

Future influences on housing

The housing market is changing in ways that many developers and housing associations have yet to recognise or respond to. Research by David Rudlin and Dr Nicholas Falk of the Urban and Economic Development Group (URBED) has sought to explore the influences on future housing and how these should affect housing built today. This has been done through three demonstration projects, a review of previous research and relevant case studies.

- **Most new housing looks to the past rather than the future. There is widespread concern that new housing is unsustainable environmentally and ill-suited to changing household needs. Yet there is widespread interest in innovation.**
- **Successful developers in the future in the social and private sectors will respond to increasing environmental concerns, changing demographic and social trends and economic pressures.**
- **More new housing will be built within existing settlements to reduce commuting. This will require models for the sustainable urban neighbourhood using traditional urban forms at higher densities in a way which can compete with the attractions of the suburb.**
- **Household heating bills can be reduced to £1/week using existing technology. Improvements beyond this are subject to diminishing returns and attention should focus on other areas of energy use and green design.**
- **Housing construction can be rationalised to reduce costs whilst maintaining quality and individuality through prefabrication, rationalised masonry construction and the careful use of standard house types.**
- **Infrastructure costs are dependent upon the attitudes of planning authorities. The scope for infrastructural savings on infill sites may be cancelled out by poor ground conditions.**
- **There are a number of barriers to innovation and each of the demonstration projects has experienced problems. Local authorities should promote quality development through development briefs and design guides. Market incentives such as environmental and floor area labelling are also required to promote innovation.**

Introduction

The backdrop for this project has been the demolition of discredited system-built estates in Belfast, Runcorn, Glasgow and Manchester. Those people who know these estates and the communities who live on them recognise the huge social, economic and environmental costs of redevelopment. We may comfort ourselves with the reassurance that it could not happen again. Yet, as research by David Page has pointed out, the process of decline by which areas turn into 'sink estates' is happening in new housing association schemes with alarming rapidity.

Whilst the same is not true of private sector development here too there are concerns that developers are failing to respond to changing demographic, social and environmental circumstances.

The need for new models

Developers in the private and social housing sectors have been through a period of unprecedented turmoil. Housing associations received a huge increase in resources in the early 1990s and were asked to shoulder the burden of being the main providers of social housing. Resources are now being drastically reduced but the burden remains. The drive is for maximal output on minimal resources which is being achieved through an ever closer partnership with private developers. There is concern that private sector housing designed as the first rung on the housing ladder is being bought 'off the shelf' and occupied to capacity by households with no realistic opportunity to move on.

The implications of the recent recession for the private sector are less clear-cut. Whilst some believe that the market will recover, others argue that things may never be the same again. In an uncertain employment market, with memories of repossessions and negative equity fresh in the mind, people may no longer view housing as the investment that it once was. The result may be that people opt to 'nest rather than invest' which could have a fundamental effect on the type of housing that they choose.

The influences on future housing

In assessing the way that housing might change in the future, the 21st Century Homes project focuses on four key influences (the 'four Cs'):

Conservation

Whilst a range of environmental issues affects housing, the driving force behind national and international policy is CO₂ emissions. Government figures predict a rise in sea levels of 6cm per decade over the next century and targets have been set to reduce CO₂ emissions to 1990 levels by 2000. Energy-saving in domestic heating is an important element of this. However, CO₂ emissions from transport will outstrip domestic emissions and measures to reduce car use will have a fundamental effect on the location of housing.

Comfort

The nature of occupation is changing: the nuclear family which has for so long provided the model for housing developers now accounts for just 1 in 4 households. 30% of households are pensioners and

most strikingly 85% of the net increase in households between 1989 and 2011 will be single people. People are having children later in life and it is possible that they will demand something very different from their home whilst they are single and not be satisfied with a starter home when they have children.

Community

With the decline in social networks based on family or employment, the importance of neighbourhood is likely to increase. The notion of community is central to the sense of belonging which lies at the heart of successful neighbourhoods. For example, 'secure by design' principles - which are aimed at reducing crime by, for instance, providing "eyes onto the street" - will fail if the people behind those windows do not feel part of a community which makes them feel able and willing to intervene.

Cost

Cost will continue to play a central role in housing. A large amount of money goes into the site value and infrastructure before construction can begin and there is limited scope to reduce these extra costs. A modest increase in construction costs (of 2-3%) may, however, be justified in the long term, particularly where this investment leads to lower running costs and more certainty that we are building to last.

Where should housing be built?

One of the most important impacts of the 'four Cs' will be on the location of new housing. Increasing concern about car use, the different needs of non-family households, and the importance of community may start to reduce the attraction of the distant suburb. This is reinforced in the Government's planning guidance, PPG 13, which states that new housing should be built within existing settlements. If this is not possible, development should take place in free-standing settlements capable of a degree of self-sufficiency by reaching a population of 10,000 within 20 years. This suggests a need for more dense, mixed use, urban housing models, which the researchers call the 'Sustainable Urban Neighbourhood', to compliment established suburban models.

Lessons from the demonstration project

As part of the project, the impact of the 'four Cs' has been explored through three demonstration projects: Homes for Change in Hulme, Manchester, Midsummer Cottages in Milton Keynes and Honddu Place in Swansea. Specifically these projects have tested five hypotheses about future housing:

Thermal efficiency

The reduction of heating costs to £1 per week is feasible using existing technology. Compared to 1990 Building Regulations, this represents a saving of £1-1.13/week on space heating and £2-3/week on total energy costs; the costs of achieving this would add approximately £1/week to rent or £2/week to a mortgage. Improvements beyond this are likely to be subject to diminishing returns and other areas of energy use such as domestic appliances and transport will become more significant.

Figure 1: the demonstration projects

	Location	Client group	Tenure	Structure	Size	Form	Heating costs
Homes for Change	Inner city redevelopment of high-rise estates	Young single people and childless couples	Housing co-operative	Concrete frame and block work	50 flats plus 16,000sq ft of work space	Flats and maisonettes	£1.25/week
Midsummer Cottages	Suburban location	1 elderly unit, 4 family units	Shared equity	Solid masonry construction	5 units	Terraced houses	£0.87/week
Honddu Place	Redevelopment of suburban council estate	Ageing stable community	Housing association	Timber frame prefabrication	40 houses, 12 control units	Solar bungalows and flats	£0.63/week

Rationalised construction

Prefabrication, which was tested through the Swansea demonstration project, can cause problems due to small production runs and consumer resistance. The Midsummer Cottages development used rationalised masonry construction, with simplified solid masonry walls and external insulation. This may be more acceptable to consumers and contractors but again larger production runs would be needed to assess its full potential.

Minimising infrastructure

The main determinants of infrastructure costs are planning and highway engineering requirements. These costs will not be reduced unless the attitude of authorities changes - particularly towards the car - and there is little evidence that this is happening. The Hulme project made use of an urban 'infill' site and was therefore able to exploit existing streets and services. However, whilst this approach might be expected to yield savings on infrastructure costs, the Hulme experience suggests that savings may be cancelled out by the poor condition of existing infrastructure and difficult ground conditions.

The flexible home

The Midsummer Cottages scheme built flexibility into the basic house design by cutting down on circulation space such as halls, avoiding internal loadbearing walls and rethinking layouts. This has little effect on the capital costs and should mean that the houses are able to respond to changing household needs, although the extent to which this is used requires follow-up work.

Green design

Housing can be made 'greener' at minimal extra cost, provided that this is clearly set as an objective in the design process. Each of the demonstration projects avoided CFCs and HCFCs, reduced water consumption, provided facilities for waste recycling, ensured effective ventilation and avoided harmful materials. Only water-saving has a financial benefit to residents where water is metered, although this is not currently sufficient to justify water recycling. It is also clear that even committed 'green' residents, such as those in the Homes for Change development, were not

prepared to opt for the 'greenest' solution when it conflicted with the design concept for the scheme

Guiding principles

Based upon the experience of the demonstration projects the researchers suggest five principles which should guide the provision of future housing.

New housing should minimise its impact on the environment

This implies a balanced approach to total energy consumption including hot water, appliance and car use alongside space heating. Housing should also incorporate a range of other green features, such as water saving, sustainable materials and recycling.

The interior design of housing should enable its flexible use

The house should respond to changing demographic and social demands so that it can serve as a home for life rather than just one step on the housing ladder. This will require a greater range of housing forms as well as increased internal space and flexibility.

Builders should strive to mass-produce one-offs

It is important to improve quality, value for money and speed of construction whilst retaining individuality. Prefabrication, rationalised masonry construction and standard housetypes are all of benefit in this area. However, standard housetypes should evolve to take on board good practice to avoid the danger that their use will impose conformity and restrict choice.

Planners should promote compact settlements

People should have the opportunity to live within walking distance of shops, facilities, employment and public transport. This will involve increasing densities by reintroducing traditional urban forms.

The 'Sustainable Urban Neighbourhood' should be developed as a popular alternative to the suburb

An important task in the twenty-first century will be to develop the 'Sustainable Urban Neighbourhood' to compliment the attractions of the traditional suburb. This will include revisions to highway standards to reintroduce traditional streets and reduce parking

requirements, a mix of housing, employment and services, increased densities, and a reassessment of 'secure by design' principles. By drawing upon the best in current urban design thinking, the mixed-use urban neighbourhood could provide the key to the regeneration of our cities, the promotion of development on brownfield sites and the revitalisation of town and city centres.

Bringing about change

There are a number of barriers to the application of these principles. These include fear of innovation and the confusion sown by the often conflicting views of environmental designers. Each of the demonstration projects has experienced problems largely due to contractors increasing tenders in response to unfamiliar innovations. Conventions in housing valuation also prevent developers and purchasers from embracing innovation by failing to recognise energy efficiency, prioritising the number of bedrooms rather than floor area and setting a premium on conventional design. Pressure on housing associations for short-term results to meet pressing housing needs also gives little incentive to innovate.

Central government and local authorities have an important role in bringing about change. Public policy should encourage positive planning to promote high quality residential development on appropriate sites. This can include design guidance similar to that developed in Hulme and the positive use of development briefs to promote quality development. Where urban sites are in a poor condition or a variety of ownerships there may be a role for authorities in bringing them forward for development. Discounted land values may also be used to promote development in return for nomination rights to social housing. Market incentives are also required to enable the consumer to exert more pressure for change. These include the development of consumer guides, and the inclusion of floor area and environmental 'scores' in property details.

Conclusion

It is important to promote once again a constructive debate about future housing. It is too easy to adopt a bunker mentality and to concentrate on short-term problems without looking to the future. As we approach the turn of the century we need to reassess the housing that we build to ensure that we build to last. To do this we must discover the twenty-first century equivalent of the nineteenth-century terrace and the twentieth-century semi: housing which is popular but also meets the changing needs of society.

About the study

21st Century Homes was a two-year action research project supported by the Joseph Rowntree Foundation and undertaken by the Urban and Economic Development Group (URBED). The researchers sought to explore the practical issues faced by developers seeking to develop innovative housing. This was done by studying in detail the development of three demonstration projects in Manchester, Milton Keynes and Swansea.

Further information

The 21st Century Homes report, *Building to Last*, is available from the Urban and Economic Development Group, 3 Stamford Street, London SE1 9NT, priced £10. The material is also being developed for publication by Butterworth Heinemann later in the year.

Related Findings

The following *Findings* look at related issues:

- 84** New housing association estates: related problems (Apr 93)
- 88** Increase in scope and scale of planning agreements (May 93)
- 100** Urban regeneration: UK and German problems and approaches (Dec 93)
- 102** Converting empty offices into flats (Dec 93)
- 110** New arrangements for land release and affordable housing (Mar 94)
- 111** Filling England's empty homes (Mar 94)
- 113** Increasing the housing capacity of urban areas (Jun 94)
- 118** Housing association space standards decline (Jul 94)

The following *Housing Summaries* are also relevant:

- 3** Inquiry into planning for housing (Jun 94)
- 4** Community participation and empowerment: putting theory into practice (Aug 94)
- 5** Lessons from Hulme (Sept 94)
- 7** Creating sustainable neighbourhood and estate regeneration (Apr 95)

For information on these and other *Findings*, contact Sally Corrie on 01904 654328 (direct line for publications queries only; an answerphone may be operating).



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