rate (for plot based works) (on build cost)	6.0%	6.0%	6.0%			
Percentage of cost as debt for finance charges	50.0%	50.0%	50.0%			
Community Infrastructure Levy Rate (£ per sq m)	£1.0m	£1.0m	£1.0m			
Equivalent Land value (£ per ha)	£1.0m	£1.0m	£1.0m			

### Data Inputs & Comments

#### 3.1 Private House Typologies Assumptions

Unit Size	User to add average floorspace (in sqm) for the private units.
Capital value	User to add the current capital value per sqm. Local values should be sourced where possible to consider the average sales values from new build in the local area.
Build cost	User to add average build cost (in sqm) for the private units. Costs could be sourced from BCIS, and be based upon the mean average BCIS 'Estate housing – generally' cost, adjusted for the local area concerned. This may reveal a cost of £800-1000 per sq m.
Profit on sales	User to add a profit rate for the plot developer. This is applied on the gross development value with expected return rates likely to be around 15-20%.
Sales fees	User to add an allowance for agent's sales fees on the unit sales. A rate of 1% may be a sensible starting point.
Legal Fees	User to add an allowance for legal fees on the unit sales. A rate of 0.5% may be a sensible starting point.
Marketing fees	User to add an allowance for marketing fees on the unit sales. A rate of 2.5% may be a sensible starting point.
External works & estate roads	Parcel infrastructure costs include those associated with garages, external works, gardens/local open space, on site roads and sewers. User to add as a % in addition to the build cost above. A rate of 10-15% may be a sensible starting point.
Professional fees	User to add an allowance for the more detailed design works relating to the building and plot external works. A rate of 8-12% may be sensible starting point.
Finance rate	The rate to be used for the above construction and plot external works costs (only). User to add subject to current market lending conditions. A rate of 6-7% may be a sensible starting point.
Percentage of costs subject to finance charges	User to add the appropriate proportion. A 100% rate may be a sensible starting point.
Community Infrastructure Levy	Where a CIL charging regime is in place, user to include an appropriate rate. Note this is applied as a 'cost' thus reducing the RLV payable by the developer.
Equivalent land value	Based upon the above assumptions, this calculates the present day value (per hectare) for each typology. This can be sense checked to see if it equates to current market activity.

### 3.2 Affordable House Typologies Assumptions

Unit Size	As per private, amended if appropriate.
Capital value	User to assess the assumed capital value. Rather than assess values through a detailed calculation of rents, voids and yields, users are to just add an overall assumed capital value for each tenure type. This should be derived from local information. Where such information is not known, starting points may be that shared ownership tenures could be around 75% of market value, affordable rent around 50%, and social rent around 40%, but rates should be checked against what is being paid locally.
Build cost	As per private, amended as appropriate.
Profit on sales	A lower return on the affordable housing is appropriate as there is very limited sales risk on these units for the developer and often a pre-sale of the units to an RSL prior to commencement. A rate of 6% on the affordable housing may be a sensible starting point.
Sales fees	This should be generally excluded as the affordable units are not being sold.
Legal Fees	User to add an allowance for legal fees on the unit transfers. A rate of 0.5% may be sensible starting point.
Marketing fees	User to add an allowance for marketing fees, but at a lower rate than the private sale. A rate of 1% may be sensible starting point.
External works & estate roads	As per private, amended as appropriate.
Professional fees	As per private, amended as appropriate.
Finance rate	As per private, amended as appropriate.
Percentage of costs subject to finance charges	As per private, amended as appropriate.
Community Infrastructure Levy	Leave blank as no CIL rate payable.
Equivalent land value	Based upon the above assumptions, this calculates the present day value (per hectare). Note where values are lower than costs, a negative land value may be produced which is factored in to the overall appraisal.

### 3.3 Commercial Assumptions

Assumed rent	User to add appropriate average rental values for the different typologies
Assumed yield	User to add appropriate yields for the different typologies
Equivalent capital value	No User input required, capital values per sqm are generated based upon the rent and yield values added above.
Build cost	User to add average construction cost. Information should be sourced locally or via BCIS information. In the absence of other information, a rate of £1,200-£1,500 per sqm for B1/offices, £600-£750 per sq.m. for B2/B8, and £700-£1,000 per sq.m. for retail/leisure may be sensible starting points.
Profit on sales	User to add a profit rate for the plot developer. This is applied on the gross development value with expected return rates likely to be around 15-20%.
Sales fees	User to add an allowance for agent's sales fees on the commercial unit sales. A rate of 1% may be a sensible starting point.
Legal Fees	User to add an allowance for legal fees on the commercial unit sales. A rate of 0.5% may be a sensible starting point.
Marketing fees	User to add an allowance for marketing fees on the commercial unit sales. A rate of 2.5% may be a sensible starting point.
External works & estate roads	Parcel infrastructure costs include those associated with external works, landscaping, on site service roads and sewers. User to add as a % in addition to the build cost above. A rate of 10-15% may be a sensible starting point.
Professional fees	User to add an allowance for the more detailed design works relating to the building and plot external works. A rate of 10% may be a sensible starting point.
Finance rate	The rate to be used for the construction and plot external works costs (only). User to add subject to current market lending conditions.
Percentage of costs subject to finance charges	User to add the appropriate proportion. A 100% rate may be a sensible starting point.
Community Infrastructure Levy	Where a CIL charging regime is in place, user to include an appropriate rate (relevant to each specific typology). Note CIL is applied as a cost.
Equivalent land value	Based upon the above assumptions, this calculates the present day value (per hectare).

## Worksheet 4: Development Phasing

[illegible]

### Data Inputs & Comments

#### 4.1 Residential Phasing

User to set out housing trajectory for the project (forecast completions per year). The model includes several separate lines if the user wanted to provide a breakdown by sub-areas. The total number of units will need to equate to the total dwellings on the site from 'Worksheet 1: Landuse'. Section 4.3 will flag if the trajectory does not add up to the appropriate total.

## 4.2 Commercial Phasing

User to set out commercial floorspace trajectory for the project (forecast sqm per use per year). The total amount will need to equate to the total floorspace on the site from 'Worksheet 1: Landuse'.

### 4.3 Capacity Check

No user input required. The model will automatically check the figures entered above and flag if the total is more or less than the necessary amount.

WORKSHEET 5: INFRASTRUCTURE PHASING			Project Ref:																										
			18/19 19/20 20/21 21/22 22/23 23/24 24/25 25/26 26/27 27/28 28/29 29/30 30/31 31/32 32/33 33/34																										
Development Phasing	Target	Total	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15	Y16	Y17	Y18	Y19	Y20	Y21	Y22	Y23	Y24	Y25	Y26	Y27	Y28	Y29	Y30
Commuter Housing and Office	120,000	120,000																											
Commercial Commercial Housing etc	120,000	120,000																											
<b>Scheme Wide Enabling Works</b>	<b>Target</b>	<b>Total</b>	<b>Y4</b>	<b>Y5</b>	<b>Y6</b>	<b>Y7</b>	<b>Y8</b>	<b>Y9</b>	<b>Y10</b>	<b>Y11</b>	<b>Y12</b>	<b>Y13</b>	<b>Y14</b>	<b>Y15</b>	<b>Y16</b>	<b>Y17</b>	<b>Y18</b>	<b>Y19</b>	<b>Y20</b>	<b>Y21</b>	<b>Y22</b>	<b>Y23</b>	<b>Y24</b>	<b>Y25</b>	<b>Y26</b>	<b>Y27</b>	<b>Y28</b>	<b>Y29</b>	<b>Y30</b>
Preparation and completion of	120,000	120,000																											
Construction of enabling works	120,000	120,000																											
<b>Scheme Wide Community Infrastructure</b>	<b>Target</b>	<b>Total</b>	<b>Y4</b>	<b>Y5</b>	<b>Y6</b>	<b>Y7</b>	<b>Y8</b>	<b>Y9</b>	<b>Y10</b>	<b>Y11</b>	<b>Y12</b>	<b>Y13</b>	<b>Y14</b>	<b>Y15</b>	<b>Y16</b>	<b>Y17</b>	<b>Y18</b>	<b>Y19</b>	<b>Y20</b>	<b>Y21</b>	<b>Y22</b>	<b>Y23</b>	<b>Y24</b>	<b>Y25</b>	<b>Y26</b>	<b>Y27</b>	<b>Y28</b>	<b>Y29</b>	<b>Y30</b>
Provision of public transport	120,000	120,000																											
Provision of public transport	120,000	120,000																											
Provision of public transport	120,000	120,000																											
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### 5.1 Development Phasing

## 5.2 Scheme Wide Enabling Costs

### 5.3 Scheme Wide Community Infrastructure

#### 5.4 Scheme Other Itemised

## 5.5 Other Items

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## Worksheet 6: Baseline Appraisal

### Data Inputs & Comments

#### 6.1 Land Costs

The User can profile out when and how much land will be purchased. This could test alternative scenarios such as buying all land upfront, or in tranches throughout the development period.

The User can select an option “Link to phasing of land sales”. This will automatically convert the profile of land purchases to align with the delivery of housing, based upon an assumption of land purchases 2 years prior to completions.

The User can then define an average land value (purchase cost) to apply to the profile of land requirements. This is manually inputted.

If the User wants to calculate the maximum amount available for land purchases, then they can use the ‘Goal Seek’ function (‘Data’ tab under ‘What if’ box). This function should be used to calculate a land value that when applied would mean that the overall balance (after land and finance costs) would equate to zero. The specific formula would need to manually entered as below:

LAND COSTS		18/19	19/20	20/21	21/22
Land Purchase (maximum to scheme break even after finance)		Yr1	Yr2	Yr3	Yr4
Link to phasing of land sales (2 year lead in)	No	Note: If User selects 'No' and manually inputs values			
Total hectares purchased		250.0			
Total Land purchase costs (max per hectare)	£418,448 /ha	£105 m			
Total Land purchase costs (max per acre)	£169,206 /acre				
CASHFLOW AFTER LAND & FINANCE					
Cashflow after land purchase					
Total Revenue	£603 m				

Cell \$D\$130 is the total residual after land and finance costs which will be recalculated to be ‘zero’.

Cell \$C\$114 is the Total land purchase costs (max per hectare) which will be amended to then set the residual to zero.



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