



CLG Housing Markets and Planning Analysis Expert Panel

Factors Affecting Housing Build-out Rates

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February 2008

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EXECUTIVE SUMMARY

This report seeks to explain housing ‘build-out’ rates, by drawing on relevant academic and practice literature, national survey work among 18 housebuilders and a particular local example, where one large site has been developed by ten separate companies. Its main findings are:

- Where land is in short supply and competition between developers is intense, housebuilders must assume the highest possible sale prices in order to make winning bids for land. Such bids are viable only because the release of land is restricted in aggregate terms by the planning system, while the release of houses is managed on a site-by-site basis by builders themselves to achieve the target sales rates underpinning earlier bids for land. Government policy and industry practice have thus combined to encourage developer caution about the ability of local housing markets to ‘absorb’ new-build supply. This finds expression in unambitious build-out rates.
- Developers with cautious build-rate assumptions will benefit from an advantage in terms of the price they can offer landowners assuming that house prices are rising faster than construction costs and the cost of borrowing. If housing demand changes after the point of site acquisition, most developers are generally reluctant to alter their planned production rates. Whether demand rises or falls, most prefer to alter prices or incentives. Companies generally see production rates as a marginal factor that cannot be varied very far from what was originally planned.
- Housebuilding companies see themselves as interdependent because local markets are viewed as having finite capacity. They therefore engage in extensive ‘competitor surveillance’ but seem to limit the impact of the information they collect to pricing and minor design decisions.
- Even if substantially more land were to be released by the planning system, it is likely that housing developers will take a considerable length of time before responding by bidding at lower land acquisition prices and building out more quickly.
- A tension may exist between design coding and the normal practice of the housebuilding industry to subdivide and swap large sites. The purpose and nature of design codes probably need to be better communicated if their advantages are to be reconciled with the desire to increase the supply of new-build housing by increasing the number of developers present on large sites.

1. INTRODUCTION

- 1.1. What determines the speed at which approved housing sites are developed? This is an important policy question, nationally and locally. At the national level, the Government's commitment to see 3 million new homes built in England by 2020 requires the private sector to produce and sell its output at a certain speed. If sites are developed more slowly than this, the Government's target will not be met. At the local level, planning authorities are expected to allocate enough land to enable the houses to be built within the required timescale. But if each allocated site is developed more slowly than the planning authority had assumed, more housing sites may need to be allocated to achieve the required level of development within that timescale. It is therefore essential for the Government to have a much stronger evidence base on 'build-out' rates to inform the decisions it needs to take on the delivery of new housing.
- 1.2. This research seeks to investigate and explain 'build-out' rates, by drawing on relevant academic and practice literature, national survey work among 18 housebuilders and a particular local example, where one large site has been developed by ten separate companies. In economic theory, a firm determines its optimal rate of production (or level of output) not on the basis of mere logistics (how quickly can inputs be assembled etc?) but critically in relation to the demand for its products. Thus, price adjustments are crucial in bringing optimal average sales rates and optimal average production rates into alignment. This means that to explain 'build-out' rates, we need to look closely at the way in which new homes are priced and marketed, and not concentrate exclusively on the construction process.
- 1.3. What drives this alignment process between price and quantity? We can immediately think of three competing influences, each of which can be expressed as a formal proposition. These influences are:
 - Corporate strategies **within** each firm. Here we can set the proposition that "The price and quantity of output are determined by the interaction of marginal revenue and marginal cost, reflecting firm and market level economic factors." We investigate this proposition in Sections 2 and 3 of the report, where we look in turn at how optimal sales and production targets are determined, and then at how builders react if sales are better or worse than expected.

- Competitor behaviour. Here we can set the proposition that “The price and quantity of output are determined by expectations and knowledge of competitors’ behaviour.” We investigate this proposition in Section 4 of the report, where we look at the information housebuilders gather on their competitors and their reaction to knowledge that a competing development may soon start close to one of their own developments.
 - Government policy. Here we can set the proposition that “The price and quantity of output are determined by public policy and by expectations/ knowledge of future public policy and other institutional factors.” We investigate this proposition in Section 5 of the report, where we look at the extent to which public policy constrains the immediate capacity of housebuilders to respond to market changes and the way in which the broader policy context structures their entire approach to price and output setting.
- 1.4. Section 6 summarises and integrates the evidence from these propositions to reveal the most important factors determining the speed at which approved housing sites are developed and to indicate ways in this might be influenced by government policy.
- 1.5. The report is based on three main sources of information, each of which feeds into the various sections. Academic and practice-based literature was our first information source. However, while much has been written about the industry in recent years, very little is specifically concerned with explaining ‘build-out’ rates. So, as our second information source, we decided to conduct a national survey of all 45 housebuilders operating in England and building 250 or more units in 2005 (using the ‘Wellings’ league tables to identify them). We distributed a standard questionnaire by email and received 18 replies (or a 40% response rate). These replies were broadly representative of the structure of the industry as a whole since they comprised six volume builders (each with an annual output in excess of 2,000 units) seven medium-sized builders (each with an annual output between 501 and 2,000 units) and five smaller builders (each with an annual output between 250 and 500 units). Respondents therefore ranged from, at the top end, two out of the UK’s three ‘super-builders’ (those producing in excess of 10,000 units annually) down to a small private company producing a little over 250 units annually.
- 1.6. We then undertook detailed telephone interview with 8 of the respondents as well as a face-to-face interview with the HBF in London. The telephone interviewees were again evenly spread by size across the 45 housebuilders operating in England. Our

third information source was the investigation of a specific local example, namely Fairfield Park in Bedfordshire, where from 2004, some ten different companies have worked to develop a large former hospital and its site for almost 1,200 new homes. We undertook telephone interviews with seven of these companies and gathered substantial contextual data on the development from the internet. A brief summary of the Fairfield Park development is included in Appendix 1, but otherwise information from this source, as with the other two sources, is integrated throughout the report.

2. COMPANY STRATEGIES: OPTIMAL SALES & PRODUCTION RATES

- 2.1. Some economic commentators see fierce competition among housebuilders, while others doubt whether companies really compete at all with each other. Such uncertainty reflects the surprising lack of published material on the microeconomic structure of UK housebuilding, particularly at local market level. Leishman *et al.* (2000)¹ is a rare exception to this, while Ball *et al.* (2000)² explain the profitability of publicly quoted construction firms in relation to macroeconomic conditions. There is not much else written academically about competition between housebuilders³. This may be because the unusual characteristics of industry, such as the domination of supply by second-hand units, make it hard to analyse. Whether developers really follow ‘price signals’ is thus worth investigation.

The drivers of housebuilders’ initial prices

- 2.2. We asked the 18 housebuilders surveyed nationally to specify the importance they attached to seven potential sources of information in setting sale prices, on the scale from 1 for ‘no importance at all’ to 5 for ‘absolutely important’. The results (shown in Table 1) indicate that developers pay most attention to past sales evidence, recent market research, and the views of local estate agents. In contrast, relatively low importance is placed on information from local authorities and others in the industry. It is perhaps surprising that housebuilders do not make greater use of the key position of planning authorities in understanding local supply.

¹ Leishman, C., Jones, C. and Fraser, W. (2000) The influence of uncertainty on house builder behaviour and residential land values, *Journal of Property Research*, Vol. 17, No. 2, 147-168.

² Ball, M., Farshchi, M. and Grilli, M. (2000) Competition and the persistence of profits in the UK construction industry, *Construction Management and Economics*, Vol. 18, No. 7, 733-745.

³ We note in this context the study currently underway by the Office of Fair Trading. See: http://www.oft.gov.uk/advice_and_resources/resource_base/market-studies/home

Table 1: Mean Developers' Ratings of Factors Used to Set Prices				
	<i>Importance Attached on Scale from 1 to 5</i>			
<i>Potential information source</i>	<i>All respondents</i>	<i>Volume developers</i>	<i>Medium-sized developers</i>	<i>Smaller developers</i>
Recent sales experience on company's own sites	4.6	4.8	4.1	4.8
Market research specifically commissioned by company	4.6	4.0	5.0	4.8
Sales data about competing developments	4.3	4.2	4.0	5.0
Reports from, and discussion with local estate agents	4.0	3.3	4.4	4.2
Online price databases, such as Hometrack	3.2	3.3	3.0	3.2
Information from local authority, e.g. on potential competing developments	2.6	3.0	2.3	2.6
Informal discussion with industry colleagues, including those in other companies	2.3	1.7	2.3	3.2

Optimal build and sales rates

- 2.3. How do developers use this information to set prices? Are price changes applied as a means to speed up or slow down sales rates? In the questionnaire, we asked housebuilders to tell us the optimal average sales rates for two typical large developments, one greenfield and one brownfield. The results, shown Tables 2 and 3 below, generally confirm the anecdotal and literature evidence that the typical housebuilder aims to build and sell one unit a week

Table 2: Optimal Average Sales Rate: Greenfield				
Typical 200 unit Greenfield Development comprising mainly 2, 3 & 4 Bedroom Houses				
<i>Sales rate</i>	<i>All respondents</i>	<i>Volume developers</i>	<i>Medium-sized developers</i>	<i>Smaller developers</i>
1 per 2/3 days	2	0	0	2
1 per week	8	2	5	1
1 per 10 days	5	1	2	2
1 per fortnight	0	0	0	0
<i>Note: Not all respondents answered this question but all who did not offered a written response to an open-ended question element. Table.4 considers all 18 responses.</i>				

Table 3: Optimal Average Sales Rate: Brownfield				
Typical 200 unit Brownfield Development comprising mainly 2, 3 & 4 Bedroom Apartments				
<i>Sales rate</i>	<i>All respondents</i>	<i>Volume developers</i>	<i>Medium-sized developers</i>	<i>Smaller developers</i>
1 per 2/3 days	1	0	0	1
1 per week	7	2	3	2
1 per 10 days	3	0	2	1
1 per fortnight	0	0	0	0
<i>Note: Not all respondents answered this question but all who did not offered a written response to an open-ended question element. Table 4 considers all 18 responses.</i>				

- 2.4. Although inferential statistics cannot be drawn from only 18 responses, we were able to impute annual sales rates, using the open field information given by respondents who did not choose one of the pre-defined answers in Tables 2 and 3. These figures, (summarised in Table 4) suggest an average optimal sales rate of about 59 units per annum for greenfield houses and 67 for brownfield apartments. The practicality of apartment construction normally makes it impossible to ‘drip feed’ the market or to achieve a slow trickle of sales. With more capital employed, speedy construction and sales are essential to contain exposure to borrowing. Interestingly, volume developers seem to build apartments faster than smaller and medium-sized developers, though sample size prevents testing this for statistical significance.

Table 4: Imputed Annual Optimal Sales Rates				
<i>Optimal annual rate</i>	<i>All respondents</i>	<i>Volume developers</i>	<i>Medium-sized developers</i>	<i>Smaller developers</i>
Greenfield housing	58.61	55.83	45.71	80.00
Brownfield apartments	67.18	81.33	54.14	68.75

- 2.5. Most builders generally appear to set a target of between 40 and 80 units built and sold from each outlet annually. One volume builder thought that annual rates of 150-200 would not impose significant inefficiencies. However, he added that it would be impossible to sell houses at this rate without building in a well-defined urban market and offering a range of well-differentiated products. Later on, we explain why builders become ‘locked in’ to relatively unambitious build targets.

Market capacity and absorption

- 2.6. The research confirmed that the main reason why large development sites are split between builders is to improve the sales rate, rather than to make construction more efficient. As one interviewee put it: *“It’s less about build rates and more about sales rate. By putting more than one builder on a site, you are offering more choice to the consumer, therefore opening the site up to more potential customers.”* Most interviewees attributed the consequent improvement to the additional overall spend on marketing (with the benefit of critical mass effects) along with the attractions of product differentiation. Some thought the practice of splitting or trading sites between developers also achieved a faster return on capital employed. Furthermore, as Fairfield Park showed, splitting can be a risk reduction strategy that limits exposure to particular locations. Splitting a large site between different brands of the same company was generally thought to achieve some, but not all, of these advantages.
- 2.7. Most companies thought market areas have finite weekly sales rates, which can make developers more cautious about targets on split sites. One smaller developer felt that: *“Too often the different brands/products are aiming at the same market sector so diminishing returns arrive rapidly.”* He highlighted a 1,200-unit scheme in southern England, where several developers all built similar family-type housing, arguing that *“The market was swamped and sales virtually ground to a halt. To gain maximum advantage from splitting, products on adjacent sites should be quite distinct”*

- 2.8. Some interviewees considered that the finite nature of sales at any one location makes developers there more aware of their immediate competitors. But others thought that individual builders can be imprudent when setting targets in growth areas, if they do not fully appreciate how the combined production of several companies at a single location can exceed the absorption capacity of the local market. Although a mixed picture emerged, it revealed some important aspects of market operation: (a) housebuilders recognise some interdependence in terms of their output levels; (b) they regard local housing markets as having a limited capacity to absorb new-build supply and; (c) they can be cautious about too many builders operating at one time in a locality.
- 2.9. The theory of oligopoly, with its notion of ‘kinked demand curves’, can shed some light on these insights. It is assumed an industry comprises a small number of large competing firms: maybe 5-10. If no firm’s product is unique, they will all compete for market share on the basis of price alone, so making their pricing strategies interdependent. This gives the appearance of collusion because firms follow each others’ price changes. The market for the supply of petrol illustrates this well. Suppliers generally resist price changes until one company imposes a cost-driven price increase, then most other suppliers follow suit.

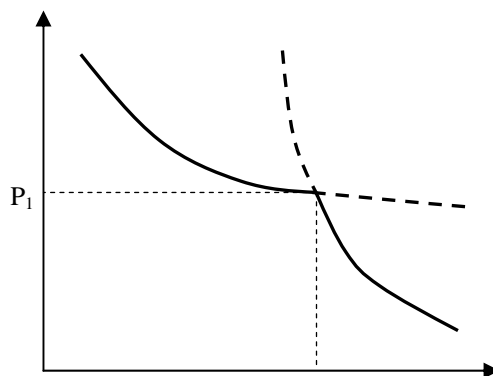


Figure 1 – The kinked demand curve

- 2.10. As a result, a kinked demand curve is derived from two different demand curves, each of which summarises the industry response to a single firm’s price change. This is shown in Figure 1. A rise in prices is not mirrored by other players in the industry and so is associated with a significant loss of market share. Meanwhile, a price cut causes a price war and results in only a small rise in market share for the price-cutting firm.

- 2.11. The predictions of the kinked demand curve hypothesis appear closely to mirror the attitudes revealed by many of the housebuilders interviewed. These recognise that the dominance of the second-hand market limits an area's ability to absorb new-build supply. This sets up a 'zero sum game' in which developers compete on price to take market share, but the total size of the new-build market is effectively pre-determined by the size of the second-hand sector. It follows that an uneasy equilibrium emerges, in which developers cannot raise prices very much without losing substantial market share (either to competitors or to the second-hand sector). Cutting prices simply leads to retaliatory action from competitors, while the size of the new build sector remains largely unchanged.
- 2.12. Fairfield Park reveals more about this. Housebuilders there saw some economies of scale from the involvement of several companies (more prospective buyer visitors, shared marketing and so on). However, some respondents thought the prescriptive design guidance had narrowed the developers' market offering (see Section 5). This implies that major developments cannot sustain too many builders when firms have insufficient control over development mix and specification. Fairfield Park also reaffirms the idea that local markets are associated with finite capacity or potential maximum weekly sales rates. As more developers are introduced to a given locality or site, sales rates may suffer if developers do not retain the ability to differentiate their product through control over design and specification.
- 2.13. Several developers indicated that larger developments do not have any real efficiency advantage compared with smaller ones. Other respondents saw limited advantages in spreading the fixed costs or overheads over the larger number of units associated with larger sites. These mixed results may suggest that the economies of scale are modest, and only a marginal influence on overall production costs. The qualitative results did contain some recognition that smaller sites are riskier because construction costs, sales revenue or mistaken sales rate assumptions are, by definition, more difficult to remedy when the development is small in scale.

Summary of evidence on optimal sales and production rates

- 2.14. The evidence above is one of an uneasy equilibrium in which developers see themselves constrained by local market capacity. Crucially, a rise in housing demand can lead to a rise in prices but not necessarily an increase in the rate of new-build absorption. While developers appear to be competitive to a point, they show evidence of tacit interdependence. When too many developers are operating in one area, then

their collective supply begins to approach the finite rate of absorption and each developer's actions may become influenced by those of competitors. Significantly, the main prediction from this research is that developers will compete for market share based on output pricing. As the next section thus demonstrates, when demand changes, companies are thus generally keener to adjust price than output. Each developer may lose share by raising prices but fail to gain by cutting prices.

3. COMPANY STRATEGIES: REACTING TO MARKET CONDITIONS

Pricing behaviour

- 3.1. This section examines how developers respond to unexpected or changing market conditions. Simple economic theory might predict that market price will fall if demand is weaker than expected, as firms compete more fiercely to sell output. Since the second hand market is far larger than the new-build sector, if housing demand falls generally, this will impact disproportionately on the new-build sector, since builders will need to make significant price cuts to ensure market clearing. However, the lengthy development process also means that price responses may differ between projects still in preparation and those already on site. Developers' decisions about production rates are not as easily predicted as pricing decisions but a simple theoretical expectation would suggest that production rates will increase when demand rises and decrease when it falls. Exceptions to this basic rule may arise if producers look closely at how fast or slowly demand is changing in any direction, in order to anticipate market conditions by the time development is actually completed.
- 3.2. The research examined developers' pricing and output decisions in some detail. Most developers claim to review prices and incentives weekly or fortnightly. They generally release a small number of houses at a time, with actual sales evidence then used to fine-tune pricing. One interviewee also suggested that releasing units in small phases psychologically encourages buyer commitment before possible price rises. Deliberate under-pricing appears rare, although it can be used to stimulate initial demand. However, substantial discounts may be offered for bulk investor purchasers of urban apartments, which reduce the developer's risk by providing immediate cash and a pre-sale of up to 20% of units.
- 3.3. If market conditions and sales prove worse than expected, developers tend first to rethink their product specification and marketing strategies. One developer at

Fairfield Park commented: “We spec up our houses: we put in the granite worktops, really nice kitchens and we look at what other competitors do. These are the crucial things, kitchens and bathrooms - upgrade them and up-spec them and you’ll be in front of the pack.” Alongside this, sales teams may be changed or monitored more closely. Crucially, incentives (such as paying stamp duty for the buyer) will be offered and well advertised. As a last resort, actual prices may be cut. Significant changes to the rate of construction are avoided, unless all efforts to stimulate demand fail. In any case, one interviewee suggested the speed of construction is really only variable by around 10% either way for houses and hardly at all for apartments.

Production rate behaviour

3.4. We probed the potential constraints upon developers’ ability to respond, in the short term, to a rise in housing demand, by asking the 18 housebuilders surveyed nationally what factors might prevent them speeding up construction of a 200 unit development in response to better than anticipated market conditions. For each factor, respondents were asked to select a number from 1 for ‘likely to be virtually insignificant as a constraint upon increased production’ to 5 for ‘likely to be highly significant as a constraint upon increased production’. The overall results are shown in Figure 2

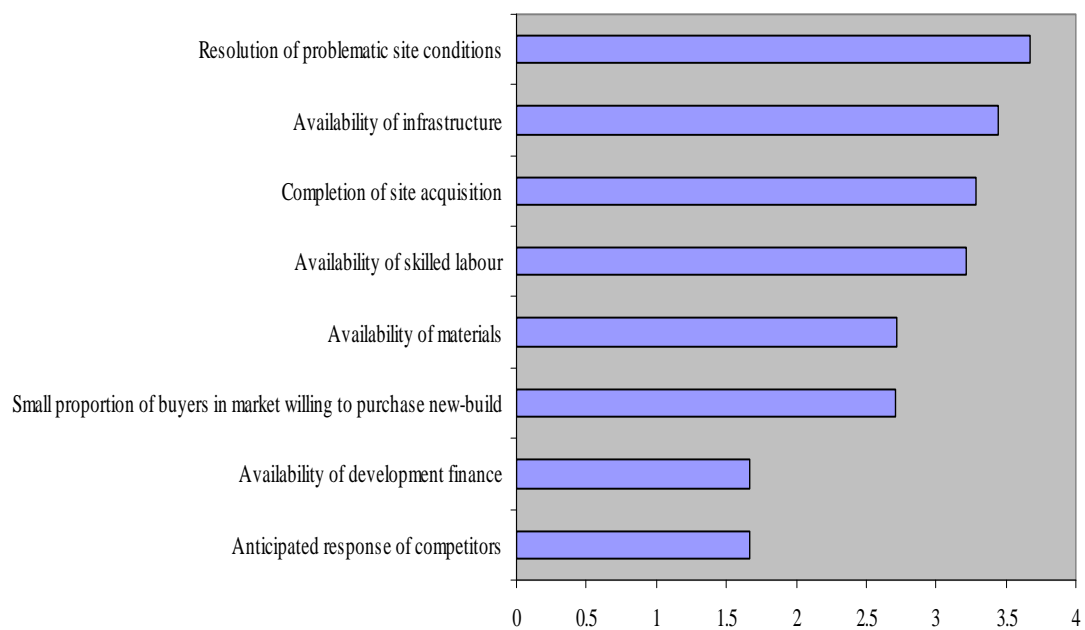


Figure 2: Importance of constraints to raising build rates in the short-term

3.5. These are important findings because they suggest that, although there are some logistical constraints on short-term increases in production, they are certainly not overwhelming. The results are shown in more detail in Table 5. ‘Completion of site acquisition’ was the most frequent (modal) response, although ‘resolution of problematic site conditions’ had the highest mean score. Responses to the latter were thus more consistent. Although many developers rated ‘completion of site acquisition’ highly as a constraint, some thought it quite unimportant, reducing its mean score. Other potential constraints of note were ‘availability of infrastructure’ and ‘availability of skilled labour’, though none approached a highly significant level.

Table 5: Significant Constraints on Raising Build Rates					
Constraint	<i>Mean</i>	<i>Mode</i>			
	<i>All developers</i>	<i>All developers</i>	<i>Volume developers</i>	<i>Medium-sized developers</i>	<i>Smaller developers</i>
Resolution of problematic site conditions	3.67	3	3	5	4
Availability of infrastructure	3.44	4	1	4	4
Completion of site acquisition	3.29	5	1	5	5
Availability of skilled labour	3.22	3	2	3	4
Availability of materials	2.72	2	1	2	3
Small proportion of buyers in market willing to purchase new-build	2.71	1	1	2	1
Anticipated response of competitors	1.67	1	1	2	1
Availability of development finance	1.67	1	1	3	1

Balancing production and price changes

- 3.6. A key reason why developers are generally unwilling, or unable, to vary production rates is that the assumed (or target) sales rate is of critical importance in determining each developer's land acquisition bid. Once land is purchased, the assumed rate become essential to deliver, so action is centred on ensuring that set targets are met. Developers are particularly sensitive to debt and appear much more willing to reduce prices or offer incentives than build more slowly. Equally, when sales rates are better than anticipated, prices are quickly increased or incentives dropped to bring the sales rate back on target, with the benefit of additional income beyond that forecast at the time of land purchase. Table 6 indicates builders' reactions when sales rates are better than expected. Interestingly, no developers would simply increase the construction rate, when the market improves. Some raise prices alone, but most do this alongside an increase in the construction rate. Although the research did not allow us statistically to test the relative weight of these two responses, previous analysis would indicate the prices are likely to be raised proportionately more than the construction rate. Indeed, the detailed interviews strongly indicated that, of these responses, price is universally seen as the more flexible. Developers willing to speed up construction generally saw this as a marginal reaction and secondary to price.

Table 6: Developers' Stated Responses to Higher than Expected Sales Rates				
<i>Stated likely response</i>	<i>All respondents</i>	<i>Volume developers</i>	<i>Medium-sized developers</i>	<i>Smaller developers</i>
Increase prices	6	1	3	2
Increase construction rate	0	0	0	0
Increase both prices and construction rate	11	5	4	2
None of the above	1	0	0	1

- 3.7. As Table 7 shows, developers' responses are less homogeneous in relation to likely reactions when sales rates turn out worse than expected, but again, changing the rate of construction alone is a rare response.

Table 7: Developers' Stated Responses to Lower than Expected Sales Rates				
<i>Stated likely response</i>	<i>All respondents</i>	<i>Volume developers</i>	<i>Medium-sized developers</i>	<i>Smaller developers</i>
Decrease prices	6	1	3	2
Decrease construction rate	2	2	0	0
Decrease both prices and construction rate	9	3	4	2
None of the above	1	0	0	1

- 3.8. Further insights are gained from an analysis of the responses to the associated open-ended part of the questionnaire. The responses to this question were not limited, i.e. a given respondent could list several different courses of action. As Table 8 confirms, changing marketing efforts is the most frequently cited example of other forms of action likely to be taken in response to poorer than anticipated sales rates. This is followed equally by changing the specification and incentives. These responses very much reinforce the emphasis of interviewees on improving sales during difficult times rather than slowing down construction or adjusting target sales rates.

Table 8: Developers' Open-Ended Responses to Lower than Expected Sales Rates				
<i>Stated likely response</i>	<i>All respondents</i>	<i>Volume developers</i>	<i>Medium-sized developers</i>	<i>Smaller developers</i>
Change marketing	10	5	3	2
Change specification	7	4	1	2
Change incentives	7	3	1	3
Improve or test sales staff	4	3	1	0
Sell plots to RSL or increase affordable housing	3	1	1	1

- 3.9. Fairfield Park provides further evidence of developers' responses when the pricing and sales rate assumptions prove to be unfounded. One developer had misjudged the local market, despite having apparently carried out significant market research prior to purchase. When the actual sales rate fell well below the anticipated sales rate, the developer effectively financed a reduction of asking prices through the sale of land parcels. This logic suggests two possible scenarios: (a) that land prices rose during the development (despite demand not rising enough to grant a higher sales rate to this developer); and (b) that reduced sales revenue much better than failing to achieve sales rates. The logic applies more to houses, which are generally released several units (5-12) at a time, than to flats, which are often released on a larger scale (up to 300 in a single release).
- 3.10. So far, it may appear that developers respond paradoxically to unexpected or changing market conditions. Simple theoretical analysis suggests an improvement in demand should cause production to rise. Yet, developers appear most reluctant to vary planned build rates and, instead, work very hard to deliver the build rate assumed at the point of land acquisition. The simple model, however, omits two critical factors: (a) housing developers operate jointly in at least two markets (housing and land markets) and; (b) while land prices are set the time of acquisition, construction projects play out over potentially much longer time periods and key development variables (such as house prices) can change markedly over these periods.
- 3.11. If we assume that house prices grow faster than construction costs, and also cover any additional borrowing, then there is a net financial pay-off in adopting a lower planned build rate. Or to put this another way, builders assuming low (but still technically efficient) production rates will be able to win sites in the land bidding process. To demonstrate, Figure 3 sets out an index of simulated development net present values (NPVs) assuming a 200 unit site, price growth of 15%, cost growth of 3% and 9% cost of borrowing per annum. Although these are assumed or hypothetical figures, the simulation demonstrates the likely effect when rates of house price growth exceed cost inflation and the cost of borrowing – there is an incentive for developers to assume lower production rates. In a competitive land market, developers with a low (but still efficient) assumed build rate should tend to win sites more often.

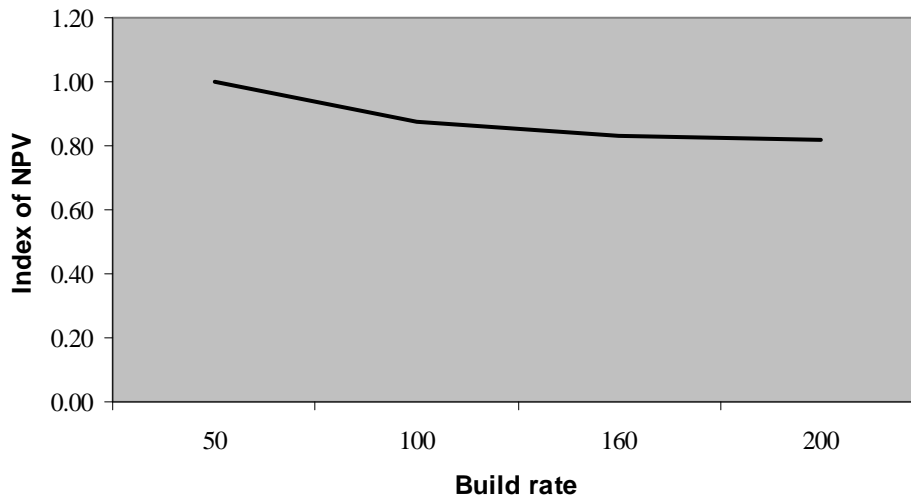


Figure 3: Simulated NPVs (a proxy of land value) in relation to build rate

Impact of reduced credit availability

- 3.12. The recent difficulties in the availability of finance (including mortgage finance) yield an interesting opportunity for gauging the reactions of housing developers to a sudden change in demand. This interview question also made it possible to explore developers' views about their own ability to change production rates both of projects in progress and of those still in preparation. Reactions to the 'credit crunch' questions reaffirm the idea that the construction process is difficult to stop or alter once in progress. Many responses suggest that developers will continue with developments that have started, but may have to review pricing. Developments yet to begin may be delayed or suspended if market conditions become worse.
- 3.13. One respondent indicated that a large proportion of their buyers were armed with significant equity and considered that this would dampen the effects of the credit squeeze. Other responses highlight the importance of the first time buyer market (although they buy relatively small / less expensive houses / flats, it effectively kick starts the house buyer chain). One of the respondents suggested that developers are now asking for larger deposits (25%) from first-time buyers, particularly on urban developments. There is a suggestion that this reduces risk to the developer, but exacerbates the credit squeeze, because it means a requirement for more liquidity from those at the bottom of the ladder. This respondent estimated a 15-20% drop in sales compared with a year ago.

4. REACTING TO COMPETITOR BEHAVIOUR

4.1. Competition between housebuilders is at its most intense in the acquisition of land. Yet to compete effectively for land, housebuilders must be confident that the price and specification of their intended products will enable them at least to match the revenue performance of similar housebuilders. As a result, the industry is characterised by extensive ‘competitor surveillance’ in which each company monitors its rivals not merely on the basis of annual results but also in relation to the comparative performance of neighbouring developments.

4.2. This is well illustrated by the comment of one of the Fairfield Park housebuilders, when asked how much interest they took in the sales rates achieved by other builders on the development:

“It’s really just gauging the competition on the park. Simplistically if you’re on a large development, and we’re on a couple, if there’s eight show houses and on a weekend everybody has had fantastic visitors and you’ve had none, your sales team will be saying what are we doing wrong? Is the signage right, have we got the right product, is our advertising right? We’d look at things like that. And again on reservations, if at a weekend everybody had taken reservations and you hadn’t, is it that you haven’t got the same product, is it that your price is too high, is it your specification that’s wrong?”

4.3. Over what distance does ‘competitor surveillance’ of rival developments extend? We asked the 18 housebuilders surveyed nationally to specify the typical distance in miles to what they would normally consider the furthest likely competitor for seven different types of development. The results are set out in Table 9, which shows a clear distinction between urban and greenfield sites. It is apparent that within cities, housebuilders generally see potential competition as contained within a distance of two to four miles as compared with six to eight at greenfield locations. In both cases, this suggests that housebuilders may define local housing markets more narrowly than in previous research.

Table 9: Perceived Competition Limits for Individual Developments		
<i>Development Type</i>	<i>Miles</i>	
	<i>Mean</i>	<i>SD</i>
Apartments in outer London	2.40	2.79
Apartments in outer London	3.88	3.48
Apartments in major provincial city centres	2.73	2.48
Apartments within major provincial cities but beyond the city centre	3.37	2.54
Houses on greenfield sites on the edge of major provincial cities	6.00	3.96
Houses on greenfield sites on the edge of small and medium-sized towns	5.62	2.78
Houses on greenfield sites in mainly rural areas	7.97	4.09

- 4.4. Within this distance, developers keep a continuous watch on potentially competing sites to ensure that their own developments are advantageously placed in the local market. All 18 housebuilders collected data on three important aspects of rival developments, namely:
- Total house/unit production
 - Subdivision by house/unit type
 - Selling prices
- 4.5. Additionally, two-thirds of the housebuilders gathered information on production rates at competing developments and slightly under half did so for sales rates. Some went even further, obtaining schedules and measuring up the square footage or analysing the various incentives offered by competitors. We investigated the extent such detailed knowledge of competitor behaviour persuades developers to re-think their own strategies. Specifically, we asked the 18 housebuilders for their likely reaction to the news that that a competitor had secured planning permission in the locality for a similar development to their own. Although builders were asked to consider this under two different scenarios (first, if they were already on site and secondly, if they were almost ready to start on site) the answers given did not vary significantly between these circumstances.
- 4.6. The overall picture was one of only limited immediate reaction to news of additional competition. As one of the UK's largest housebuilders commented: "*We would gather*

competitor information and continuously monitor the situation. In practice, our response would be dependent upon the type of development receiving planning permission and its timescale and degree of similarity to our own product and service offering.” Overall, on the scale from 1 for ‘not at all likely’ to 5 for ‘highly likely’, few housebuilders believed the prospect of more competition would cause them to delay starting on site (mean score of 1.76), to change their development mix (mean score of 1.82 under the first scenario and 1.94 under the second) or to build faster (mean score of 2.17 under the first scenario and 2.24 under the second).

- 4.7. Two main explanations were offered for this apparent complacency. First, the timescales from receipt of planning permission to house completions were seen to provide a certain ‘breathing space’ of perhaps six months before the competitor would begin marketing and nine to twelve months before any houses would be ready for occupation. Secondly, and perhaps more significantly, several companies expressed strong confidence that their own products would appeal more to customers than those of any competitors.
- 4.8. As one major company explained: *“Each housebuilder tends to think their products are better than the competition.”* Another’s general reaction to increased local competition would be generally *“to get on with the job”* in the view that *“its product is superior”*. A medium-sized housebuilder put this view perhaps more colourfully, saying that he would be *“somewhat smug that the area is sufficiently strong to take another development and that my scheme will take the ‘cream’ of the demand.”* Behind these comments may lie the industry’s widespread reluctance to depart markedly from construction programmes, once agreed and underway. Additionally, some firms see real marketing advantages in greater competition, especially where large sites are split up among several builders. As one commented: *“The overall number of units will increase because there is more than one company selling, multiple lots of advertising and more customers getting into the site. Marketing factors are central and by dividing up a site you get a greater exposure to the public”*
- 4.9. There was thus no evidence in the research to support the contention, mainly from the American literature on real estate option pricing, that uncertainty about competition causes firms to wait until more information is available. Indeed, almost the reverse was true - illustrated by the one firm whose reaction to increased potential competition would be to accelerate the production of show units and by another who would focus on speeding up the rates of sales. Thus, on the scale from 1 for ‘not at all likely’ to 5 for ‘highly likely’, the most likely action housebuilders take to news that a

competitor has secured planning permission in the locality for a similar development to their own would be to change prices, which received a mean score of 2.44 if the builder was already on site and 2.53 if work was almost ready to start. Even so, at these scores, the likelihood of immediate price change in response to the threat of competition is still low. This suggests that when competition is perceived to be distant in time or space, it has little immediate impact on the plans of other housebuilders.

- 4.10. Fairfield Park presents a distinct contrast to this general picture, as competition there has been immediate in both time and space. Although originally conceived as a development by five or six builders, this number grew to ten (one of which sold under two different brands), as slow early sales persuaded one of the original companies to sell off large areas to other builders. Some of the builders responsible for relatively small parts of the overall development claimed not to have been unduly worried by the increased competition. One commented: *“From our side because we only had a small number of units and because the site was so tight, we could only really build it in one way. So it didn’t really affect us.”* Another involved in the refurbishment of the original hospital itself considered that *“Mostly, other people were building large detached units, (ours) were little ones, small site with new builds and refurbs on it. So we didn’t think we’d be competing with the rest of the development really.”*
- 4.11. A contrasting view came from one of the larger contributors to Fairfield Park, who developed around 130 homes over a four-year period. This particular developer who had been involved in the early planning for the development and who achieved a consistently good annual sales rate, watched with some dismay as the development was parcelled out into more than twice the number of companies than originally intended. The developer commented that as a result *“It just became a bit more competitive. You’ve obviously got ten or twelve developers on the site fighting for the same sales basically. And it tends to make the properties less unique. In some cases, and we didn’t do this because we retained our spec and we hung fast to the concept for the development we had at the beginning, but a lot of people stripped out the spec and dealt on price and I felt that was a shame.”* So, at least some of the larger developers at Fairfield Park appear to have become more ‘hungry’ as a result of increased local competition and to have sought ways to trim prices. As the next section indicates, where specification changes would have had an external impact, builders met resistance from the local planning authority. It is therefore likely that specification changes induced by competitive pressure on price primarily affected internal quality and layout.

- 4.12. While the research suggests extensive ‘competitor surveillance’ in the housebuilding industry, its immediate impact appears to be limited to marginal changes to price and quality rather than to output. What is unclear, however, is the extent to which ‘competitor surveillance’ feeds through in the longer term to builders’ strategic decisions on product design, output levels and location preferences. Indeed, whether or how firms make any strategic use at all of tactical information collected on competitors on the local level is a matter yet to be resolved.

5. GOVERNMENT POLICY

Housing land release

- 5.1. There is an extensive literature on the relationship between house prices and the amount of land released for new housing by the planning system. Many of the housebuilders who responded to the research took the opportunity to argue for the planning system to release substantially more land for housing development. One medium-sized builder expressed this view vociferously:

*“Do something about the planning regime. That is the **only** thing! The house building industry is incredibly skilful at doing things differently and faster and well, but there is just not enough land coming from the planning system. If the Government wants to meet its targets, it’s got to release enough land for that to happen, simple as that. That is the only thing. If there was enough land going through the planning system for 250,000 houses a year, that is what would be getting built. So the industry will find a way of getting the labour and doing things differently, and building things quicker.”*

- 5.2. How would production rates really respond to expected or actual shifts in land supply? Since predicting actual behaviour in the abstract is notoriously difficult, the findings below should be regarded as no more than indicative of how builders think they might react to changed policy circumstances. To this end, five specific scenarios were constructed to encapsulate possible policy changes

- Scenario A: The Government reduces the national brownfield target from 60% to 50%. Respondents were asked what impact they thought this would have on the speed at which the 3 million new homes the Government wants to see built in England by 2020 are actually constructed.

- Scenario B: It is known that a particular local planning authority intends to allocate significantly more land for housing development over the next ten years. Respondents were asked how they thought this might affect the rate of production on those sites in its area where housing development by their company is already underway or is about to start.
- Scenario C: It is known that a particular local planning authority intends to allocate significantly less land for housing development over the next ten years. Respondents were asked how they thought this might affect the rate of production on those sites in its area where housing development by their company is already underway or is about to start.
- Scenario D: The company's regional land bank increases as a result of planning approvals or land acquisitions elsewhere. Respondents were asked how they thought this would affect the rate of production on those sites within the region where housing development by the company is already underway or is about to start.
- Scenario E: The company's regional land bank decreases. Respondents were asked how they thought this would affect the rate of production on those sites within the region where housing development by the company is already underway or is about to start.

5.3. The 18 housebuilders completing the national survey were given a choice of five alternative responses to each scenario, as the results in Table 10 show.

Table 10: Perceived Impact of Alternative Policy Scenarios on Housing Production					
<i>Perceived impact on production</i>	<i>Scenario</i>				
	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>
Significantly speed up rate of production	5	2	0	3	0
Marginally speed up production	6	8	2	3	1
No impact	5	8	15	12	14
Marginally slow down rate of production	1	0	0	0	1
Significantly slow down rate of production	0	0	1	0	2

- 5.4. The results suggest that only two of the five scenarios (A and B) are considered likely to have any real impact on production rates. Scenario A would significantly shift the balance of housing development to greenfield sites by reducing the national brownfield target to 50%. Respondents were asked to ignore any difference in the speed of planning decisions between brownfield and greenfield land. It is therefore likely that the responses to Scenario A primarily reflect the perception that development as a whole is less complex at greenfield than brownfield locations.
- 5.5. Scenario B involves a significant increase in overall land supply rather than in the proportion captured by any one company (which is dealt with by Scenario D). Although most respondents thought production rates would increase if there was significantly more land made available in a locality, it is noticeable that very few felt this would be significant. This suggests a more complex relationship between overall land supply and production rates than implied by some commentators. For example, if significantly more land is made available in any locality, competition among builders for each site should become less fierce. It may, however, take some time for landowners to accept that such a fundamental shift has taken place in the balance between demand and supply and accept lower real land prices.
- 5.6. One housebuilder interviewed for the research certainly considered that planning policies had raised landowners' expectations, even to the detriment of housing quality. He thought that local planning authorities should seek to reduce landowners' expectation of value. He added: *"To boost land value we try and get as many houses on a site as possible which automatically brings us into conflict with the local planning authority. By increasing land supply, land values would drop and be able to generate layouts that were more compliant with LPA's in the first place."* This reinforces the earlier comments that where land is in short supply and competition between developers is intense, housebuilders must assume the highest possible sale prices (and thus gross development value) in order to make winning bids for land.
- 5.7. Ironically, such bids are viable only because the release of land is restricted in aggregate terms by the planning system, while the release of houses is managed on a site-by-site basis by the builders themselves to ensure the achievement of the target sales rate underpinning the earlier bid for land. Even if substantially more land were to be released, some considerable time may need to elapse before housebuilders were confident enough to bid for sites at the lower gross development values needed to sustain increased production rates site by site over the long term.

- 5.8. Alongside specific complaints about overall land supply, other aspects of the planning system perceived by housebuilders to have a constraining effect on the rate of production included the level of professionalism of officials and councillors, insufficient delegation to officials, resources or staffing levels in local government generally, and cultural attitudes or values of planning officials. These matters were all beyond the ambit of the research and were not explored in any detail.

Changing the development mix

- 5.9. On large estates, a common past practice among housebuilders was to review the market performance of earlier phases and to ‘remix’ later phases according to the house type which appeared most in demand. One of the interviewees neatly summarised how this happened:

“When I started in this industry 20 years ago, if the market wasn’t as expected you could quickly do a remix in a couple of weeks, but now you just aren’t allowed to do this. You don’t get any preferential treatment in the planning system and it could take six months and by the time you’ve got your remix, the market might have changed again back to the original mix, so it’s something we don’t do as a company.”

- 5.10. There appear to be three important policy issues here. First, virtually all the housebuilders who commented on current remix practice reported that local authorities now generally require a new planning application for even the smallest change, rather than a variation to an existing permission. It was unclear whether this was the result of change to planning law or practice. Most housebuilders, however, thought it was connected to the need for planning authorities to maximise their fee income or achieve speedy decision targets.
- 5.11. Secondly, and as a direct result of the more formal approach now taking by planning authorities to remixing, it is evident that once housebuilders are on site, they generally cannot afford the decision time now required for any variation. As one interviewee explained, since housebuilding is a ‘cashflow’ business, no interruption to the continuity of construction can be tolerated. As there is no time to wait around for planning authorities to agree variations, few requests are made to change the mix or density of development once work has started.
- 5.12. Thirdly, and again associated with the more formal approach to variations, if requests are made by developers, they tend to be concentrated on less controversial aspects of

remixing, such as reducing rather than increasing density in response to changed market conditions. A related comment concerned the new urban design agenda, which housebuilders believed now required so much information at outline stage, that production on large sites was effectively locked into a particular development form for many years ahead, irrespective of any change in market conditions.

Design codes

- 5.13. One fascinating aspect of Fairfield Park is its development to a strict design code, which has ensured a ‘Victorian-style’ appearance throughout the whole estate. By coincidence, the application of this code at Fairfield Park has already been the subject of CLG commissioned research⁴. Our concern here is with the sales and production aspects of this design code.
- 5.14. On the sales side, housebuilders reported that the design code has, in one sense, widened, but in another, narrowed, the target audience. On the positive side, the ‘Victorian-style’ created what separate builders described as a “*lifestyle feel*” with a strong “*overall brand*”. This made the development more attractive to those buyers who would not normally consider newly-built property. As one company discovered: “*We did have a lot of people who had only lived in older houses who got to Fairfield and they were quite impressed with the fact that they had actually felt they had been able to change their minds on it - because we offer something of the qualities and the properties of Victorian properties but without the maintenance aspects.*” Another commented that: “*Normal second hand buyers are more attracted by it because they can see the finished established development. The Victorian architectural style which was imposed by the planners actually helps because we developed houses that actually look old and come with character.*” However, on the negative side, the same builder added that “*I think the concern is that by having a defined product almost designed by the planners across the development, it meant that each of the builders was building very similar products to each other.*” In other words, the design code removed one of the marketing advantages of splitting a large development site into different outlets by limiting the opportunity for the various developers to offer quite different products to the market.

⁴ Department of Communities and Local Government (2006) *Design Coding in Practice: An Evaluation*, Report prepared by the Bartlett School of Planning, University College London and Tibbalds Planning and Urban Design, DCLG, London.

Available at <http://www.communities.gov.uk/publications/citiesandregions/designcoding2>

- 5.15. One of the early developers overestimated the sales advantages of the estate's 'Victorian-style' appearance and underestimated the cost implications, discovering that *"The styles were extremely expensive and difficult to build."* Land was sold on to other builders, who appeared not to have understood the full implications of the design code. One company who as a result bought land in Fairfield Park already with full planning permission and constructed units as previously designed encountered real problems in adapting to a very different type of construction than normal. It reported:

"We bought the package as I said from the other company and we didn't look at them as we probably should have done before we started. And so there were a lot of design faults and errors that we had to overcome. And they weren't straightforward typical boxes there; there was a lot of detailing in the brickwork and in the roofs and how they all joined together. I'm sure you've seen the plan of the site but they are all terraces and different storey heights and they're all that sort of detailing which we were lacking when we started the job. And so then we only really found that out when we hit the issues and our time to resolve them took longer than we needed them to."

- 5.16. Other new entrants tried, mostly in vain, to secure departures from the design code (the full implications of which they claim not to have appreciated on purchase). When such attempts proved unsuccessful, they appear to have turned to cutting internal costs to compete on price. One of the original developers bemoaned the diminution of the overall Fairfield Park brand as the estate was split into more than twice the numbers of builders originally envisaged. This company's representative commented that:

"I felt that a lot more developers had come in and were working to their own brand and their own agendas and therefore the overall brand of Fairfield Park we had set out to achieve had been lost. And for me this cheapened the brand i.e. a lot of the controls we set up right at the beginning at the early outset as to how we saw it running, how it was being managed so as to maintain that nice quality feel had been lost. The more house builders that come in, they've got loads of agendas. If they're not part of the initial consortium buying into what we are all about then they're not interested."

- 5.17. In summary, then, while the design code has marketing advantages and disadvantages, its cost implications appear not to have fully appreciated by developers bidding for (parts of) the site. Moreover, the integrated vision for Fairfield Park, described by one of its pioneers as an overall brand, came under threat as the developable areas were

split into more parcels than originally anticipated. A tension may therefore exist, at least in the short to medium term, between design coding and the normal practice of the housebuilding industry to subdivide and swap large sites between different builders. The purposes and nature of design codes probably need to be better communicated if their advantages are to be reconciled with the desire to improve 'build-out' rates by increasing the number of developers present on large sites.

6. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

- 6.1. What determines the speed at which approved housing sites are developed? This report provides three linked answers to the central research question. The answers concern corporate strategies (Sections 2 and 3), competitor behaviour (Section 4) and government policy (Section 5).
- 6.2. The typical strategy of most companies who participated in the research was to aim for a build and sales rate of about one unit per week on greenfield sites and slightly higher than this on brownfield sites. Although this confirms anecdotal evidence, it should certainly not be taken as a 'natural build-out rate'. Rather it reflects the particular institutional structure of the British housebuilding industry in which fierce competition for land then requires controlled and phased release of new development to ensure that the ambitious development values necessary to capture land in the first place are actually achieved when new homes are eventually sold.
- 6.3. Competitor behaviour appears to have a marginal impact on the price and quality of products offered at particular development sites, though not directly on the speed of production. Although 'competitor surveillance' is certainly important at the tactical level, its strategic impact is unclear. If individual companies become over-confident in the sales potential of their own products, increased local competition may actually lead to short-term over production.
- 6.4. Government policies that restrict the supply of land encourage housebuilders to manage the release of newly-built homes to achieve maximum possible sale revenues. Housebuilders believe that the reluctance of local planning authorities to vary planning approvals once granted restricts their ability to respond to changing market conditions during the construction process and thus to some extent, acts as a

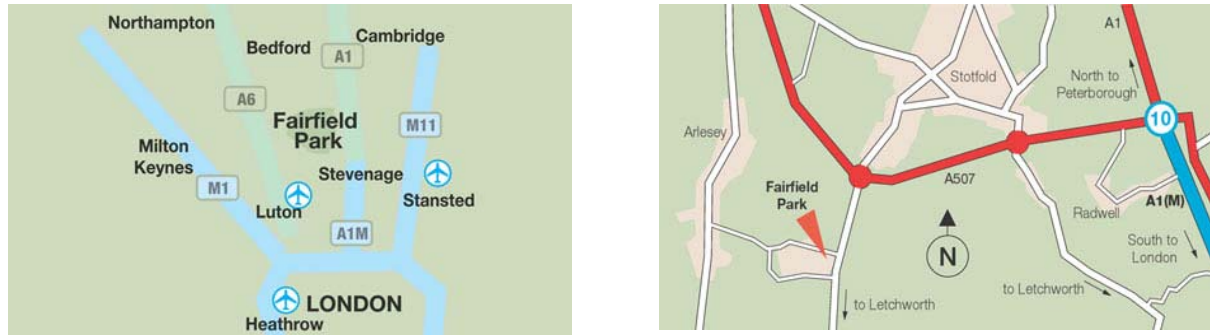
constraint on 'build-out' rates. The appraisal implications of more demanding urban design policies appear mixed and as yet, not well understood by the industry.

Recommendations

- 6.5. Action already in hand to ensure a more effective supply of housing land, if seen as a permanent shift by landowners and developers, may in time enable and encourage the industry to 'build-out' at a faster rate than has been the case in recent years. While we consider that such action needs to be carried through and indeed reinforced, we see no case to impose artificial 'build-out' rates upon the industry through planning conditions.
- 6.6. There are however two points where refinements to the planning system may help the industry to be more responsive to deliver new homes more quickly:
 - If local planning authorities were deliberately to allocate a range of housing sites, some large and some small, this would help accelerate sales and production by creating more outlets, even for the same housing numbers. The introduction of the Community Infrastructure Levy should make this more feasible, even if extensive infrastructure provision is needed. However, such a policy will be effective only where careful thought is given to allocate sites that appeal to different sub-markets, rather than merely replicate the same product at another location.
 - The Government needs to clarify the circumstances in which variations to planning approvals can be made without the need for a fresh planning application. We understood that the current Planning Bill makes provision for this, although it is not yet clear how this will operate.
- 6.7. Good urban design has the potential to broaden the appeal of new housing and speed its delivery. However, this will not be achieved automatically but requires greater knowledge within the industry on handling the appraisal implications of better quality design. The Government, CABE and the HBF should jointly commission research into this.

APPENDIX 1: FAIRFIELD PARK

Fairfield Hospital, which closed in 1999, was built between 1856 and 1860 and originally named ‘The Ardsley Three Counties Asylum’. At the time of its closure, the hospital site occupied about 70 hectares, including the then Grade II listed hospital building. After closure, the site was sold by the NHS for housing development and renamed ‘Fairfield Park’. Its location in mid Bedfordshire is shown below.



Source: <http://www.fairfield-park.co.uk/>

Redevelopment at the Fairfield Park commenced in 2004, according to an overall masterplan agreed between mid Bedfordshire District Council and the developers. A strict design code was imposed requiring all new housing to be built in a ‘Victorian’ style, reflecting the architectural history of the site. The development will eventually comprise approximately 1,200 homes, of which about 270 have been created from the refurbishment of the former hospital building. There has been substantial infrastructure investment alongside the new housing, especially in provision of roads and sewers. Other facilities will include new primary school, a local convenience store and recreational areas and extensive landscaping.

The ten housebuilders, who have been or are currently involved in the development of Fairfield Park, are Bellway, Bovis, Bryant/Wimpey, Charles Church/Persimmon, David Wilson, Fairclough, P J Livesey, Stamford/Linden and Twigden. The illustrations below shown the intended Masterplan, an early aerial view of the site, the layout by 2007 and some of the house types already developed.

