Design Coding in Practice
An Evaluation
Design Coding in Practice
An Evaluation

June 2006
The Bartlett School of Planning, UCL and Tibbalds Planning & Urban Design
Department for Communities and Local Government: London
The research team:

The Bartlett School of Planning, UCL: Matthew Carmona (Project Director); Ruth Blum; Leo Hammond; Quentin Stevens.

Tibbalds Planning & Urban Design: Jane Dann; Andy Karski; Chris Pittock; Sue Rowlands; Katja Stille.
# Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreword</td>
<td>5</td>
</tr>
<tr>
<td>1. Introduction and findings</td>
<td>6</td>
</tr>
<tr>
<td>2. Decision to code</td>
<td>45</td>
</tr>
<tr>
<td>3. Co-ordinate inputs</td>
<td>57</td>
</tr>
<tr>
<td>4. Understanding context</td>
<td>73</td>
</tr>
<tr>
<td>5. Code design</td>
<td>85</td>
</tr>
<tr>
<td>6. Code delivery</td>
<td>154</td>
</tr>
<tr>
<td>7. Managing outcomes</td>
<td>165</td>
</tr>
<tr>
<td>8. Sustainable outcomes</td>
<td>176</td>
</tr>
<tr>
<td>Annex A: the case studies</td>
<td>194</td>
</tr>
<tr>
<td>Annex B: the methodology</td>
<td>198</td>
</tr>
<tr>
<td>Annex C: glossary of terms</td>
<td>200</td>
</tr>
<tr>
<td>Acknowledgements for images and case studies</td>
<td>203</td>
</tr>
</tbody>
</table>
The Government is committed to raising the design quality of new development in all locations. Although different places face different challenges, high quality development is essential to the successful delivery of sustainable communities.

Good planning needs to be a positive and proactive process that seeks to get the right type of development in the right place, at the right time. The planning reforms which we introduced have set out to implement a more transparent, flexible, predictable, efficient and effective planning system that can deliver the quality of development which is needed to secure our vision for sustainable communities. Design coding contributes to this agenda.

In May 2004 the Deputy Prime Minister announced a nation-wide programme to assess the potential of design coding to produce attractive, well planned environments quickly and efficiently. Seven pilot projects were established to test design codes in a range of different contexts. In addition, twelve case studies of large scale residential developments were monitored and evaluated for their use of design codes or alternative design tools.

Last year saw the publication of Design Coding: Testing its use in England which outlined the initial findings of our research project into the use and application of design coding. Early conclusions were encouraging and in the Government’s response to the Barker Review and our draft Planning Policy Statement 3: Housing (PPS3) we indicated that design codes are one mechanism that can help to improve the quality, value and delivery of residential development.

We now have the full findings from the monitoring and evaluation of the project and they are summarised within this research report.

The research confirms our initial conclusions that design codes can play an effective part in building sustainable communities for future generations and are particularly valuable when sites are large, when they are in multiple ownership or when a development involves several developers or design teams. The main benefits of design codes outlined in the research report are that:

- Design codes can play a major role in delivering better quality development.
- They have a significant role to play in delivering a more certain design and development process.
- If properly managed, can provide the focus around which teams of professional stakeholders can integrate their activities, delivering in the process a more co-ordinated and consensus driven process.
- Provide enhanced economic value that better design and a stronger sense of place can deliver.

We need to take steps to improve the way we build sustainable communities for our future generations. I am confident that design codes have the potential to play a key role in this process, and aid the delivery of high quality development that meets local needs.

This research gives us a solid foundation to introduce design codes into the planning process in England and it is informing the preparation of practice guidance on how they can be used successfully and effectively to help create well-planned, attractive and high quality sustainable places.

Baroness Andrews OBE
Parliamentary Under Secretary of State
1 Introduction and findings

Introduction

1.1 In February 2003, the Government launched its Sustainable Communities Plan for England, setting out its long-term ambition to create sustainable communities in urban and rural areas in order to meet the increasing demand for new homes, particularly in the South East. An implicit assumption in this and other related policy documents was that to achieve the government’s challenging targets for housing, new delivery mechanisms are needed.

In the months following the launch of the Sustainable Communities Plan, there was a growing media debate about the potential use of design codes as a mechanism to deliver the large-scale housing development envisaged by the plan. The debate reflected a wider international growth in interest in the potential to use codes to help deliver high quality urbanism.

Background

1.2 Reflecting the debate, in November 2003, the Commission for Architecture and the Built Environment (CABE) published a position statement on design codes, Building Sustainable Communities: The Use of Urban Design Codes. This recommended that the Government should commission research to analyse the potential use of design codes and how they could apply in England. At the Prince’s Foundation ‘Traditional Urbanism Conference’ that month, the Deputy Prime Minister announced that the Office for the Deputy Prime Minister (now the Department for Communities and Local Government) would be exploring the potential of design coding to produce “attractive, well planned environments quickly and efficiently”.

1.3 As a result in May 2004, ODPM, working in partnership with CABE and English Partnerships, instituted an action research programme (running throughout 2004 and 2005) to allow design codes to be tested in practice in England in order that judgements could be made about how they perform, based on live case studies. A team led by Professor Matthew Carmona at UCL’s Bartlett School of Planning, in partnership with Tibbalds Planning and Urban Design, were commissioned to undertake an independent monitoring and evaluation of the programme.

1.4 This report presents the findings from that research. An intermediate report on the research – Design Codes, Testing its Use in England – was published by CABE in 2005, and provides useful further information on the literature review and national design codes survey also undertaken by the research team (see Annex B).
Design codes – What are they?

1.5 Design codes are a distinct form of detailed design guidance that prescribes the three dimensional components of a development and how these relate to one another but do not prescribe the overall outcome. Design coding has both historical and contemporary precedents in the UK and overseas. Coding was used, for example, to rebuild London following the Great Fire of 1666 as a means to improve sanitary, safety and amenity standards in the City. Today, in various guises, codes can be said to exist in the Building Regulations, in national and local highways design standards, and in the space around buildings and density standards used by many local planning authorities.

1.6 A Design Code (as distinct from design coding) is therefore a set of specific components with rules to guide their use in order to generate the physical development of a site or place. The aim of design coding is therefore to provide clarity over what constitutes acceptable design quality and thereby achieve a level of certainty for developers and the local community alike. In doing so, codes typically separate the roles of code designer from development designer, with the latter designing a building, building group or sub-area, within the context set by the former for the whole development.

1.7 Design codes usually build upon the design vision contained in a masterplan or development framework and provide a set of requirements (the codes themselves) to achieve the vision. These can extend from urban design principles aimed at delivering better quality places and include requirements for streets, blocks, massing and so on, or may be focused more on architectural or building performance issues (figs 1.1 Ashford & 1.2 Hastings), for example aiming to increase resource efficiency (fig 1.3 Upton). The monitoring and evaluation suggested the following simple definition:

A design code is an illustrated compendium of the necessary and optional design components of a particular development with instructions and advice about how these relate together in order to deliver a masterplan or other site-based vision.
The research

1.8 The programme encompassed the detailed monitoring and evaluation of nineteen case studies of three types (see Annex A). First, a series of ‘Pilot’ projects which were enabled by CABE to produce design codes as an integral part of seven evolving development projects. The development of these codes was monitored from their early stages. Second, the retrospective evaluation of eight ‘Advanced’ coded projects, where codes had already been prepared and used independently of the pilot programme (fig 1.4 Newhall). In these case studies, development had already been delivered on the ground utilising the codes. Third, four ‘non-code’ projects, which used other detailed design guidance mechanisms (fig 1.5 Greenhithe). These examples were chosen as comparisons, and were also advanced in the sense that they were already influencing the delivery of development on the ground.

1.9 The case studies were chosen to reflect a geographical spread, a range of different development and physical contexts, as well as variety in size, ownership and stakeholder engagement.
<table>
<thead>
<tr>
<th>Location/Name</th>
<th>Description</th>
<th>Pilot/Case Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aldershot Urban Extension</td>
<td>4,500 dwellings on a 137.5 hectare site to be released by the Ministry of Defence and owned by Defence Estates.</td>
<td>Pilot</td>
</tr>
<tr>
<td>Cirencester Kingshill South</td>
<td>Between 260 and 340 dwellings. Site of 8.7 hectares owned jointly by Berkeley Community Villages and Cotswold District Council.</td>
<td>Pilot</td>
</tr>
<tr>
<td>Hastings Ore Valley</td>
<td>700 dwellings on three sites. The 67 hectare Hastings Millennium Community is owned by a variety of mainly public bodies.</td>
<td>Pilot</td>
</tr>
<tr>
<td>Ashford Ashford Barracks</td>
<td>1,300 dwellings on a 48.6 hectare site owned by Wimpey Homes and Westbury Homes.</td>
<td>Pilot</td>
</tr>
<tr>
<td>Newcastle Walker Riverside</td>
<td>2,500 (net gain) dwellings on a 5km² site, owned by Newcastle City Council, and focusing on revitalising an existing community.</td>
<td>Pilot</td>
</tr>
<tr>
<td>Swindon Southern Development Area</td>
<td>4,500 dwellings on a 309 hectare site owned by Swindon Borough Council and Bryant Homes.</td>
<td>Pilot</td>
</tr>
<tr>
<td>Rotherham Town Centre River Corridor</td>
<td>Mixed use, including 600 dwellings. 12 hectare site owned by Satnam Developments and an array of other private owners.</td>
<td>Pilot</td>
</tr>
<tr>
<td>Telford Lightmoor</td>
<td>800 dwellings on a 71.8 hectare site owned by English Partnerships and the Bournville Village Trust.</td>
<td>Advanced Case Study</td>
</tr>
<tr>
<td>Northampton Upton</td>
<td>Mixed use urban extension. 350 residential units, a school and a number of shops. Land owned by English Partnerships.</td>
<td>Advanced Case Study</td>
</tr>
<tr>
<td>London Royal Docks West Silvertown</td>
<td>Residential-led, mixed-use development. 14 hectares of brownfield land within the London Royal Docks. 1,000 units (780 for sale), support facilities and infrastructure.</td>
<td>Advanced Case Study</td>
</tr>
<tr>
<td>Greenwich Greenwich Millennium Village</td>
<td>Over 1400 dwellings on a 30.9 hectare site owned and promoted by English Partnerships as the first Millennium Community.</td>
<td>Advanced Case Study</td>
</tr>
<tr>
<td>Manchester Hulme</td>
<td>Redevelopment of the 100 hectare 1960s Hulme estate on the edge of Manchester City Centre. Public/private City Challenge joint venture on land which was owned by Manchester City Council.</td>
<td>Advanced Case Study</td>
</tr>
<tr>
<td>Letchworth Newhall</td>
<td>800 new homes in the 27.7 hectare grounds of a listed Victorian hospital building in Letchworth. Owned by a consortium of developers.</td>
<td>Advanced Case Study</td>
</tr>
<tr>
<td>Aylesbury Fairford Leys</td>
<td>Urban extension to Aylesbury of 1900 dwellings. Mixed use town centre on 200 hectares promoted by the landowner, a private trust.</td>
<td>Advanced Case Study</td>
</tr>
<tr>
<td>Kent Greenhithe</td>
<td>1,200 dwellings on a 70 acre site owned by Crest Nicholson.</td>
<td>Non-Code Case Study</td>
</tr>
<tr>
<td>Portishead Port Marine</td>
<td>Approximately 700 units on a 21.4 hectare site owned by Crest Nicholson.</td>
<td>Non-Code Case Study</td>
</tr>
<tr>
<td>South Cambridgeshire Cambourne</td>
<td>Greenfield development of 3,300 dwellings. Mixed use settlement centre, including two schools, a supermarket, library, doctor surgery and a business centre. The total site is 322 hectares and owned by a developer consortium.</td>
<td>Non-Code Case Study</td>
</tr>
<tr>
<td>Newcastle Newcastle Great Park</td>
<td>Mixed development on a greenfield site on the edge of Newcastle. 80 hectares of business park and 2,500 residential units with support facilities.</td>
<td>Non-Code Case Study</td>
</tr>
</tbody>
</table>
A common methodology was adopted for the analysis of each case study (see Annex A). This involved extensive interviews with those that had been, or still were, involved in the design and use of the design codes (or other design guidance); detailed analysis of the content of the codes and other forms of guidance; observation at key events/meetings that lead to the development of the codes; and (where possible) evaluation of development outcomes on the ground (see Annex B). A conceptual framework was used to ensure a consistent basis for the monitoring and evaluation. This framework modelled a hypothetical coding process (fig 1.9), and therefore took the analysis through from code inception to completion on site. Each case study was analysed for its response to each stage of this hypothetical coding process.
The report structure

1.11 The report broadly follows the structure of the hypothetical coding process. Following this introduction, what the case studies revealed about the decision to code and the key stages of Co-ordinating inputs, Understanding context, Code design, Code delivery, and Managing outcomes are each discussed, as well as the outcomes delivered (or anticipated) by the case studies. Findings are included as bullet points at the start of each section and are brought together below.

The results of an analysis of the content of the codes are summarised and presented in boxes throughout the following chapters as and when they relate to the main text. A glossary of terms is included in Annex C to aid comprehension.

Detailed findings

1.12 The range of case study types revealed a rich and robust set of findings that are presented below. These are crosscutting findings in the sense that they derive from analysis of the three case study types and encompass all stages of the hypothetical coding process:

Key Finding One
Motivations for using coding largely focus on quality, in particular the ability to co-ordinate outputs across large sites:

1.13 Overwhelmingly those involved in design coding are involved for one reason, the potential to improve development quality. Whether the intention is to establish a springboard to excellence or simply a safety net below which quality will not fall, varies, and a combination of the two is most common.

1.14 Those involved hope that codes will deliver a process built on consensus rather than conflict, one that will be more certain and predictable. In addition, landowners and developers
often aspire to a corresponding increase in the value of their investment, whilst all stakeholders aim to create development with character and a sense of place (fig 1.10 Hulme). Some developers also hope that codes will be able to deliver a faster planning process.

**1.15** Other forms of detailed design guidance are produced for largely the same reasons; typically to raise the quality of design and distinguish developments for marketing purposes. However, the potential of codes rests in their ability to co-ordinate outputs from different developers/designers across large sites and to integrate different design elements with a forcefulness that other forms of design guidance cannot match.

**1.16** The research revealed that codes are not viewed as vision-making documents, but as delivery mechanisms to help deliver the vision expressed elsewhere. Used in isolation, the potential of codes is limited to generic design guidance.

**Typically, however, masterplans, regulating plans or development frameworks establish the broader physical/place-based vision, whilst codes interpret and articulate the vision, shaping it and developing it in the process. Ideally, therefore, codes need to be built upon the firm foundation of a technically and financially robust physical vision (figs 1.11 & 1.12 Aldershot).**

**1.17** Masterplans, frameworks and regulating plans serve the important role of defining the street hierarchy (fig 1.13 Hastings) and identifying separate neighbourhoods in terms of their densities (fig 1.14 Ashford), patterns of land use and open space, and building type (fig 1.15 Fairfield Park). These are subsequently coded with different block forms, building envelopes, street treatments and architectural and landscape characters. However, codes vary considerably along a continuum from those that significantly develop the core principles of a largely conceptual physical vision, to those that primarily articulate (in a technical sense) the principles already established in a detailed masterplan or other vision (fig 1.16 Aldershot).
CHAPTER 1 – INTRODUCTION AND FINDINGS

Fig 1.13 Hastings, coding of streets by type

Fig 1.14 Ashford, density areas

Fig 1.15 Fairfield Park, matrix of lot sizes, building types and boundary treatments which accompanies the regulating plan

Fig 1.16 Aldershot, illustrative sub-area masterplan
Importantly, masterplans and other physical visions are rarely static documents, but are subject to change throughout the coding process, a process which can help to deliver a more detailed and considered vision. For their part the non-code case studies often followed a similar division between vision and delivery but by other means (masterplan and phasing briefs; masterplan and a character area matrix (fig 1.17 Upton & 1.18 Greenhithe); local design guide and detailed masterplan; masterplan and design strategy statements). In these cases, therefore, the need to further articulate key design principles through other detailed and technical documents was still deemed necessary.

Key Finding Three
Coding is resource intensive, but overall the balance sheet is positive:

1.19 Coding is time consuming and therefore also a resource-intensive process for all parties involved. As such it requires the commitment of resources up-front, and the research suggested that partners frequently underestimate this and need to be more realistic about the significant resources that coding (or indeed any form of detailed design guidance) will entail. These same stakeholders accept that:

- The true costs will only become apparent after the full planning process has been worked through.
- This investment needs to be seen within a context of the use of codes in connection with major development proposals for which such an up-front investment is to be expected.

1.20 Significantly, where codes are being implemented on site, schemes have been delivering enhanced sales values and increased land values. When set off against the up-front investment, this to a large degree determines the value added by coding, at least in crude economic
1.20 The qualitative evidence suggests that the outcome is positive, and for commercial partners, over the long-term, codes seem to be more than paying for themselves.

1.21 By contrast, public sector partners worry that the cost of their input is unsustainable given resource constraints in the sector; although they recognise that many potential ‘sticking-points’ are being resolved during the coding processes that would otherwise need to be tackled during development control or pre-application negotiations on reserved matters. Where used, coding has also typically had the added benefit of encouraging local authorities into the type of more pro-active role envisaged by the 2004 planning reforms. Therefore codes may simply be re-distributing the time and resources required from the public sector – effectively front loading them – rather than significantly adding to them. The same costs and benefits were apparent for other forms of detailed design guidance, whilst overall the balance sheet was also positive.

Key Finding Four
Aiding the delivery of design quality is the major benefit of coding, although other factors are also critical:

1.22 Overwhelmingly, where codes had been used through to fruition on site they received a strong endorsement from those who had been involved. Typically, it seems, coded schemes help to set new quality benchmarks in the locations where they are used, and act as flagship developments for the developers who are involved (fig 1.19 West Silvertown). In particular they provide a valuable delivery tool for the physical vision which they support and a means to deliver consistent quality thresholds across large-scale developments that involve different developer and design teams.
1.23 Thus codes are having a beneficial effect in helping to deliver a more coherent public realm, resisting inappropriate development (fig 1.20 Hastings & 1.21 Swindon), generally raising the importance and profile of design, and in encouraging the appointment of better quality designers than would otherwise be the case (fig 1.22 Upton). Moreover, if highways authorities are responsive to their potential, codes can help to overcome undesirable roads-dominated highways solutions by questioning standard approaches to the design of the public realm. However, no single model for design codes exists, and given the right context, a range of approaches along a prescription/flexibility continuum seem capable of delivering quality. Furthermore design codes seem equally suited to help deliver quality contemporary as well as quality traditional architectural solutions (figs 1.23, 1.24 Cambourne, 1.25 Swindon & 1.26 Greenwich).
Other detailed design guidance tools can also help to deliver design quality, and for many of the same reasons: the ability to establish a vision and use design guidance to co-ordinate resources, processes, actors and aspirations to deliver it. However, designs of very different quality can still be produced using the same design code (or other detailed design guidance), emphasising the critical importance of other factors as well: the quality of the designer, the determination and resources of those charged with implementing the code, and the aspirations and ability of the developer.
Key Finding Five
Coding per se has little bearing on speed, but the pursuit of quality does:

1.25 The speed of initial code production depends on the range of stakeholders involved and their working relationships, and on the extent of existing design work (i.e. whether a masterplan is already in place). Given the right circumstances, incentives and information, draft codes can be prepared in as little as two or three months. Their refinement, agreement, and adoption, by contrast, can take much longer – up to two years (fig 1.27 Upton).

1.26 Formal development control processes do not take longer for coded schemes. However, the periods running up to the outline planning consent and subsequent (first) reserved matters application are typically very time consuming. This is regarded by many stakeholders as nothing out of the ordinary, as all large sites today require detailed design guidance of one form or another, and the pursuit of better design, and the process of securing consensus over detailed design, takes time. Indeed the choice of coding per se seems to have little bearing on the length of the development or consents processes. Thus large-scale developments such as those for which codes are typically prepared are complex, and their progress is dependent on a wide range of factors beyond the influence of the code.

1.27 For example, a wide range of bottlenecks occur at critical junctures, many tied to the failure to develop a convincing partnership approach or a strong vision from the start; factors that can quickly undermine the commitment to coding. Possible streamlining processes include:

1. Professional project management.
2. Dedicated local authority personnel.
3. Multidisciplinary (inclusive) project teams.
4. Project champions.
5. Contracting out code preparation.
6. Fora for key decision-makers.
7. The use of delegated powers.
Most important is the need to involve high quality parcel designers to creatively interpret codes and produce designs which accord with them without the need for significant time consuming negotiations (fig 1.28 Hastings). Moreover, compliant schemes are likely to receive permissions without delay, whilst non-compliant schemes will be further held up – providing a ready incentive to deliver quality. Experience also shows that over time the process of applying for and obtaining reserved matters consents becomes more efficient, whilst it is also expected that increased familiarity of teams with coding will increasingly streamline their preparation. Importantly, other forms of design guidance showed similar costs and benefits, with significant up-front investment offset by increasingly efficient processing of phases as developments commence.
Key Finding Six
Coding can help to deliver a more certain design and development process:

Coding can help to guarantee that a set level of quality will be delivered across the different phases of a development, safeguarding the investments of developers and purchasers alike. Codes also provide certainty for developers applying for reserved matters permissions – as long as their schemes are code compliant – and when used across large sites, they assist developers to cost units (and thereby developments) with more certainty by introducing a degree of standardisation (fig 1.29 West Silvertown). For non-compliant schemes the opposite is true. The research also suggested that codes allow the selection of development partners with greater certainty that aspirations will be compatible, and that necessary negotiations will be smooth.
Indeed detailed design guidance of all types seems suited to deliver greater certainty, in so doing allowing developers to plan ahead in an efficient manner to deliver a coherent vision (fig 1.30 Port Marine). Significant uncertainty exists, however, around the concept of coding itself, and when design guidance is, or is not, coding – in whole or in part. On this issue, coding need not necessarily be considered distinct and separate from other types of design guidance, but instead as a detailed form of prescription that complements and sits alongside, or even as part of, other forms of design guidance (fig 1.31 Rotherham). The analysis led to the simple definition of design codes given above as a means to distinguish them from other forms of design guidance.
Key Finding Seven

Codes can help to guide the design/development procurement process, setting explicit quality benchmarks from the start:

1.31 Implementation of any design guidance can be all too easily undermined if processes are not in place to consistently focus on delivering quality outcomes from inception to completion. One benefit of coding has been the ability to challenge the status quo of housebuilding, from concept design through to procurement and construction. Codes do this through a number of means:

- Codes help set quality aspirations that not all designers and developers are able to meet, and in doing so they weed out such players early in the process.
- They help to establish a level playing field for developers when tendering for projects, enabling an efficient tendering process based on clear quality benchmarks.
- They can provide a means to assess potential parcel design/development teams and their proposals.

1.32 Because using codes in these ways inevitably requires a greater concentration on design detail earlier in the development process than would otherwise be the case, a pre-selection exercise prior to full tendering may help to cut down the significant resources developers will be required to invest in preparing code-compliant bids.
Key Finding Eight
A wide range of means can be used to give codes greater status:

A wide range of approaches have been successfully used to give codes status, including:

1. Formal adoption as supplementary planning guidance (SPG);
2. Adoption for development control purposes;
3. Conditioning through the outline planning process;
4. Use of development agreements;
5. Control of freehold rights;
6. As briefs for design competitions and developer procurement processes;
7. Formal submission as reserved matters information;
8. Various combinations of the above.

1.33 If intended as public documents and as a material factor in the making and deciding of planning applications, then formal adoption seems particularly valuable to enhance the status of codes. Indeed in the context of the new planning policy framework ushered in with the 2004 Act, most pilots expressed a wish to adopt their codes as supplementary planning documents (SPD) or as area action plans to give them greater weight. However, transitional arrangements are being used during the switch to the new system, with codes instead being adopted as interim development control guidance. Formal recognition of codes for highways purposes also seems to be highly desirable to overcome highways and drainage adoption problems later (fig 1.32 Fairford Leys).

1.34 Some councillors remain concerned that codes could lead to a diminution of their planning powers in what are typically large and locally significant projects. Without a culture change, such attitudes may undermine the potential for codes to be adopted through Local Development Orders (LDOs). The research also suggested that if conditioning is used as a means to give status to design guidance of all types, careful wording is required to deliver the right level of flexibility or firmness that the authority is seeking.
Key Finding Nine

Key skills are missing, and are needed across the development team:

1.35 A wide range of generic, disciplinary and specialist skills and knowledge-sets are required to produce and use design codes, and coding is certainly no substitute for a lack of design skills on either side of the development process. An optimum process seems to require appropriate coding skills/awareness in three key places: in the landowner/master development team, in the local authority (planning and highways), and in the design team(s).

1.36 Design codes are essentially urban design tools, and of greatest concern is the absence of urban design skills from within local authorities, frequently tied to a lack of resources to fill the gap. Where resources are available, external consultants can play a valuable role in helping to fill any design skills gap, and can usefully act as project champions. Indeed where trust and commitment exists, landowners/master developers have sometimes been able to plug the gap by funding an ongoing urban design input, for example by funding dedicated staff in the local authority or an external consultant. However, even where the requisite skills are in place, design code teams frequently feel ill equipped to grapple with sustainability agendas, particularly where such issues fall outside of the planning remit. Sustainability is therefore typically dealt with through general policy aspirations rather than in actual coding, and is an area where practice has yet to fully develop (fig 1.33 Port Marine).
1.37 Each code is to a large degree unique and involves a learning process, and so building appropriate processes to pass on knowledge within teams can be important. Thus the research confirmed the need for new players (individuals or stakeholders) to be thoroughly appraised of previous decisions and of the content of codes in order to ensure a continuity of interpretation and commitment. Other forms of design guidance require an identical set of skills and knowledge requirements, in particular, design aware developers, and cost aware designers (fig 1.34 Upton).
Key Finding Ten
Engagement should be technical, but a failure to engage key stakeholders from the start can fatally undermine coding processes:

1.38 If expressed in non-technical language and in an accessible format, the core principles contained in codes can be consulted on as the critical ideas underpinning the physical vision. However, because design codes are largely technical documents, full-scale community consultation is both difficult and is likely to be undesirable. Instead, community engagement should occur prior to coding, when the physical vision is being defined. At this stage a wide range of creative means can be found to involve the public and stakeholder groups. Community planning events with a focus on establishing a broad physical vision seem to be particularly valuable in building a consensus around the idea of coding and in establishing momentum towards that end. Later, communities can be kept informed about the coding process, with formal public consultation occurring during any code adoption exercise (fig 1.35 Cirencester).

1.39 By contrast, the failure to engage all key technical stakeholders (external and internal to organisations) can quickly undermine trust in the work of coding teams and in design codes themselves. The highways authority in particular is a key technical stakeholder that should be involved from the start of the coding process. The research showed that early involvement can help to overcome resistance to up-dating highways standards, as well as frequent problems in agreeing appropriate standards for adoption (fig 1.36 Fairfield Park).
Key Finding Eleven
Coding processes can vary, but should typically build upon and interpret a spatial vision for the site:

1.40 Coding is an integral part of wider development processes that for a coded development would typically involve stages of:

1. Inception;
2. Development partner selection;
3. Masterplanning;
4. Engagement;
5. Outline approvals processes;
6. Code design;
7. Land disposal;
8. Development parcel design;
9. Detailed approvals processes; and
10. Delivery on site
(fig 1.37 Cirencester).

1.41 Codes have been produced at different stages in the planning process, and the timing influences the appropriate content. If produced prior to the outline planning consent they tend to be more strategic and less detailed in nature, and can subsequently be supplemented by further detailed codes or development briefs, for example on a parcel by parcel basis. If produced post outline planning consent (the usual arrangement) such technical matters are likely to be included in the design code. Although codes are sometimes produced prior to the masterplan, experience from the case studies suggested that this arrangement is invariably problematic and should be avoided. Instead, a key feedback loop exists from the code to the masterplan, which may need refining in the light of coding (fig 1.38 Cambourne).
No single definitive coding process is apparent, and the sequence of key stages can vary. A typical process nevertheless reflects that of the hypothetical process represented above, incorporating:

- A decision to code – clarifying motivations and defining the processes;
- The co-ordination of inputs – skills and resources, roles and relationships;
- Understanding the context for coding – in policy and guidance, the site and any existing physical vision i.e. the masterplan;
- A code design process – devising content and expressing it, and refining through stakeholder engagement and adoption processes;
- Delivering the code – using the code for development parcel design and development procurement, and for the assessment and regulation of resulting proposals; and
- Managing outcomes – via monitoring and enforcement, code evaluation and project aftercare.

Sometimes codes are produced as a means to interpret and implement other forms of design guidance. Indeed different contexts require different design guidance responses, and considerable inventiveness exists when developing the right combination for each development.

**Key Finding Twelve**

**Partnership working is required but also clear leadership:**

A strong commitment to partnership, working between partners and within organisations is a pre-requisite for successful and efficient coding, although the case studies confirmed that the decision to adopt a coding process will not by itself generate successful partnership working. Instead, coding needs to be supported by all key stakeholders from the start if its potential is to be realised and if genuine partnership working is to be achieved. Indeed where consensus does not exist, teams seem to have difficulty finding means to resolve tensions.

A clear management structure can help if established early on in order to drive projects forward, for example working groups focusing on day to day implementation, reporting to a steering group for key strategic decision-making. To aid this, bringing together key decision-makers in one place at important junctures seems critical to help maintain momentum, as does a continuity of key players over time. The research indicated that other forms of detailed design guidance also require the same consensus-based approach in order to garner stakeholder support from the outset.

Clear leadership is also critical to successful coding, this can come from landowners, developers, local authority officers or code designers, and without it an overly time and resource intensive coding process will result. However, confusion can exist about leadership roles, reflecting unresolved tensions between regulatory, design and development responsibilities. More often than not, successful examples of coding seem to be characterised by one party or another being strongly motivated to achieve quality, acting in effect as a design champion, and persuading other parties to sign up to that vision. For their part, involving councillors early within the coding process can help to gain their support, lead to a smoother planning process, and give councillors the necessary confidence to delegate reserved matters decisions to officers on the basis of design codes.
Finding Thirteen
Codes sit as the most detailed level in a hierarchy of policy and guidance to which they need to have regard, and in which their status should be made clear:

1.47 Coded schemes usually follow a linear process of design development, with successive layers of policy and guidance adding layers of prescription, and culminating in a code. Thus design codes provide the most prescriptive level in a hierarchy of design policy and guidance, and as such should build upon principles already established elsewhere. In particular, the research suggested that careful attention is required by code designers to existing policy and guidance frameworks in order to avoid abortive work. For the public sector, the hierarchy of policy and guidance needs clarifying from place to place to establish where and when design codes take precedence (fig 1.39 Cirencester).

1.48 Whatever the exact local hierarchy, development plan policies provide important means to require that codes be prepared for certain types of site; whilst codes themselves are frequently prepared to satisfy a condition to an outline planning consent requiring that detailed (often unspecified) design guidance be prepared. Reference to government guidance and to analytical, consultative and other policy/guidance work can also help to legitimise the content of codes. Finally, the preparation of new detailed design guidance of all types provides a ready opportunity to work with highways authorities to question and supersede any outdated highways standards.
Key Finding Fourteen
Integrated assessment processes can help to deliver a robust delivery tool:

1.49 Assessment of schemes against design codes can be successfully undertaken by either the local planning authority, landowner/funder/master developer, code designer or other design advisor, or by various combinations of the above. In the latter case, bringing all key regulatory, funding and landowner/master developer stakeholders together to make assessments of parcel proposals has the benefit of ensuring that one co-ordinated set of comments, from one point of contact, is produced. By contrast, where separate processes of assessment are undertaken, parcel developers can sometimes feel trapped in the middle.

1.50 The process of landowner teams and/or their representatives assessing the compliance of parcel designs with codes prior to formal planning applications has also been very effective. The involvement of code designers in such assessment processes can help to ensure consistency in assessment, overcome potential skills and knowledge gaps between code designers and code controllers, and allow some on-going adaptation in the interpretation of codes as circumstances require (fig 1.40 Newcastle Walker Riverside).

1.51 However implemented, codes are perceived to be robust tools for controlling design that are difficult to challenge at appeal. To aid development controllers to play their part in these processes, in assessing compliance for reserved matters purposes, the incorporation of easy to use checklists in codes, establishing a requirement that a ‘statement of compliance’ be submitted from applicants, and undertaking appropriate training in how to use the code, can all raise levels of confidence and competence amongst controllers.
Key Finding Fifteen
Creative means to monitor codes and consistency in requiring compliance are required:

1.52 Codes are likely to be fatally undermined if enforcement is weak. But enforcement was considered difficult and time-consuming, with those responsible resigned to the fact that unless problems are identified during construction and before the sale of a dwelling, then it is unlikely that breaches will be enforced. Unfortunately the complexity of many codes suggests that they will be difficult to enforce without retaining the original code designers.

1.53 The advanced codes reflected this latter model, and were in the main monitored by landowners and their consultant teams, with enforcement via development/land sale agreements; a mechanism that has proved very effective at ensuring compliance. By contrast the non-code case studies tended to rely on local authority monitoring and enforcement, with less overall success. Significantly, the pilots suggested that it will be local authorities who are primarily responsible for monitoring and enforcing compliance in the future, primarily through normal planning and highways processes (fig 1.41 Rotherham).

1.54 However, the very presence of codes have generally helped to ensure that breaches are kept to a minimum, although training and additional resources are required to systematically monitor compliance. For public realm issues, the sanction held by highways authorities to refuse to adopt street works has also been particularly effective at ensuring compliance. Beyond highways matters, legal means to ensure compliance are being explored by some pilots, including development agreements, land covenants, and Section 106 agreements. An additional option is for developers to fund a compliance officer within the local authority.
Finding Sixteen Codes concentrate on urban design criteria, but architectural coding is popular (fig 1.42 Swindon):

![Fig 1.42 Swindon, architectural coding]

1.55 The evidence from the research showed that coding for architectural design is both possible and popular. Typically based on an analysis of local context, such matters are often advisory but are sometimes mandatory, whilst the styles pursued through coding range from historic/traditional to contemporary (fig 1.43 Cambourne). However, different character areas are typically defined by urban design controls rather than on the basis of architectural styles.
1.56 Codes (and other forms of detailed design guidance) reflect a comparable set of design aspirations: mainly ‘traditional’ urban design with perimeter block urban forms, better integration with surroundings, and a high quality public realm (fig 1.44 Swindon). Streets are typically coded as a series of generic hierarchical types with different profiles and standards, and parking courts (fig 1.45 Ashford) are favoured as the dominant means of taming the impact of parked cars on the street scene. Within this context codes for built form and townscape concerns were often extensive, serving aesthetic, urbanistic and functional purposes, including the pursuit of natural surveillance. Open space issues, by contrast, are usually coded on the basis of specific spaces clearly identified in the masterplan, and issues of land use and unit mix are rarely coded at all. Instead, the adaptability of buildings to different uses is prioritised, alongside attempts to influence unit sizes and types (fig 1.46 Newcastle Walker Riverside).
Fig 1.44 Swindon, coding for public realm and townscape

7.6 MONUMENT & FOUNTAIN
A monument is to be located at the centre of the Village, on the main square (WV22). It is to have a set-back element, step a scale stepped base, suitable for sitting on.
A fountain is to be located on the North side of the main Urban Square (WV18) as part of Block WC1.

Fig 1.45 Ashford, parking courts

Fig 1.46 Newcastle Walker Riverside, open space requirements
1.57 Coding for specific public realm products seems to be particularly problematic if EU procurement practices are to be observed, requiring generic prescriptions or performance standards, rather than product specifications. Coding for sustainability also seemed problematic (fig 1.47 Swindon), with codes being high on aspiration, but low on actual prescription to address these issues.
Key Finding Seventeen
Codes need to be robust working documents that carefully distinguish mandatory from advisory components, and should be user-friendly:

1.58 No single format for codes is apparent, and instead codes are structured, expressed and presented in light of local circumstances. The consensus is nevertheless that diagrams, tables of requirements (fig 1.48 Newcastle Walker Riverside), detailed plans, sketches and precedent illustrations (fig 1.49 Cirencester) should be dominant (although in practice text often dominates) and that photographs should be illustrative (fig 1.50 Swindon). Careful expression is also required to distinguish mandatory from advisory components of codes.
Fig 1.50 Swindon, illustrative photographs of desired outcomes

**FRONT ACCESS DRIVEWAY/GARAGE PARKING**

Figure 3.1: Parking on driveways & in garages, accessed from the street front

**MEWS PARKING**

Figure 3.2: Mews with enclosed, on-plot parking areas

**SINGLE-SIDED ON-STREET PARKING**

Figure 3.3: On-street parking

**MEWS COURT PARKING**

Figure 3.4: Parking in paved court, accessed via mews
Detailed analysis of the content of the case study design codes suggests the following good practice:

- Codes should begin with a succinct guide to their use, and with an explanation of how they relate to the physical vision.
- Codes should systematically and gradually break down elements of the built environment for users, moving from strategic to detailed concerns.
- Enough detail is required to give clarity and certainty, but precision to legal standards is not required (fig 1.51 Hastings).
- Specific codes should be justified.
- Codes that are too succinct, as a result, also seem to be open to greater interpretation.
- Ambiguous aspirational statements should be avoided.

- 2D illustrations (fig 1.52 Ashford), often combining annotated plans and sections (especially sections of street types), can obviate the need for 3D images.
- Careful cross-referencing between different elements in codes can aid navigation.
- Consistency of page layouts (fig 1.53 Greenhithe), attention to document structure, and clear numbering of pages and sections are all recommended.

A testing exercise can help to refine the content and particularly the expression of codes, for example where jargon is undermining comprehension. Therefore, if appropriately presented, codes might even be used for promotional purposes beyond their core audience.
Key Finding Eighteen
Codes are deliberately prescriptive and tend to be inflexible in the short-term, but are not fixed entities and should be capable of evolving throughout their life:

1.61 The key audiences for codes are perceived to be parcel developers and their designers, as well as development control officers. Coding teams were often adamant that any design guidance that allows too much interpretation by these audiences will lead to conflicts that need to be resolved through time-consuming negotiations. Therefore, most codes were seen as deliberately prescriptive and inflexible tools, primarily meant for a professional audience.

Some argued that a danger of over-prescription in design guidance (of any form) is the inflexibility it engenders in those responsible for the code’s implementation and regulation, even when design improvements are being proposed by applicants. They concluded that negotiation should be possible on the basis of codes, particularly if alternative schemes promise benefits over and above those offered by the code. Furthermore, because coded projects are often large scale and developed over extended periods of time, codes need to be flexible enough to deal with changing circumstances over the long-term (fig 1.54 Greenhithe).
In this regard code principles should not be seen as set in stone, but capable – through due process – of negotiated interpretation, for example where conflicts become apparent. Moreover, a willingness is required to update codes in the light of early experience of their use, and formal review dates might be established from the start. The research confirmed that codes tend to evolve throughout their use, being either formally or informally evaluated and revised.

An alternative favoured in some projects was the use of code supplements or mini codes/design briefs for each new parcel as and when they come forward for development. These tools can – as appropriate – refine, up-date and interpret the main code, and thereby avoid the need for a complete review. However, if considerable flexibility is required from design guidance over the short-term and throughout its life, it may be more appropriate that other forms of guidance are used from the start (fig 1.55 Fairford Leys).

Key Finding Nineteen

Codes can be management as well as delivery tools:

As well as coding for specific design characteristics, design codes can code for process issues. This might include guidance on submission requirements for reserved matters applications, or establishing roles and responsibilities within the coding process, laying out evaluation or engagement procedures, identifying relationships to other design policy/guidance tools, and so forth.

Codes can also have a role in the long-term management of developments, but this requires that an appropriate system be set in place to tie the code into these on-going processes. This can be achieved through planning powers, establishing local management companies, restrictions placed on inhabitants at the point of sale, or the provision of post-completion design guidance based on the code. The potential for codes to manage developments following their completion is not currently being systematically considered.
1.66 The research suggested that design codes are – in appropriate circumstances – valuable tools to deliver a range of more sustainable processes and outcomes from development. The research sought to test the impact of design coding on a number of possible outcomes: on the speed and certainty of the development process; the quality of outcomes; the co-ordination of stakeholder activities and aspirations; inclusion of the community in the design process; and, with regard to the economic costs and benefits of coding.

1.67 The research suggested that as a particularly robust form of design guidance, design codes can play a major role in delivering better quality development, and this should be the major rationale for supporting them. They also have a significant role to play in delivering a more certain design and development process, and – if properly managed – can provide the focus around which teams of professional stakeholders can integrate their activities, delivering in the process a more co-ordinated and consensus driven process. For this, they require a significant up-front investment in time and resources from all parties, although for commercial interests, this seems to be more than returned in the enhanced economic value that better design and a stronger sense of place can deliver.

1.68 To deliver on their potential, code processes need to be designed specifically to accommodate the particularities of the stakeholder, site and local policy/guidance context in which they are to be utilised. As design codes are just one possibility amongst a range of detailed design guidance options, it is important to understand where they should and should not be used. In this regard, they would not normally be of value for small sites where only one developer and design team is involved. Conversely, codes seem most valuable when sites possess one or more of the following characteristics:

- Large sites (or multiple smaller related sites) that will be built out over a long period of time;
- Sites in multiple ownership; and
1.69 Evidence of the benefits of design codes on other factors was less clear. Codes on their own do not deliver a faster planning or development process, and have no significant role to play in building consensus within communities. With regard to speed, this seems to be no different to other forms of detailed design guidance which can also deliver the benefits described above, but, like coded schemes, are influenced by a complex range of factors that determine the length of the development process, few of which relate to the choice of the guidance tool itself. Moreover, codes make no discernable difference to the length of the formal stages of the planning process, although the process of applying for and obtaining reserved matters consents can, over time, be more streamlined and predictable. Some pointers were nevertheless identified to help streamline coding processes and these are presented in the detailed findings above.

1.70 With regard to the issue of community buy-in, as primarily technical documents, few codes seem to play a significant role in helping to engage the community in the design process, but then neither do other forms of very detailed design guidance that are used to supplement a masterplan vision. Typically, the masterplan provides the correct vehicle for community engagement, a process in which codes and other forms of detailed design guidance can play only a supportive role.

1.71 Certainly large complex sites should benefit from detailed design guidance of some description, which should be produced as a means to help deliver design quality, certainty of process, stakeholder co-ordination, and (potentially) enhanced value. Codes seem particularly suited to this role, but will only ever have a supportive role to play. They, in turn, need to be supported by a range of other equally important factors: by the right design skills; developers who are committed to quality; an enlightened highways authority; and by a consensus between key stakeholders concerning the vision for the site and the strategy for its implementation.
2 Decision to code

The first key decision for stakeholders will be whether, for particular sites, design coding is the right way forward. This will be affected by stakeholder motivations and views regarding the use and utility of design coding. Key decisions about the process to be adopted in particular cases will start to be made at this point.
2.1 The pilots revealed a range of motivations for their engagement with design coding. The most frequent were that design codes possessed the potential to improve the design quality of development, and that they held out the promise of a faster planning approvals process.

2.2 Taking the latter first, developers were mainly motivated by securing necessary approvals in a timely manner and were attracted by the promise of quicker consents, particularly for the later phases of their developments. Authorities seemed less concerned with speed, but nevertheless saw potential efficiency gains in a smoother development control process, aided by anticipated design code checklists. In a context of specialist design staff shortages this seemed particularly attractive to some local authorities. However Ashford, who aspired to a more checklist-based approach, were disappointed when their code’s complexity undermined this. For their part, Swindon, felt that a generic design code would avoid the need for very detailed plans for each parcel of land, so cutting down design and negotiation time.
In Hastings the opposite was the case, and initial views there suggested that the code had been imposed externally and was actually slowing down the planning process and delaying development. Although the potential benefits of coding were understood, because the code had been introduced late in the design process – two years after the project’s commencement – the development process itself had to be put on hold to allow the code to catch up. Planners nevertheless believed that the code should lead to a smoother development control process. In this case, the process of actually producing the codes led to some views changing, with a greater acceptance of the potential of codes emerging by the end of the monitoring and evaluation period.

Local authorities were more interested in the potential, as they saw it, to improve the quality of development. Most believed that the presence of design codes themselves could raise the overall standards of design by encouraging developments that were distinctive and which avoided the use of ‘standard house types’. Authorities were particularly keen that the pilot schemes should establish quality benchmarks, both for future phases of the developments in the pilot programme, but also for future developments within their local authority boundaries. Ashford, for example, saw codes as an opportunity to establish a high quality public realm, and to co-ordinate design intentions between parcels.

Two other major motivations were expressed. First, that codes would give greater certainty to developers, in particular by reducing the inconsistencies in advice that they sometimes received. Local authorities also saw benefits in this respect, in their case in the greater certainty about the quality of the end product that would be delivered over successive phases of development, particularly across different developers. All stakeholders also saw potential long-term benefits in the enhanced communication between parties that codes could deliver. It was envisaged that the early collaboration required to produce the codes could not only help to deliver the code, but also enhance mutual understanding and working relationships. Three pilot teams had found the Enquiry by Design process or other community planning events particularly useful in building a consensus around the idea of producing a code and in establishing a momentum to that end.

Additional motivations were revealed in Swindon and Rotherham. In Swindon, the code will be submitted to discharge a condition to the outline planning decision. In Rotherham, because codes were seen as part of a demonstration project promoting high quality development, it was believed they could raise the profile and perception of the area and in so doing enhance the chances of attracting European regeneration monies for land assembly and development.

Because the motivations varied, the driving force behind the different coding projects also varied and in the different pilots was variously the local authority, the developer, the local regeneration agency, the designer, and English Partnerships. In a number of the pilots this manifested itself in perceptions amongst other stakeholders that they had been pressured into accepting the coding process. Negative views about key aspects of the process inevitably followed.

The teams associated with the advanced coding schemes were overwhelmingly driven by one motivation – the delivery
of better quality design, and speed did not enter as a factor into their deliberations. Typically, deriving from an early/mid 1990s context, these schemes represented reactions to the generally poor standard of speculative housing development of the era, and to a determination by one or more stakeholders that they could do something better, and in so doing raise the value of their investment.

2.9 West Silvertown, for example, was inspired by the Urban Village concept. The intention there was to raise quality and move beyond the suburban norm, whilst reassuring potential purchasers that the development would be of high quality – throughout – and that the social housing elements would be both well designed and integrated. Effectively, the project was setting down a new quality benchmark for the area – the Royal Docks – and in doing so, for the London Docklands Development Corporation (LDDC). In Lightmoor, the intention was to create an exemplar design, both in its built form and public realm. In this case the code was viewed as a means to emulate the clear design and social principles that had guided the development of Bournville, helping to deliver a sense of place as well as higher prices for the houses for sale.

2.10 In the other case studies, for a range of different reasons, design was the primary motivation:
- In Upton, the drive to secure higher quality development was driven by the desire to comply with the new national Planning Policy Guidance, for example in PPG1 (1997) and PPG3 (2000), and to use the land more efficiently in a sustainable manner.
- In Newhall, the landowner/promoters believed that design could be used to optimise the value of their development over the medium to long-term and that codes would help deliver this through creating a more distinctive place for a niche market – contemporary design at higher densities.
- At Hulme, the desire was simply to use higher quality development as a means to avoid repeating the mistakes of the earlier housing on the site, and thereby to meet the aspirations of residents.

2.11 A range of related secondary motivations were expressed, each clearly related to the primary motivation to improve design quality. The first two were frequently cited, the remainder in single cases:
- The potential to co-ordinate the outputs of separate developers across different parcels, particularly when parcels are sold to developers outside the original consortium.
- A belief that codes offered the ability to deliver an integrated approach to design that normal guidance was not strong enough to deliver.
To guarantee compliance with the masterplanning principles of an agreed scheme (i.e. the competition winning scheme in Greenwich).

- The value of codes in helping to co-ordinate the work of separate architects across a project to establish a seamless built form.
- The use of design coding as an effective marketing tool, as a means to demonstrate the desire to create a context where little existed before.
- A tool for dialogue and debate, flexible enough to allow for changing marketing strategies, but robust in principle to deliver the vision.
- A long-term management interest in parts of the development (in the case of the Bournville Village Trust).
- To establish a flagship development to inspire other projects in the area.

2.12 The non-code developments were similarly inspired to produce their range of design guidance by a desire to rise above the norm and distinguish their developments for marketing and other reasons. The approach at Newcastle Great Park evolved over a considerable period of time driven by the changing national policy context for design, whilst at Port Marine, a co-ordinated response was required in order to maximise the regeneration potential of the area.

At Greenhithe the high site remediation and restoration costs required the developers to maximise the value of the site through designing to a higher quality. Detailed design guidance was therefore used to create a series of distinctive areas within the scheme that maximise the potential of existing on-site assets. For Cambourne, the guidance was designed to enable the local authority to control the quality of the development as a means to raise standards. Here, as throughout the case studies (code and non-code), whether the design guidance was viewed as a safety net or springboard to excellence was more difficult to determine; a bit of both was typical.
What the codes contained: Motivations

The stated purposes of coding in the pilot codes were diverse, although the six who provided a rationale were all seeking both better design quality and more certainty for developers. Hastings nevertheless provided the caveat: “It should be remembered that Design Codes do not guarantee exceptional architectural design; that requires exceptional designers”. By contrast one pilot mentioned the promotion of innovation and diversity in design and three were motivated by the delivery of more sustainable development. Three pilots sought more certainty for communities – to be delivered through the planning process – whilst certainty for landowners and investors also received mention.

Rotherham’s aspirations for coding included facilitating revitalisation programmes. The efficiency and effectiveness of planning through codes were only suggested once each (efficiency translating as speed), and four pilots gave speed as an explicit rationale. Newcastle qualified the claim, noting coding could speed up the planning process further down the line, whilst Cirencester removed the rationale of “faster approvals” which had been in their earlier draft.

The pilots mentioned better co-ordinated, more consistent development (twice) and better co-ordination across multiple sites. Hastings argued that coding could “allow development to take place on a large scale within a short time period; through codes that promote and set out clear parameters for an ordered urban fabric”. In Cirencester, the council aspired to apply the coding principles to other developments within the area. Aldershot’s code, still in draft form, was the only one which lacked any statement of purpose. With three of the pilots, the number of listed aspirations grew significantly in later drafts of their codes.

Six of the eight advanced cases sought better design quality. A wide range of other motivations were mentioned, each in only one or two cases. These included better co-ordination of stakeholders and the encouragement of “mutual understanding and collaboration... between consultants and developer” (Greenwich) as well as a more efficient planning process (by minimising disruptions).
Upton mentioned that the use of coding “plays a central role in the developer selection process” and “should be seen as the starting point for a dialogue between developers and their design teams” – suggesting perhaps that coding helps to improve the standard of development, in part because the use of coding has an influence on which developers and designers get involved in a project. Other outcome-related motivations mentioned included more sustainable development, and more certainty for both developers and communities – certainty for developers was only mentioned twice, and for communities, just once. Coding, it was argued, can enhance the effectiveness of planning because it fosters a more consistent approach which yields more consistent outcomes (for example, across multiple sites) and better serves planning policies and objectives.

Lightmoor noted that coding combines overall coherence with the promotion of areas of individual character. Hulme and Greenwich both went further to suggest that one aim of coding was to encourage variety and innovation in design. Fairfield suggested that their pursuit of coding reflected government guidance. By contrast, Lightmoor’s aspiration was “to create a flagship example of how urban communities can be developed in the future... to act as a demonstration project”.

The nature of the four non-code documents varied. The stated aims also varied between better design quality, more sustainable development, and ensuring that the development control approach was more comprehensive and/or that development was less piecemeal. One case specifically aspired to the better co-ordination of stakeholders.
The Process

SUMMARY

- Coding is an integral part of wider development processes that for a coded development would typically involve stages of inception, development partner selection, masterplanning, engagement, outline approvals processes, coding, land disposal, parcel design, detailed approvals processes, and delivery on site.

- Although codes are sometimes produced prior to the masterplan, experience from the case studies suggested that this arrangement is invariably problematic and should be avoided.

- Coded schemes usually follow a linear process of design development, with successive layers of guidance adding layers of prescription, and culminating in a code (or other form of detailed design guidance).

- Codes have been produced at different stages in the development process, and the timing influences the appropriate content. If produced prior to the outline planning consent they tend to be more strategic and less detailed in nature, and can subsequently be supplemented by further codes on detailed matters. If produced post outline planning consent then these technical matters are likely to be included in the code.

- No single definitive coding process is apparent, and the sequence of key stages can vary.

- A typical process would nevertheless encompass: a decision to code (clarifying motivations and defining the processes), the co-ordination of inputs (skills and resources, roles and relationships), understanding the context for coding (in policy and guidance, the site and any existing physical vision i.e. the masterplan), a code design process (devising content and expression, refining through stakeholder engagement and adoption), delivering the code (using the code for parcel design and development procurement, and for the assessment and regulation of resulting proposals), and managing outcomes (via monitoring and enforcement, and, perhaps, code evaluation and project aftercare).

- A key feedback loop exists from the code to the masterplan, which may need refining in the light of coding.

- Sometimes codes are produced as a means to interpret and implement other forms of design guidance.

- Different contexts require different design guidance responses, and considerable inventiveness exists when developing the right combination for each development.
2.13 A lack of clarity seemed to characterise some of the coding processes being adopted, with a ‘suck-it-and-see’ approach often prevailing. Variously stakeholders were confused about the relationship to the outline application process (i.e. whether codes should be part of the permission, or follow on after); about the relationship to the masterplan (before or after), and even about the relationship to detailed reserved matters applications. A lack of clarity about the role and utility of coding was the result. In Cirencester, for example, the code was produced prior to the masterplan, and even prior to the site being formally adopted for development in the local plan. The result is that the council’s cabinet has not endorsed the code and the code has been effectively ‘parked’ to await progress on other fronts. In Aldershot, the consensus was that code preparation came too early in the process, before the masterplan was fixed, and that an optimum process would work up the masterplan sufficiently first in order to inform code production.

2.14 Elsewhere, code processes have been carefully developed prior to inception, including in Swindon, where the process involved agreeing the content of the codes, consulting, agreeing technical rules, code design, and code approvals. Rotherham followed this path with a process encompassing analysis and characterisation, stakeholder engagement and consultation, initial code drafting (including of a regulating plan), further stakeholder engagement and consultation, final code drafting, and adoption. Despite the evolutionary nature of some coding processes, this simple linear sequential process characterised the pilots.

2.15 A key feedback loop seen in a number of the pilots was the re-visiting and refinement of the masterplan in light of coding design decisions, something that some pilots argued was particularly time consuming. In the case of Hastings, revisiting previous decisions relating to the masterplan was seen to have been primarily the result of a change in consultants and so, in retrospect, unnecessary. Others built into their processes early workshops and events to agree the content of the codes (Aldershot), an early parallel stream to consider highways matters alongside masterplanning and coding (Swindon), and formal processes to interrogate the content of their codes (two months in the case of Swindon).

2.16 Significantly, when asked to draw the process, a few stakeholders saw the coding process as a self-contained process in its own right with discrete inputs and outputs. Most, however, saw it as an integral part of the wider development process that involved inception, developer selection, masterplanning, engagement, outline approvals, coding, land disposal, parcel design, detailed approvals, and delivery on site.

2.17 Detailed development briefs, frameworks or masterplans were all seen as possible alternatives to coding, but often the existence of the pilot programme itself had encouraged pilot stakeholders to use coding. Ashford, being the most advanced, had already made the decision to use design coding prior to the programme commencing. In this case, a condition to the outline permission required that applicants complete a design code/statement for every phase of the project. Separate consultants were used to produce the overall project masterplan, the code, the landscape design, and for the more detailed masterplanning of each phase. Unfortunately, problems with the initial parcel designers led to considerable delays, including to the re-design and
re-submission of Phase 1b of the
development for reserved matters
consent, and, as a result, to the need to
re-visit the principles enshrined in the
design code.

2.18 The advanced coding projects
demonstrated that no single coding
process was apparent, suggesting that
codes and coding processes each need
to be designed to reflect the particular
policy, stakeholder and development
contexts within which they are to be
used. Frequently, however, codes were
prepared as a result of a condition to an
outline planning consent, although
invariably the condition was unspecific
about the exact type of guidance that
needed to be prepared. In Upton, for
example, the condition required that a
brief be prepared, a requirement met by
the production of the code following an
Enquiry by Design event. At Fairfield
Park a condition to the outline
permission and section 106 Agreement
required the approval of a masterplan and
design brief prior to submission of
reserved matters, whilst the code as part
of an Urban Design Strategy has satisfied
the requirement. For Lightmoor, by
contrast, a condition attached to the
outline planning permission required
that the development shall be in
accordance with the code. Here the
coding process involved:

1. Producing the code: develop
masterplan, identify key design
elements, test design, develop code,
test code, finalise code, refine
masterplan, submit outline
application and coding document.

2. Use the code: brief developers,
negotiate with prospective parcel
developers/designers,
developers/designers develop and
submit tenders. Use the code to
assess tenders and agree preferred
developer, negotiate to agree
submission for detailed consents,
submit reserved matters application,
local authority use code to assess
application.

3. Construction: use code to monitor
delivery, parcel developer use code
to tender and monitor sub-
contractors.

2.19 A limited competition held for West
Silvertown provided an alternative to
conditioning as a means to ensure the
delivery of a code. Thus the masterplan
and design principles were specified as
a requirement for entrants, and built on
the framework plan for Victoria Dock
that had been prepared by the LDDC.

2.20 Some of the advanced coding projects
featured a wide range of design
guidance types. The Newhall site was
allocated in the local plan and was
followed by the production of an urban
design framework for the entire
development. Next a detailed planning
brief was prepared for Phase 1, followed
by an outline planning application, a
condition of which required that a
detailed masterplan and planning and
design brief be prepared. The code itself
then sets out the principles agreed as
part of the masterplanning process and
is up-dated for each parcel of land,
effectively acting as a brief for
successive developers.

2.21 Typically, however, a linear process of
design development was followed, with
successive layers of guidance adding
layers of prescription, and culminating in
a code. In Fairfield Park, for example,
an initial local authority development
brief with little reference to design was
followed by a landowner inspired
development concept, leading to an
outline permission, followed by a
masterplan and accompanying code. In
Greenwich, a two-stage developer
competition selected a masterplan by Ralph Erskine who also designed Phase 1 of the project as a detailed architectural commission. Phase 2 also gained consent but was rejected by English Partnerships (the landowner) as non-compliant with the masterplan. The code was commissioned as a private document to guide the landowner permissions process for this and other sub-phases of the development.

2.22 Hulme illustrated a similar process of layering ever more detailed guidance, with an initial conceptual masterplan followed by a draft development framework and an initial version of the code. In this case, however, perhaps reflecting the national planning policy context of the early 1990s, the code was later simplified and twice redesigned as the perception at the time was that the initial code (based on the precedent of the New Urbanist Seaside scheme) had been overly prescriptive and deterministic. The creation of the code resembled a process of trial and error, not least because the initial housing designs informed the code creation, and vice-versa, but also because local consultation on the overall vision for Hulme fed into the refinement process.

2.23 The non-coded projects also showed a diverse range of processes and a similar linear sequence of design development with increasing layers of detail, and sometimes rather tortuous means to get there. These processes resulted in a range of tools to guide and control detailed design, although coding was not at that time considered. Nevertheless, nothing inherent in these processes implied that coding could not have been used as an alternative.

2.24 Port Marine was initially allocated in the local plan as an Action Area. During the determination of two outline planning applications, the local authority produced Supplementary Planning Guidance for the site to set out their aspirations and to inform the detailed design phase; work informed by an Urban Design Study commissioned as a feed into the SPG. The SPG itself required that a detailed masterplan be prepared. In Cambourne, an agreed masterplan and design guide have been supplemented by Briefing Plans for each phase of the development. The process was laid down in a condition to the original outline planning permission. In Greenhithe, by contrast, a development framework incorporating a masterplan and design brief was followed by a Character Area Study incorporating detailed design statements for the different parcels of the development. The Character Area Matrix that resulted resembles a code, but is less prescriptive. It nevertheless adds a layer of detail to the masterplanning documents.

2.25 Perhaps the most complex process was followed in Newcastle Great Park where design guidance has developed incrementally. Initially the site was included in the UDP, a planning brief followed, then a masterplan and supplementary planning guidance. The intention was to require a Design Strategy Statement for each cell of the masterplan as each came forward for development. Outline permission followed, but the emergence of PPG3 in 2000 and a potential ‘call-in’ prompted the preparation of a new more detailed masterplan from the developer reflecting the new national design principles. The city also produced written design guidance setting out urban design, landscape and highway design principles for the site. Following development of the first two cells in a ‘traditional’ style, a rethink encouraged by CABE led to a
new three-dimensional masterplan for the remaining cells. The local authority is now considering whether to adopt the new plan.

2.26 The experiences across the advanced and non-code studies show endless inventiveness, but also considerable indecisiveness. This has resulted from changing policy contexts, and the desire to find the right range of policy and guidance tools in each place to suit the particular development, its broader policy and stakeholder context, and the aspirations of those involved.
3 Co-ordinate inputs

The inception of a coding process will follow the basic decision to code and will encompass a process of marshalling and co-ordinating a wide range of inputs to the process. Key to this will be establishing the correct roles and relationships between stakeholders, and organising for the necessary skills and resources to deliver the code.
Roles and relationships

SUMMARY

- Confusion can exist about leadership roles, reflecting unresolved tensions between regulatory, design and development responsibilities.

- Clear leadership is critical to successful coding, this can come from landowners, developers, local authority officers or code designers, without it, a time and resource consuming coding process will result.

- More often than not, successful examples of coding seem to be characterised by one party or another being strongly motivated to achieve quality, acting in effect as a design champion, and persuading other parties to sign up to that vision.

- A strong commitment to partnership working between partners and within organisations is therefore a pre-requisite for successful and efficient coding, although the decision to adopt a coding process will not by itself generate successful partnership working.

- Coding needs to be supported by all key stakeholders from the start if its potential is to be realised and if genuine partnership working is to be achieved; where consensus does not exist, teams have difficulty finding means to resolve tensions.

- Bringing together key decision-makers in one place at important junctures seems critical to maintain momentum, as does a continuity of key players over time.

- A management structure needs to be established to drive projects forward, for example working groups focusing on day to day implementation, reporting to a Steering Group for key strategic decision-making.

- Other forms of detailed design guidance require the same consensus-based approach in order to garner stakeholder support from the outset.

- Involving councillors early within the coding process can help to gain their support, lead to a smoother planning process, and give councillors the confidence necessary to delegate reserved matters decisions to officers on the basis of the codes.

- Key audiences for codes are perceived to be parcel developers and their designers, as well as development control officers.
3.1 A particularly striking finding was the lack of clarity surrounding leadership roles and responsibilities. Almost without exception confusion reigned, often reflecting unresolved tensions and balances of power between those with development and regulatory responsibilities. Given the corresponding finding that much of the delay associated with coding in the pilots was put down to the lack of management and/or co-ordination within the pilot teams, this was significant.

3.2 Project champions were most frequently cited (often by themselves) as the local planning authority and the landowner/developer organisation. Others identified with a leadership role included:

- The masterplanners
- CABE enablers
- English Partnerships
- Other local authority services/departments (i.e. urban regeneration).

And to a lesser degree, for particular parts of the process:

- The highways authority
- Parcel developers.

3.3 Sometimes this merely reflected a confusion between broad strategic management responsibilities (usually held by the landowner and/or local authority) and responsibilities for driving a project forward on a day-to-day basis (usually the respective consultants). The confusion seemed to breed two problems. First, problems concerning the clarity and strength of leadership, and second, concerns over who was taking the client’s role. It betrayed a failure to use coding as an opportunity to move beyond ‘traditional’ confrontational relationships within the development process and to forge genuine partnerships.

3.4 Perhaps significantly, councillor involvement was minimal in almost all of the pilots, although they had played a key role in at least one case by establishing a condition to the outline planning permission requiring that codes be prepared. Only in Swindon did councillor involvement seem to be more significant, through the bimonthly Councillor/Officer Task Force to steer the local authority input into the process. In addition, a Council Project Board and a separate Joint Project Board with the developer both have councillor representation. The councillors were not initially aware of what the implications of the codes might be, namely subsequent reserved matters decisions might by-pass them by using delegated authority. However their involvement has ensured that this principle has been fully aired, in part because the process has allowed their concerns to be taken on board at an earlier stage. Elsewhere, involvement was usually restricted to councillors attending the various coding workshops and consultation events. Only one example was seen of councillors being criticised for undermining the content of codes, in that case by imposing pre-conceived ideas at the end of the process about the level of parking standards (increasing them).

3.5 Despite the questions over leadership, most pilots have developed formal or informal working arrangements to manage the coding process. For example, in Aldershot, a Steering Committee chaired by English Partnerships meets every two to three months, with focused working groups (e.g. dealing with highways) meeting weekly, co-ordinated by the consultant masterplanners. However, despite the number and frequency of meetings, there was widespread frustration about the inability of the meetings to move the project forward. This was partly as a result of differing opinions between the landowner and the local authority.
on the level of prescription and role of the code. Most of the meetings discussed the practicalities of the masterplan, and there was relatively little discussion of the code. By the end of the monitoring and evaluation process, agreement was emerging that, as the local authority needed to play the key role in enforcing the code, it should be playing a more proactive role in its generation.

3.6 In Cirencester, a Steering Group has been established and meets on an ad hoc basis to comment on the code at key stages. The group includes representatives from highways, the developer, planning, the code designers, CABE, and community representatives. Elsewhere, decision-making paths have been less clear, seemingly reflecting the informal nature of local agreements to co-operate, for example in Rotherham or Hastings. In the latter case, despite the technical Working Group producing the draft code in a timely manner, the failure to agree early on about the possible benefits of coding and to establish appropriate delivery mechanisms has led to a lack of commitment to the outcomes and to some disillusionment. Fortunately, interviewees reported that communication had improved over the course of the pilot project, and as a consequence decision-making processes had also become more streamlined.

3.7 In Ashford, difficulties with communication and partnership working have led to similar problems, and to parties acting unilaterally. The situation has left all stakeholders unhappy with the code, whilst their difficulties in agreeing a final draft have greatly delayed its adoption. Stakeholders commented that the most fruitful experience was the workshops, where all key decision-makers were together in one place, and where, as a result, real progress was made. The initiative saved much time early on, but decision-making structures used since then have failed to maintain the momentum.

3.8 In Rotherham, the failure to engage with the key developer has meant that he unilaterally submitted a planning application that ignored the code. Although this was refused, the experience raised questions about the need to encourage buy-in from all key stakeholders – particularly landowners and developers – if codes are to deliver their vision. In this case the refusal effectively led to a further distancing of the developer from the coding project, and to a concern on his part that he was becoming sidelined. In sites like this with complex landownerships and conflicting aspirations, it may be difficult to deliver on the potential of coding unless all stakeholders are on-board from the start.

3.9 Amongst the advanced case studies, a strong commitment existed to partnership working as a means to encourage the full range of stakeholders to buy-in to the codes. In West Silvertown a belief had existed that all stakeholders need to buy into the code early in the process, and that this needs to be locked into the planning process. Most interviewees commented that the complexity of the projects and the number of players necessitated a positive working environment and consensus around key objectives. Typically, as in Upton and Lightmoor, layers of management groups needed to be established to drive projects forward, with working groups focusing on day-to-day implementation and meeting fortnightly, reporting to a Steering Group for key strategic decision-making. In Fairfield Park a partnership of key actors (main developer and local authority) helped to generate and refine the codes, whilst parcel developers were invited to separate meetings to consider the emerging guidance.
3.10 Consensus working extended to internal relationships within local authorities, and in Newhall, the local authority has taken a development team approach, including representatives from planning, design, engineering and housing services, and from the county urban design and highways groups. A key objective was to establish highways and drainage principles in consultation with the Environment Agency and highways authority that were both innovative and adoptable. Through this involvement, the district’s own highway engineer was motivated to help convince the Highways Authority that the innovations were acceptable.

3.11 Leadership was typically provided by the landowner, often supported by, or devolved down to, the code designers. In West Silvertown, the LDDC as landowner and initially as planning authority were in a strong position to commit the other development partners to deliver the code. They were central to the drive for quality, but relied on the code designers for the skills and vision that made developers see the benefits. Fairford Leys represented a landowner-led quality agenda, supported by the local authority (although only after-the-fact). In this case, the parcel developers were only involved after the code had been written, and remained concerned about the level of prescription and commercial realism, despite being supportive of the general effort to deliver quality. There the day-to-day process was led and managed by the code designer, who co-ordinated discussions with planning and highways authorities and with the Environment Agency.

3.12 Lightmoor, Newhall, and Greenwich all followed similar patterns, with the landowner/development consortia pushing for quality, but relying on a skilled design team to make assessments against the codes as individual proposals come forward – essentially a quality control role. Upton was slightly different, with English Partnerships as landowner, client and funding agency taking a strong leadership role on almost every aspect of the project, often in partnership with the local authority. Only Fairfield Park saw the local authority take the lead role; requiring design guidance, extracting a contribution from the developer and commissioning the code. In this case, involvement of key players at an early stage helped to establish commitment to quality and tie down the multiple developers to a common vision. Only the Police Liaison Officer refused to buy into the vision, rejecting the whole notion of perimeter blocks and rear parking courtyards and as a consequence becoming isolated from the process.

3.13 The complexity of the consensus building task was demonstrated by Lightmoor, who exhibited the following line-up of key stakeholders:

- English Partnerships (landowner and funder – 50%)
- Bournville Village Trust (funder – 50%)
- parcel developer, phase 1
- parcel designer, phase 1
- masterplanner and code designer
- marketing agent
- landscape architects
- engineers
- environment consultant
- cost consultant
- planning supervisor
- project manager
- PR consultant
- chamber of commerce
- community representatives (two parish councillors)
- project champion (Head of Planning)
- councillors (two wards)
- highways authority
- planning authority.

3.14 A similarly comprehensive range of players was seen in the non-code case
studies, including, for example, at Greenhithe which balanced the landowner and main developer, the parcel developer, masterplanner, parcel designer, landscape architects, engineers, a community representative, local residents and new occupants, highways authority and the planning authority, as well as political representatives.

3.15 The non-code projects were typically developer-driven, usually in partnership with the local authority. Cambourne, for example, was driven by a local authority and development consortium, but relied heavily in the early days on the input of a high profile architect to give design direction. His loss from the team undermined sense of direction and the design vision. In Greenhithe and Port Marine, the developer drove forward the design guidance, advised in each case by their masterplanners, whilst in Newcastle Great Park the lead role has been shared between the city and the developer, with the Head of Planning acting as project champion for the city, and the Project Manager fulfilling a similar role on the developers side.

3.16 In a comparable set of processes to the coded projects, the preparation of detailed design guidance was used to garner stakeholder consensus from the start. In Cambourne a Development and Environment group was established with representatives from the consortium, district and county authorities, the parish and consultants. These fortnightly meetings provided a forum to discuss and agree the emerging guidance, and later on to consider parcel proposals before they went forward to development control. In Greenhithe, weekly meetings prior to the outline application and fortnightly afterwards with the local authority and other stakeholders helped to agree the content and establish a common front. Port Marine used steering groups, client workshops and informal workshops to build consensus, whilst at Newcastle Great Park, the absence of formal working arrangements at first undermined communications which only improved once a series of regular meetings were put in place: monthly ‘snagging’ meetings on implementation; monthly Advisory Committee meetings with local councillors, officers, the Environment Agency and developer representatives; twice monthly design review meetings with the urban design consultants; and weekly meetings between the Head of Planning and the Project Manager.
**DESIGN CODE REFERENCE**

*What the codes contained: Roles and Relationships*

The roles of various players were described more often and in more detail in the pilot codes than in the advanced codes. The partnerships which delivered the various pilot codes were described in the documents, and included representatives from local authorities at all levels, civic societies, regional development agencies, landowners, developers, English Partnerships and/or the Housing Corporation, as well as CABE, and urban design consultants who were typically charged with the preparation of the codes.

The pilot codes always listed developers among their intended audience, and usually designers, indeed several codes mentioned that these audiences were expected not only to conform to the code requirements, but also to advance proposals which exceeded the minimum and set new standards. Six of the seven pilot codes also explicitly addressed development control officers as a key audience, whilst only Rotherham mentioned the local community, as well as council members, council policy officers and “officers from other departments, agencies and organisations”.

Most mentioned the local authority’s responsibility for using the code to assess development proposals (Swindon noted this could be undertaken by an outside consultant; at Aldershot the landowner was also to use the code during developer selection). Rotherham set date targets for assessment, whilst Newcastle mentioned that the council had “reviewed its pre-planning and formal planning processes to ensure this code is effectively used”
(fig 3.1 Newcastle Walker Riverside), and that the local authority would prepare SPD when site or design considerations went beyond the scope of the code. They also sought formal commitment from the housing ALMO to comply with the code when improving council-owned properties. In addition, they noted “It will be the responsibility of all partners on the Project Board to communicate the significance of this code early on in their discussion with developers and architects”.

3.17 The audience for most of the advanced codes were parcel developers. Indeed at Upton it has been a requirement that developer teams attend a Design Code Workshop prior to selection to explain the code (fig 3.2 Upton). Four codes specifically targeted designers and only Lightmoor targeted development control planners. At Newhall, where the code was linked to a commissioned design ideas competition, non-conforming designs were still encouraged, as long as reasons were given and the designs were of high quality; thus effectively designers could test and adjust the code prescriptions.

3.18 Roles of stakeholders were not always specified. Two codes stated that the local authority would be responsible for using the code during development control, and at Lightmoor, the joint-venture landowners were identified for their use of the code in the selection of developers. In terms of the development of the codes, the various leadership and partnership arrangements were usually identified.

3.19 The audience as specified in the ‘non-code’ guidance documents varied: local authorities, developers, designers, and/or the community. Newcastle Great Park further suggested that local authority strategic planners would use their guidance “as a prompt or checklist for the preparation of strategy statements”.

![Fig 3.2 Upton, approvals process flowchart](image)
Skills and resources

Skills

SUMMARY

- A wide range of generic, disciplinary and specialist skills and knowledge-sets are required for coding – coding is no substitute for a lack of design skills.

- Design codes are essentially urban design tools, and of greatest concern is the absence of urban design skills from within local authorities, frequently tied to a lack of resources to fill the gap.

- External consultants can play a valuable role in helping to fill the design skills gap, and in acting as project champions.

- Where trust and commitment exists, landowners/master developers have sometimes been able to plug the gap by funding an ongoing urban design input, for example by funding dedicated staff in the local authority or an external consultant.

- An optimum process seems to require appropriate coding skills/awareness in three key places: in the landowner/master development team, in the local authority (planning and highways), and in the design team(s).

- Teams felt ill equipped to grapple with sustainability agendas, particularly where such issues fall outside of the planning remit, sustainability is therefore typically dealt with through general policy aspirations rather than actual coding.

- New players (individuals or stakeholders) need to be thoroughly appraised of previous decisions and of the content of codes to ensure a continuity of interpretation and commitment.

- Other forms of design guidance require an identical set of skills and knowledge requirements, in particular, design aware developers, and cost aware designers.

3.20 The range of skills and knowledge identified as critical across the pilot stakeholders was remarkably consistent, and can broadly be categorised into three groups:

- Generic skills, including: leadership, vision, consensus building, collaborative working and co-ordination, negotiation and diplomacy, visualisation and presentation, communication and creativity.

- Disciplinary skill sets through which many generic skills will be delivered, derived from the involvement of professional practitioners in: planning, urban design, highways, landscape, development, marketing, and cost/project management.

- Finally, specialist knowledge of sustainability, consultation approaches and place-making were considered indispensable.

3.21 If these were the aspirations, pilot teams were realistic enough to recognise where skills gaps existed. Taking the three groups in turn, the teams were less concerned about the absence of generic skills, although the lack of leadership, co-ordination, communication, consultation, and architectural visualisation skills were identified.
3.22 The perceived lack of key disciplinary skills was more ubiquitous, with the absence of urban design skills within local authorities most frequently identified as a shortcoming; although there was an acceptance that consultants could and were helping to fill the gap. Amongst other things, this skills deficit made it difficult for local authority personnel to gauge what resources were required for code production, and/or to promote the potential value of coding to internal audiences in order to get backing for the necessary resources. The absence of local market knowledge and marketing skills was also a regular concern, whilst the absence of landscape design expertise was a concern of two teams, and project management and legal skills of one team each. In the third skills/knowledge category, knowledge and awareness of sustainability and its relationship to the coding process was the major concern.

3.23 The skills available to the different pilot projects varied considerably, often tied to the variation in resourcing. One implication of the complexity of coding seems to be the vulnerability of projects to changes in personnel. In Ashford, for example, significant delays have been encountered in the project as a result of key staff moving on in the local authority and both of the lead developers at the same time. On the same project, the architects were changed in favour of architects who had a greater experience of designing within the context of design codes. A revised masterplan has now been produced that is clearly ‘within the spirit’ of the code. In Cirencester, significant staff changes in both the District Council and developer has altered the dynamic of the coding exercise considerably.

3.24 The pilots showed without a doubt how important it is to have the right skills/awareness in place, in three respects: in the landowner/development team, to raise aspirations and inspire a quality-led procurement process; in the local authority, to establish the local vision for quality and to enable and enforce its delivery; and in the design team(s), as those charged with the delivery of a creative and contextually appropriate code and related guidance materials.

3.25 Most pilot projects had appropriate skills on at least two sides of this triangle. Only one seemed to have none, and as a result fared poorly throughout the programme. In particular the experience confirms that codes are essentially urban design tools, and that the absence of urban design skills, even amongst the consultants employed, can greatly undermine their production. In Newcastle, concern was expressed over the bias towards highways concerns, particularly following the departure of the urban designer from the council staff. This left a significant skills deficit and led to calls amongst those involved for a ‘project champion’ or dedicated team to be established to drive the project forward, and to prevent the domination by narrow perspectives.

3.26 Rotherham did not have sufficient in-house skills to produce the codes, and therefore used consultants for the design and commercial aspects of the code. Their experience showed that an efficient and effective coding process can be delivered through working with appropriately skilled external consultants. An additional positive benefit has been the authority’s realisation of the importance of in-house design skills, and at the time of the final interviews, a search for a suitable candidate had begun.

3.27 Interviewees associated with the advanced coding projects identified that
a wide range of skills were required for coding. As well as the professional disciplinary skills and knowledge sets – planning, architecture, urban design, landscape architecture, engineering (highways and drainage), property and valuation – generic and specialist skills/knowledge were identified as follows. First, generic skills/knowledge:

- Communication
- Analytical
- Foresight – understanding long-term projects
- Collaborative working
- Innovative thinking – outside the box
- Political awareness
- Leadership
- Negotiation
- Open minded approach.

Second, specialist skills/knowledge:

- Masterplanning
- Construction literacy
- Social awareness
- Market knowledge and practices
- Ecology
- Energy efficiency.

Although most teams felt they had appropriate skills sets within the consultant teams that they employed, most recognised a skills gap – usually design skills – on the local authority side, frequently tied to a lack of resources. Partly, as with Upton, this was related to the increased skill that design codes demanded, because they reduced the discretion available to developers, and therefore required more from those charged with their approval and implementation. Unfortunately, at Upton, the imminent departure of the DC officer who has been dealing with the code, and wider staffing issues within the authority gave officers serious cause for concern about their capacity for future involvement in the project.

3.29 A common solution to the lack of in-house design skills, was the reliance of the local authority on the skills of the landowner’s urban design team, particularly for producing a code that met local needs and could be used during development control; and to provide pre-application advice, to advise on reserved matters submissions by parcel developers, and to negotiate with other statutory authorities (i.e. highways). Inevitably such cases raised the issue of whether community needs were safeguarded by such a process. Elsewhere, the local authority appointed their own external design consultant to represent them. In other cases, all parties employed their own consultants to look after their interests, sometimes resulting in a multiplicity of consultant teams.

3.30 The non-coding projects identified an almost identical series of skills and knowledge requirements, including, above all, a wide range of complementary design skills and an ability to make balanced and informed decisions between design, planning and economic constraints. In these cases, again, few thought the consultant and development teams lacked any key skills, but skills gaps were identified on the local authority side; in Newcastle Great Park in specialist areas such as sustainable drainage and commercial knowledge which made it difficult for the city to argue their case in these key areas, and in Port Marine, the lack of someone to mediate between the planning department and the highways authority. Interviewees associated with Greenhithe summed up nicely two of the principal requirements agreed by all – design-aware developers, and cost-aware designers.
Skills and resources

Resources (and net economic value)

**SUMMARY**

- Coding is time consuming, and therefore also a resource intensive process for all parties, although should be seen within a context of their use in association with major development proposals.

- Stakeholders accept that the true costs only become apparent after the full planning process has been worked through.

- Compliant schemes are likely to receive permissions without delay, whilst non-compliant schemes will be further held up – providing a ready incentive to deliver quality.

- Many potential ‘sticking-points’ are being resolved during the coding processes that would otherwise need to be tackled during development control or pre-application negotiations on reserved matters.

- Coding requires the commitment of resources up-front, and partners frequently underestimate this and need to be more realistic about the significant resources that coding (or any form of detailed design guidance) will entail.

- Coding has the benefit of encouraging local authorities into a more pro-active role.

- Where codes are being implemented on site, schemes have been delivering enhanced sales values and increased land values. This calculation to a large degree determines the value added by coding, at least in crude economic terms. The qualitative evidence suggests that the outcome is positive.

- For commercial partners, and over the long-term, codes seem to be more than paying for themselves; by contrast, public sector partners worry that the cost of their input is unsustainable.

- The same costs and benefits are apparent for other forms of detailed design guidance, whilst overall the balance sheet is also positive.
3.31 On the question of resources, conflicting views were apparent. Most pilot stakeholders accepted that coding was a resource intensive exercise, and made varying estimates of costs:

- In one pilot the cost of the coding exercise was being met from within existing budgets but estimates were significant – 100 person days for local authority staff, 100 for the developers and £25,000 for consultants costs.
- In a second, significant time costs were anticipated on all sides, and there was an initial consultant fee budget of £70,000. In fact the budget set aside for the code doubled, reflecting extra work required to revisit the masterplan before the code could be completed. Concern existed that given the resources required, the authority would not be able to use coding again.
- In a further case study, 240 days of designer time was projected, plus major inputs from highways, project management, and the PR consultants, although in fact the time spent considerably exceeded the initial allowance. In this case, the planning authority initially suggested that one planning officer was required full time, but came to the view that a team of different disciplines is required rather than an individual officer.

- The most expensive code revealed time estimates approaching 350 person days up to September 2004, £100,000 in consultants fees, and was still not complete.

3.32 Of course given the size of the sites and development costs associated with these schemes, the cost estimates might be viewed as relatively minor. Many pilots found it difficult to estimate the resources that would be required, but were already aware that the process was time consuming given the numbers of meetings, and were more concerned about this than the code production costs. Sometimes there was frustration that time budgets were being needlessly inflated because of the indecision of key parties, but there was nevertheless an acceptance that the true costs would not become apparent until the codes had been produced and used to see if any savings were apparent during the code delivery and management phases. The planning authority and highways authority in Cirencester, for example, entered the pilot programme believing the process would be cost neutral over the long-term, because time savings further down the line will compensate for the initial investment. However, uncertainty surrounding the status of their code and whether it will or will not be used during the development control process has placed this initial assessment in doubt.

3.33 In Rotherham, questions have been raised about whether a detailed masterplan might have been preferable to a code. A definitive answer is not possible, but on the positive side, the coding processes has led to the local authority – by necessity – taking a more proactive role in the code generation process than they would in a masterplan. This injection of local authority resources may not be sustainable across all such projects, but, along with the significant injection of external design skills, has created a desire to enhance outcomes.

3.34 In Newcastle, despite resource and leadership difficulties, the experience has revealed the importance of partnership working, including internally between the different teams of the local authority, and of making a realistic assessment of the financing, resources and capacity required to deliver such a project at the outset. In this case, it is argued that the lack of direct involvement of a
development partner in the creation of the code has led to a lack of true partnership, and to a code that – one developer argues – does not reflect the realities of the market. To overcome the problem and inject some momentum into the process, a budget has been made available in order to buy in the capacity to speed up delivery of the code.

3.35 Interviewees on behalf of the advanced case studies all agreed that significant resources were required to deliver design codes, but this amount of resource provision is not unexpected or unusual within the context of major development proposals. Estimates varied widely and were not always compatible, but by way of illustration:

- In one case the developers paid the consultants fees for the code production and the costs for the local authority were absorbed into its core budget. The associated six month code preparation time was broken down as follows: 270 days for designer, 150 for developer, 20 for landowner, and 30 for local authority.
- In a second, the designers spent one year designing and testing the code (200-300 person days), whilst the landowner/promoter spent 250 days on the project, a third of which was on the code.
- In a third, the local authority spent 120-140 days on the code preparation, including 50 days of highways input, whilst the subsequent review of the code was particularly time consuming.

3.36 In this last case, the developer was sceptical that he would make back the extra costs, including the consultants fees and time consuming project management. For their part English Partnerships, which have a full time site manager on the job to ensure compliance, have had to absorb a decrease in land value, but argue this may be linked to a general market downturn. This, however, seemed an exception, with other case studies reporting increased returns on investment. In Newhall, despite the local authority arguing that if the use of codes become more widespread they would have to employ their own in-house expertise (with significant resource implications), the landowner believed that the codes will eventually pay for themselves through enhanced land values.

3.37 At Fairfield Park, the lack of resources in the local authority planning department had limited their input, something they believed undermined the end result. There, although the process has been resource intensive and stakeholders believe it is unlikely that it could be repeated everywhere, the quality that is being delivered is already producing uplifts in sales values. In Greenwich, an additional benefit was noted. Because the code had to be acceptable to the development consortium, resource issues were raised and resolved early in the process. According to the developer, a side effect for the landowner at West Silvertown was a better return on the sale of land because the developer is spending less on reserved matters applications, and consequently can bid more for the site.

3.38 The non-code studies also revealed resource intensive processes, confirming that other forms of detailed design guidance also require a significant up-front investment:

- In Cambourne the masterplan involved two people from the urban design consultant full time for six
months, with 30 person days required subsequently for each briefing plan. The job has employed 1.5 people full time, although the additional resources were seen as a positive contribution to the creation of a unique high quality development.

- Greenhithe required 270 days from the developer up to the outline consent, and from the designers, 100 days preparing the development framework and 45 days on the character area study, with 30 days from the landscape designers. The developers argued that the higher design specification has increased costs – both in design fees and in the construction cost – but has increased cost certainty across the project and delivered higher returns on their investment. On the downside it has required higher than average borrowing and therefore increased risk.

- The urban design consultants worked for 200 days on the Port Marine masterplan, with significant additional resources required from the developer (1 person full time) and planning authority (2 days per week) over the period. The developer argues that increased design and development certainty has nevertheless ultimately led to cost savings on the project.

- In Newcastle, the City has spent at least £100,000 each year on the Great Park project (although not just on the preparation of design guidance), and negotiations are in hand for a dedicated officer funded by Section 106 funds. Here the designers employed six architects for six months to prepare the guidance for the remaining cells.

3.39 The non-code projects largely echoed the coding projects, suggesting that the preparation of detailed design guidance is both time and cost intensive, but widespread benefits and, in most cases, increased investment returns are more than covering the costs. This calculation to a large degree determines the value added by coding, at least in crude economic terms. The qualitative evidence suggests that the outcome is positive.
4 Understanding context

A second dimension of the inception of a coding process will include the understanding of critical contextual factors that will guide the preparation of the code. This will include any pre-existing policy and guidance that will need to be reflected in the code’s aspirations, and the developing (or developed) physical vision for the site as encompassed in the masterplan, regulating plan or design framework.
Policy and guidance

**SUMMARY**

- Careful attention is required by code designers to existing policy and guidance frameworks to avoid abortive work.

- Development plan policies provide important means to require that codes be prepared.

- Codes are frequently prepared to satisfy a condition to an outline planning consent that detailed (often unspecified) design guidance be prepared.

- Reference to government guidance and to analytical, consultative and other policy/guidance work can help to legitimise codes.

- The hierarchy of policy and guidance needs clarifying from place to place to establish where and when codes take precedence.

- Codes provide the most prescriptive level of the design guidance hierarchy, but typically build upon principles already established elsewhere.

- The preparation of new detailed design guidance of all types provides a ready opportunity to work with highways authorities to question and supersede outdated highways standards.

4.1 A broad range of both site-specific and generic policy and guidance provided a basis for the design codes. Most common were the range of masterplans, development frameworks and detailed development briefs that established the broad spatial vision for the pilot developments (see below). The Aldershot and Hastings codes, for example, have developed out of the site-specific frameworks that resulted from their respective community engagement exercises. In the case of Aldershot, this takes the form of the Aldershot Urban Extension supplementary guidance that has been subject to public consultation, separate formal consultation, and which in its amended form has been adopted as Interim Policy Guidance (IPG). The IPG sets the broad principles that inform the code. In Swindon, a masterplan was in place prior to coding beginning in support of the outline planning application. Ashford has taken a ‘belt and braces’ approach, with a masterplan and detailed development brief following a Local Vernacular Study. In this case the code will be a subsidiary document to the brief, adding further detail, but also overlapping with it.
4.2 Policy frameworks established at the local authority-wide scale in development plans have proved influential. In Cirencester the development plan status and allocation has proved particularly influential. It requires that a masterplan be prepared jointly by the developers of the Kingshill South and Kingshill North sites, and that this should be formally adopted as supplementary guidance. As a consequence an early attempt to adopt the Kingshill South design code was knocked back by the local authority on the basis that it had been prepared in the absence of the site being formally allocated, of a joint masterplan, and without significant public consultation. Consultation on a masterplan was scheduled for late 2005 and was seen as an opportunity to define a new design agenda for the town.

4.3 Highways policy and standards have also proved decisive influences on code preparation, sometimes negatively according to pilot stakeholders. The East Sussex Highway Standards have set the highways approach in Hastings, laying down detailed design standards, for instance on sightlines, although highways officers are willing to be flexible and to consider the merits of each application that comes forward. Nevertheless, all the materials included in the code have been agreed and are already in use elsewhere in the authority’s boundaries, so those involved do not anticipate any problems. In Swindon, the codes follow the principles of the borough council’s Transport Requirements for Development although they do not follow the highways standards, but instead reinterpret them. Elsewhere, in Newcastle, highways standards are so out of date (dating from 1988), that they have proved less influential in the code design process.

4.4 Finally, a range of non-statutory guides and standards are impacting on code design, for example, the existing range of generic policy/guidance frameworks in Rotherham, including the Town Masterplan, Town Centre Charter, Waterfront Strategy, and existing residential SPG. In Hastings, the Millennium Community Standards are defining a baseline for environmental performance, whilst in Ashford, the comprehensive Kent Design Guide is setting a baseline for design and highways quality. In Cirencester the opposite was true. There, concern was initially expressed by the local planning authority that the draft code for Kingshill South failed to reflect long held aspirations articulated in the councils’ own district-wide design guide – the ‘Cotswold Design Code’, and instead reflected agendas that were alien and sometimes incompatible with the Cotswold context.

4.5 A common response to the welter of policy and guidance was a request that the hierarchy needs to be made very clear. For example, when do existing highways standards take precedence, and when does the new guidance contained in the code?

4.6 A number of the advanced codes pre-dated the recent changes in national planning policy on design, and might even be credited with informing the gradual evolution of policy since the mid 1990s (Hulme and West Silvertown, for example). Like the pilots, most of the advanced codes had been established within a broader local policy/guidance framework, incorporating the range of site-specific development briefs, design frameworks and masterplans already discussed. Occasionally these were more strategic in nature including, in the case of West Silvertown, the Royal Docks Development Strategy which sets out the regeneration strategy for the Royal
Docks. This, in turn, set the context for a series of detailed Area Framework Plans which formed part of the tender brief for the site and which was incorporated into the codes. For its part, Greenwich was inspired by the national Millennium Community initiative and associated standards, but stakeholders argue that as a private document designed to regulate the development agreement between landowner and developer, the code itself was not actually inspired or related to any planning policy framework.

4.7 In some cases, the process of producing the code had actually resulted in local policies being superseded. In Upton, for example, the existing highways standards were out of date, and have been superseded by the code. Highways officers are fully signed up to the new standards and regularly apply the generic principles to other sites. Elsewhere, more up to date design guidance and standards were already in place. Newhall, for example includes elements from the Essex Design Guide for Residential and Mixed Use Areas, which was adopted by the local authority as SPG.

4.8 The non-code examples showed a similar range of policy and guidance contexts, some of which were more helpful than others. Greenhithe has taken on board the range of national, regional and local design policies, but has rejected the Kent highway standards in favour of a bespoke highways design guide for the scheme. The Newcastle highways authority also has its own highways standards, but used national guidelines, for example on Homezones, to bring their practice up to date for the Great Park project. By contrast, the masterplan at Port Marine was catalysed by the Portishead Quay Development Framework, which, as local SPG had established the framework for regeneration in the wider area, whilst the masterplan and design guide at Cambourne are now the ‘parent’ documents for a whole set of guidance documents of their own. Some of these have been adopted as SPG, including guides on shop fronts and play spaces, and all are specific to Cambourne.
DESIGN CODE REFERENCE

What the codes contained: Policy and Guidance

Only one of the pilot codes expressed a clear hierarchy of policy and guidance, with the code acting as “a transitional document to bridge between the Development Framework which supports the outline planning application and future detailed design stages leading to reserved matters planning applications”. Four of the pilot codes were heavily guided by existing development plan policies, whilst another used The Urban Design Compendium as the basis for structuring its code, stating also that the code “sits alongside the development brief as a framework for all future development proposals”. One pilot referred to regional policy, whilst Cirencester referred to the Cotswold Design Code prepared by the District Council in 2000, which “set(s) down aspirations for quality, sustainable urban development, and which provides significant direction on urban design matters”.

One of the pilots advises generally that “developers and their designers should ... refer to current national guidance for best practice urban design principles”, whilst others explicitly mentioned PPG1 and PPG3 (both frequently, and in some cases citing particular objectives), as well as PPG3 companion guidance, PPG6, PPG13 and PPG17. Two pilot codes explicitly refer to highways standards: the Highways Act 1980 and the companion guide to Design Bulletin 32 for Residential Roads and Footpaths. Other general guidance mentioned included The Urban Design Compendium (four times), Towards an Urban Renaissance and By Design (twice each), CABE’s Design Review series, Better Places to Live and Safer Places. These were primarily used to provide clear objectives for coding. Pilot cases also mentioned building regulations, British Standards (for tree planting), Millennium Community standards, and Acts of Parliament, including the Disability Discrimination Act and Refuse and Amenity Act. Swindon made no reference to other policies, appealing instead to “characteristics that are constant and timeless” (fig 4.1 Swindon).
Among the advanced case studies, three made no reference to other policy. The other five all followed a development plan, and in four cases also a detailed development brief. In two cases there was also preceding design guidance and in one of these a preceding master plan; two of the other cases incorporated a master plan within the coding document itself. For the most part these references form an explicit hierarchy, defining the context and/or parameters for the code documents.

Newhall’s Planning and Design Information drew upon policies in the Essex Structure Plan, and the project team also consulted directly with the planning officers who developed the Essex Design Guide who “provided support” for the development of the Newhall code. Citations of national policy included PPG3 and its companion guidance, PPG13 (twice each), as well as more general guidance such as the Sustainable Communities Plan, Towards an Urban Renaissance and The Urban Design Compendium. Advanced case studies also mentioned Housing Corporation standards and Lifetime Home Standards. Nationally-applicable references are often compiled in an appendix rather than linked to specific elements of the coding, suggesting they are either part of the background knowledge of those who prepare codes, or a sheaf of background regulations intended to cover any potential gaps in coding (the same applied to the pilot codes). Upton clarified that developers should also have regard to separate parking standards which form part of the developer’s package. The observation highlights that coding frequently operates in parallel with other design and highways standards.

Two of the four non-code studies were urban design frameworks which further developed policies from a local plan; one of these also drew upon a wider previous consultation document and the other followed from outline planning applications. The other two cases followed on from a site-specific planning brief and master plan. Two of the four cases mentioned national policy: including PPG1, PPG13, and regional guidance for the Thames Gateway. Other policies mentioned by non-code cases covered areas as diverse as biodiversity, forestry, standards for playing fields, and building regulations.
Site and vision

SUMMARY

- Codes are not seen as vision-making documents, but as delivery mechanisms to help deliver the vision expressed elsewhere, ideally on the firm foundation of a strong and technically and financially robust physical vision.

- Typically masterplans or development frameworks establish the broader physical/place-based vision, whilst codes interpret and articulate the vision, shaping it and developing it in the process.

- Used in isolation, the potential of codes is limited to generic design guidance.

- Typically masterplans, frameworks and regulating plans serve the important role of defining the street hierarchy and identifying separate neighbourhoods in terms of their densities, patterns of land use and open space, and building type. These are subsequently coded with different block forms, building envelopes, street treatments and architectural and landscape characters.

- Codes vary considerably along a continuum from those that significantly develop the core principles of a largely conceptual physical vision, to those that primarily articulate (in a technical sense) the principles already established in a detailed masterplan or other vision.

- Masterplans are rarely static documents, but are subject to change throughout the coding process, a process which can help to deliver a more detailed and considered masterplan.

- The non-code case studies often followed a similar division between vision and delivery but by other means; in these, the need to further articulate key design principles through other detailed and technical documents was also deemed necessary.

4.9 The codes were not viewed as the key vision-making documents, but instead as delivery mechanisms to deliver a vision for the site already established elsewhere; typically in the masterplan or development framework. In Aldershot, for example, the masterplan (in fact a development framework) establishes the broad vision and aspirations for the site, whilst the code is seen as a more technical ‘handbook’ for designers, helping to refine the vision by establishing key character area principles and relating proposals to the landscape and topography. A Design Statement for the Development Framework was submitted in June 2005, and this articulates the vision for the purpose of obtaining permissions.

4.10 In Newcastle, the masterplan lays out the structural framework for change, but the real 3D vision is still to emerge reflecting significant differences over the extent of demolition on the site, and resulting housing units that can be catered for. In Rotherham, the site forms part of the wider vision for the town centre contained in the draft town Masterplan which aims to improve design quality and the appeal of a compact town centre. It was hoped that the code would articulate this physically
and in a deliverable manner. In fact, the broad strategic nature of this document meant that a separate masterplan needed to be prepared for the site as part of the coding work, something which took more time than originally envisaged. At the heart of the new code a regulating plan now articulates this vision, with detail on frontages, building lines, public realm treatments, landmarks and building heights. The plan fleshes out the masterplan vision and links to the detailed codes elsewhere in the document. The experience illustrates the need for coding to be based on the firm foundation of a strong, technically and financially robust physical vision.

4.11 In Cirencester, the initial code, prepared in the absence of a masterplan lacked a coherent vision, something that has been rectified in subsequent iterations. The masterplan now envisages a village swallowed by the expanding town, with ‘village elements’ such as a market square and churchyard taken from a study of surrounding villages. The strong vision now delivers on the local authority’s aspirations for the area, but the code itself has been left in a limbo, overtaken by events as the masterplan has been produced. The experience demonstrates the difficulty of moving beyond generic design principles to deliver a strong vision through a code alone. In Hastings, although no masterplan exists for the coded area, a development framework and subsequent regulating plan in the code provide the two dimensional vision on which the code builds. The latter sets out the arrangement of streets and blocks, showing each character area and referencing streets and blocks by type.

4.12 The pilots demonstrated that masterplans are rarely static documents, but were also subject to change throughout the coding process. In Aldershot these changes were in the main strategic in nature, in Swindon they related to the changing policy context around the scheme (i.e. evolving educational requirements), whilst in Ashford they represented an evolution of the vision as successive parcels came forward for detailed design.

4.13 Again, the pilots reflected practice in the advanced case studies, this time in so far as codes were in the main viewed as opportunities to establish and prescribe design principles, but not necessarily how those should come together into a greater whole or vision for the site. Typically the masterplans and frameworks associated with the codes established the broader physical/place-based vision, whilst the codes interpreted and articulated the vision, shaping it and developing it in the process.

4.14 The vision for West Silvertown, for example, emerged out of the LDDC development framework for the Royal Docks, and from the idea for an urban village in Docklands. In fact the masterplan and code were developed concurrently, so each was able to inform the other and contribute to realising the greater three-dimensional whole. A similar process at Fairfield Park led to the masterplan and code being developed as one process, with different aspects of the vision articulated in each. Thus whilst the masterplan was explicit about the type of layout that was being proposed and about the urban design principles and relationship to the listed building, other aspects of the vision, such as the promotion of a Victorian character in the architecture, were not explicit, and were coded into the scheme.

4.15 In the case of Lightmoor, the code and ‘illustrative’ masterplan are contained in the same design guidance document, with the code fleshing out the physical
vision articulated through the masterplan for a Shropshire village with a Shropshire village vernacular. Fairford Leys showed a similar relationship between code and masterplan, with the vision for an English township evolving out of the original concept plans and subsequent masterplan.

4.16 At Upton, the physical vision was established through the Enquiry by Design process. More recently the masterplan has been updated, and the code has been reviewed in response to the changes in an attempt to make it a more effective delivery tool. Newhall has also seen a gradual development of the code, or at least how it is presented and used. Currently the codes are used to inform developers of the aspirations of the landowner and masterplanning team, and the requirements placed upon them to translate that vision into reality. However, the requirements contained in the coding document have had to be interpreted in a more prescriptive way for each parcel as a means to get closer to delivering the masterplanning vision.

4.17 Hulme was perhaps the least prescriptive of the codes, and the code which least represents a delivery tool, and most represents a set of strategic aspirations or vision, in this case for a traditional urban neighbourhood based on perimeter blocks and a hierarchy of public and private spaces. The illustrative masterplan which was never formally adopted or published establishes the two dimensional parameters across which the detailed codes and technical requirements apply. By contrast, the codes at Greenwich are most clearly technical documents, in this case to assess compliance with the real vision contained within the competition winning masterplan. Thus the key aspirations for the code directly reflect those of the masterplan, whilst the vision in the masterplan has evolved in detail – if not in substance – as a result of the requirements of successive phases of the project.

4.18 The non-code case studies often followed a similar division between site vision and delivery but by other means. The vision for Cambourne had been established during the masterplanning process as a settlement with three distinct villages and a centre in a traditional South Cambridgeshire character. There the masterplan had long established the vision, whilst phasing briefs represent the delivery documents, articulating detail and updating the overall vision. In Greenhithe, the masterplan articulates the physical form of the development with its idea of character areas, whilst the character area matrix fleshes this out and adds a layer of detail in the same manner as a code.

4.19 In the case of Port Marine, the local authority’s SPG (incorporating the urban design study) for the site established the overall vision based on visits to other similar schemes and the identification of good and bad practice, whilst successive layers of detail were added, first through the detailed masterplan and second with each reserved matters application (18 in total). For its part, the overlapping layers of guidance at Newcastle have gradually developed the vision. Thus the original local authority masterplan was insufficiently defined and open to interpretation, leading in time to the revised masterplan, featuring a stronger sense of place. This has been developed in the City’s own design guidance for the site, and is being interpreted and delivered through the subsequent Design Strategy Statements for each cell.
All seven pilot codes were clearly site-specific, and all either included a masterplan or regulating plan near the start (Hastings and Swindon) or referred to a masterplan, regulating plan or urban design framework which had already been developed and approved. In Cirencester (with the exception of early drafts) the code document had included a masterplan (in numerous thematic layers) as a separate chapter. Both elements were later combined, and what was thereafter referred to as a ‘concept plan’ effectively provided a set of regulating plans for the various coding themes. For some themes, the concept plan was the entirety of the vision, as no standards or alternative solutions followed. Hastings’s code similarly used a ‘regulating plan’ which showed the layout and hierarchy of streets and the layout of blocks and character areas (fig 4.2 Hastings). Newcastle used a preceding masterplan in the same way, though not explicitly named.

The masterplans, frameworks and regulating plans serve the important role of defining the street hierarchy and identifying separate neighbourhoods in terms of their densities, patterns of land use and open space, and building type. These are subsequently coded with different block forms, building envelopes, street treatments and architectural and landscape characters (these being the main substantive targets for coding) (fig 4.3 Aldershot). Design coding was in all cases treated as a later, more detailed phase of a longer process of managing new development, developing the site vision further by setting out detailed design parameters and establishing standards. Hastings had an early chapter providing a list of vision statements as well as broad urban design objectives organised thematically, some of which were then picked up in specific code sections. As with the advanced codes, pilots mentioned the iterative development between masterplan and code. Rotherham noted that its masterplan vision had gone through two drafts and that “The Design Code process has resulted in a more detailed masterplan”.

Among the eight advanced codes examined, only one – Hume – made no reference to a masterplan, because it provided general design guidance. As such, it established the vision for urban design. Four advanced cases included a masterplan or framework plan near the beginning of the document. The developer’s masterplan for Lightmoor was only ‘illustative’ (fig 4.4 Lightmoor), for example in terms of the
parcel layout and street hierarchy (figs 4.5 & 4.6 Lightmoor). The vision statement included images of a detailed massing model which conformed to this illustrative masterplan (fig 4.4 Lightmoor), whilst the aspirational ‘layout principles’ in their code were mandatory. Newhall’s masterplan was also ‘indicative’, and the document suggested that the design vision, which is expressed in more detail in the code, can actually feed back to a reshaping of the masterplan, and also that non-conforming submitted designs which nevertheless serve the underlying design principles can also feed back to change the code. The process aims for optimal expression of the initial principles.

The other three cases referred to a masterplan which preceded development of the code. In some cases this masterplan was already approved at the time of preparing the code, in others it was in draft form and both the code and masterplan had to go through a parallel tandem process of revision. In all cases, the design code and masterplan worked together; whilst the code invariably articulated detailed rules for delivering the overall vision shown in the masterplan, it also developed the vision further, by setting standards which establish the character of various types of buildings, streets, blocks, parcels and open spaces.

The four ‘non-code’ documents varied considerably in their relation to a masterplan and an overall vision for development. Two were urban design frameworks; both established a very general vision of design outcomes. One of these included a masterplan; whilst the other was due to be complemented by detailed masterplans for various parts of the framework area. The other two were design guides, one of which referred directly to a separate masterplan without making the relation between the two documents explicit. The second (Newcastle Great Park) follows from a planning brief and masterplan, however, it failed to convincingly establish any vision of desired design outcomes: it had no illustrations, and its few statements on urban form and design remained at the level of abstract principles, without specifying standards or alternative solutions. The stated intention here was “to allow flexibility within the design process by the use of qualitative criteria in contrast to the application of prescriptive standards” – contrary to a design coding approach.
Fig 4.5 Lightmoor, illustrative street hierarchy, including parking courts

Fig 4.6 Lightmoor, illustrative parcel layout
5 Code design

A second dimension of the inception of a coding process will include the understanding of critical contextual factors that will guide the preparation of the code. This will include any pre-existing policy and guidance that will need to be reflected in the code’s aspirations, and the developing (or developed) physical vision for the site as encompassed in the masterplan, regulating plan or design framework.
Content and expression

Content (design aspirations)

SUMMARY

- Codes (and other forms of detailed design guidance) reflect a comparable set of aspirations, mainly ‘traditional’ urban design with perimeter block urban forms, better integration with surroundings, and a high quality public realm.

- Streets are typically coded as a series of generic hierarchical types with different profiles and standards.

- Codes for built form and townscape concerns are often extensive, serving aesthetic, urbanistic and functional purposes, including the pursuit of natural surveillance.

- Open space issues, by contrast, are usually coded on the basis of specific spaces clearly identified in the masterplan.

- Issues of land use and unit mix are rarely coded at all, and instead the adaptability of buildings to different uses is prioritised, alongside attempts to influence unit sizes and types.

- Parking courts are favoured as the dominant means of taming the impact of parked cars on the street scene.

- Coding for specific public realm products seems to be problematic if EU procurement practices are to be observed, requiring generic prescriptions or performance standards, rather than product specifications.

- Character areas are typically defined by urban design controls rather than on the basis of architectural styles.

- Coding for sustainability seemed problematic, with codes often being high on aspiration, but low on actual codes that address these issues in a deliverable manner.

- Coding for architectural design is both possible and popular; typically based on an analysis of local context such matters are often advisory but are sometimes mandatory and range from historic/traditional to contemporary styles.
5.1 Aspirations to be reflected in the content of the codes varied, although a number of common themes were apparent. A key recurring aspiration was to respond to context and avoid creating ‘yet another bland suburb’ by delivering a distinctive sense of place. A related aspiration was the widespread desire for codes to tackle the integration of their developments with the immediate surroundings through: integration with any historic fabric, integration with existing built form, integration between parcels, and the creation of good linkages through and beyond sites.

5.2 A range of urban design aspirations were apparent amongst those interviewed, including the desire to create coherent, permeable, accessible neighbourhoods with good connections; to deal with what was seen in one pilot as ‘councillors pre-occupation with parking’; to establish consistency with enough variety (i.e. through character areas such as the four areas used in Rotherham, each separately expressed in the code); to deliver sustainability, including through biodiversity and greening and reduced parking; to establish safe, pleasant, convenient places to live; and to prioritise the design of the public realm and its aftercare.

5.3 There was also a strong desire in most pilots to provide a quality threshold and precedent for future developments. A particular problem, however, has been the specification of street furniture and flooring surfaces. In this regard, despite the frequent desire of code writers to specify particular products, this was felt to contravene EU procurement practices. Generic prescriptions or design performance standards were viewed as an alternative.

5.4 Some debate was apparent over the extent to which codes should code for architectural design concerns. In most, e.g. Swindon, significant architectural prescription was considered a valuable part of the code. In Aldershot, by contrast, the landowner was emphatic that the code should only address the public realm and allow developers complete flexibility on building design, whilst the borough council wish to see a code that sets out principles for building height, massing, details and materials. The result is that the local planning authority feels their aspirations are not being given sufficient attention and the highways authority have been largely left out of the process. In particular the authority complain that the code imposes a character on the site rather than seeking to work with the site’s existing mature character and landscape.

5.5 Those involved with the advanced codes reflected a comparable set of aspirations that they wished to see reflected in the content of their codes; namely ‘traditional’ urban design with perimeter block forms, but varying in their approach to architectural design. Thus the code at West Silvertown reflected a belief that it should be style-neutral, but more explicit in terms of matters of the public realm. Other codes reflected a strong architectural vision (i.e. Fairfield Park), or found ways of addressing local distinctiveness, without addressing architecture per se. Newhall’s palette of materials and colours, for example, is based on analysis of local soils and minerals, but does not suggest how they should be used. In Fairford Leys these roles were split into two codes, one dealing with public realm and landscape criteria for key spaces, and the second with the built form – building lines, frontage enclosure, height, street, mews character, parking arrangements, architectural details and materials.
Common issues reflected in the codes included:

- Response to context
- Social mix
- Mixed uses
- Character areas
- Hierarchy of space
- High quality public realm
- Sustainable urban forms
- Connectivity
- Environmental benchmarks
- Townscape variety.

5.6 Questions of marketability were sometimes raised by developers with regard to certain requirements of the codes. In the case of Upton, for example, the car parking ratio of 1:1 was considered difficult to market in the context of large family homes. Developers argued that it would lead in the long-term to eventual problems of excessive on street parking, and in the short-term to depressed land values. Of course standards of this nature – marketable or otherwise – are not limited to coded projects.

5.7 The non-code case studies illustrated similar aspirations and again differing approaches to architectural prescription. At Greenhithe, the Character Area Matrix defines each character area according to six elements – building heights and scale, amenity space, public realm, parking standards, boundary treatments, and materials, whilst in Cambourne the aspirations are to create a high quality public realm and landscaping, with a mix of uses, and increasingly (at least in the consortium’s view) to raise the densities of the development in line with Planning Policy Guidance 3: Housing.

At Port Marine, the aspiration is to regenerate a contaminated brownfield site into a vibrant dockside environment, whilst in Newcastle Great Park, a key objective has simply been to avoid making the mistakes of the past (over-engineered streets and spaces), and instead to create a high quality and distinct development on what is an extensive greenfield site.
DESIGN CODE REFERENCE

What the codes contained: Content (design aspirations)

The content of the codes varied considerably, although all included at least some standards covering streets, parking, open space, building envelopes and architectural design. Among the pilots, Hastings, Ashford and Swindon all provided very comprehensive and prescriptive coverage.

Upton (fig 5.1 Upton) was the most detailed advanced code, with Fairfield Park also quite thorough on urban layout and architecture because of its sensitive historic context. West Silvertown lacked detail in its code, reflecting the fact that a detailed masterplan had already been prepared. Hulme was stronger on principles and targets than on specific standards and design solutions.

The ‘non-code’ documents were, unsurprisingly, least comprehensive in the scope. With the exception of Cambourne, they included few or no controls on building design, and although all cases exhibited aspirations for townscape (emphasising corners, providing visual interest, landmark buildings), their approach to the regulation of built form was otherwise generally limited to conventional planning parameters such as height, density and ensuring casual surveillance.

The content of the codes can be broken down in terms of aspirations against eight categories: sustainability, streets and enclosure, parking, open space and landscape, land use mix, neighbourhood character, built form and townscape, and architectural design.

SUSTAINABILITY:

There was extensive reference to sustainability criteria in the pilot codes, although these were not expressed through the kinds of specific formal prescriptions that are typical of design codes, and generally failed to add up to a coherent sustainable vision. Two pilots limited their coding to the setting of BREEAM standards. Aldershot, in addition, listed a wide range of other principles, but did not clearly code for them. It required planting local species, as did Cirencester for at least 60% of landscaping, as well as low-water-demand planting for 40%. Swindon aspired to a sustainable urban drainage (SUDS) design strategy, although it was yet to be prepared, and required on-site cycle storage, although without a specific measure.

On the question of passive solar gain, Cirencester argued, “The Design Code does not warrant the size and location of windows and gardens to maximise the use of the sun because individuals often wish to make trade-offs in order to achieve other sustainability outcomes, such as the need to avoid...
overlooking or increase their sense of personal security. For this reason it will be up to the developer to determine how they address passive solar gain against other influences. However, making the most of the sun should be seen as a core principle and significant consideration should be given to how a building’s design meets this objective”. In several codes, affordable housing was to be scattered throughout the site. This aspiration generally resulted from prior development agreements, and was achieved by a masterplan rather than through code instructions; as was provision for public transport, storm water retention and mixing uses.

Hastings, like Greenwich, had strong aspirations, with somewhat clearer connections to design solutions (e.g. ‘green roofs’, providing outdoor drying space to minimise the use of clothes dryers, landscape buffering between roads and parklands, reducing surface runoff by coding of materials and planting), but again, clear standards and design prescriptions were lacking. In general, sustainability hopes were high, but delivery seemed problematic.

Two of the advanced codes made no mention at all of sustainability; two others limited their aspirations to BREEAM standards. Upton, Lightmoor and Fairfield Park provided very long lists of detailed targets and some advisory solutions (e.g. to face main living rooms south when appropriate), but, as with the pilots, these were primarily statements of planning aspirations, rather than requirements. The final sentence of Fairfield Park’s sustainability section passed the onus to designers: “To assist with the monitoring of sustainable measures included in the design of dwellings, schedules will be required to demonstrate how these have been accommodated”. Coding of architectural design was deliberately limited to allow this to be delivered.

Upton required the use of porous paving and the connection of domestic rainwater systems to SUDS (figs 5.2 & 5.3 Upton). It also made the novel suggestion of using some parts of the development to showcase demonstration projects that trial green technologies, although there was no requirement for this. Lightmoor noted that detailed guidance for rainwater harvesting would be provided in individual briefs, so no generic coding was included. Greenwich, with its intention to be a showcase for brownfield redevelopment, put sustainability at the forefront of its aspirations. However, even here, it was largely through the masterplanning and detailed parcel design processes that sustainability was to be delivered. The Greenwich design code does not itself show how to design sustainable urban forms.

The four non-coded cases showed reasonably strong aspirations for sustainability, although if they delivered, it was primarily through the masterplan rather than the identification of desired design solutions in detailed design guidance. Passive solar gain, frequently mentioned, was never actually prescribed. Cambourne’s guidance advised keeping office floor plans small (12m-15m) to optimise natural daylighting, increasing thermal mass, and ensuring ‘full accessibility’ for wheelchairs. Newcastle Great Park focused on ecological objectives (with few explicit connections made to urban design) and also aspired to “variety in building types, sizes and tenures to encourage social and income group mix”.
Fig 5.2 Upton, sustainable Urban Drainage System (SUDS) design

Fig 5.3 Upton, sustainable Urban Drainage System (SUDS) layout
DESIGN CODE REFERENCE contd.

What the codes contained: Content (design aspirations)

STREETS AND ENCLOSURES:

Across the case studies, street hierarchy and layout was almost invariably defined by the masterplan (fig 5.4 Ashford). The pilot studies all offered very comprehensive controls on streets, although three merely reproduced the pertinent highways design guidance. Of the remainder, Hastings’s very thorough code provided the most cogent compilation of the street regulations which have a clear impact on the quality of the public realm (as opposed to traffic flow), including, like Hulme, required provision of building entries at maximum 15m spacings. Street regulations were either summarised in one table or on sheets organised according to street types, numbering anything from five (figs 5.5 & 5.6 Cirencester) to seven (figs 5.7 & 5.8 Hastings) to nine (figs 5.9 & 5.10 Rotherham).

Requirements for street rights-of-way were also very comprehensive. Street furniture was usually treated as either broad aspirations or specified in detail (materials and/or manufacturers). For public art, Hastings noted “It may be appropriate to include artworks which should be conceived and developed in discussion with the local communities”. Hastings also regulated the distance to which signage and building details could project beyond the building line. Swindon’s coding of streets was distinctive for articulating its street typology primarily in terms of their width and the built forms that front onto them (building typologies, frontage widths and continuity, building heights and cornice lines, and demarcation with arcades, colonnades, string courses and/or front gardens and walls).

Detailed architectural definition of streets was also included in the Newcastle and Ashford codes, alongside performance criteria. For example, active frontages were prescribed, requiring that principle entryways and principal rooms must face the street. The requirement for building entries to face the street was included in a very large number of both pilot and advanced codes, seldom with any illustration or further specification. Newcastle divided the coding of each character precinct into matters which are ‘public realm’ (streets, on-street parking) and those which are ‘private realm’ (building uses, type and height, setbacks, plot coverage).
Fig 5.5 Cirencester, street coding hierarchy

Fig 5.6 Cirencester, street coding
### Fig 5.10 Rotherham, detailed street coding requirements

#### THE CODE - BURRELL STREET/WATER LANE

**MATERIALS**

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Must be a soft shade of grey or white. The color shall not be lighter than 70% reflectance.</td>
</tr>
<tr>
<td>Texture</td>
<td>Must be smooth and even, with no sharp edges or projections.</td>
</tr>
<tr>
<td>Permeability</td>
<td>Must be at least 20% permeability.</td>
</tr>
<tr>
<td>Infiltration</td>
<td>Must be at least 50% infiltration.</td>
</tr>
<tr>
<td>Durability</td>
<td>Must be able to withstand vehicle loads up to 10 tonnes.</td>
</tr>
<tr>
<td>Temperature</td>
<td>Must be able to withstand temperatures ranging from -30°C to 80°C.</td>
</tr>
</tbody>
</table>

**PLOT**

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Texture</td>
<td>Must be smooth and even, with no sharp edges or projections.</td>
</tr>
<tr>
<td>Permeability</td>
<td>Must be at least 20% permeability.</td>
</tr>
<tr>
<td>Infiltration</td>
<td>Must be at least 50% infiltration.</td>
</tr>
<tr>
<td>Durability</td>
<td>Must be able to withstand vehicle loads up to 10 tonnes.</td>
</tr>
<tr>
<td>Temperature</td>
<td>Must be able to withstand temperatures ranging from -30°C to 80°C.</td>
</tr>
</tbody>
</table>

**Examples of materials**

1. Natural stone
2. Concrete
3. Bricks
4. Gravel
5. Sandstone

---

**Notes:**

- **Material:** Choose from the following: Natural stone, Concrete, Bricks, Gravel, Sandstone.
- **Permeability:** At least 20% permeability is required.
- **Infiltration:** At least 50% infiltration is required.
- **Durability:** Must withstand vehicle loads up to 10 tonnes.
- **Temperature:** Must withstand temperatures ranging from -30°C to 80°C.
Among the advanced cases, the extent of street coding varied (figs 5.11 & 5.12 Upton). In terms of street hierarchy, a minority included general aspirations only for items such as traffic calming and shared surfaces, whilst four of the eight were comprehensive in the scope, detail and prescriptiveness, with street codes ranging from urban design aspects such as the use of ‘horizontal traffic calming’ (enclosing streets with buildings which reduce sightlines (fig 5.13 Swindon) and homezones, to numerous operational regulations such as speed limits, maximum gradient and minimum forward visibility. The consistency of the latter suggested they were drawn from highways design manuals; and typically they were given little or no relation to the other urban design considerations of the codes.

In terms of the street space, six of the eight advanced cases included a range of detailed requirements such as street lighting and other street furniture treatments (fig 5.14 Fairfield Park), street trees, boundary treatments (fig 5.15 Upton), road and pavement surfaces, and kerbs and details (fig 5.16 Upton). These were almost invariably coded as a series of hierarchical types with different profiles and pavement widths, as with Fairfield Park (fig 5.17 Fairfield Park). Fairfield Park also included numerous detailed drawings of drainage channels, paving and boundary walls, presenting recommended solutions rather than standards. Newhall and Greenwich, whose codes focused mostly on built form, were almost entirely lacking in aspirations for the public right-of-way. At Hulme, doors were to be at maximum 15m intervals to ensure active streets (fig 5.18 Hulme), whilst enclosure ratios were given for streets, squares and parks, effectively setting frontage heights for the surrounding buildings (fig 5.19 Hulme).

Among the non-code cases, Port Marine specified the need for a dense, highly permeable grid and Newcastle Great Park for a flexible east-west grid. Road widths and road and pavement surfaces were always specified; but standards for street trees, boundary treatments, public art or street furniture were only found in some cases. The street hierarchy of all four ‘non-codes’ specified the inclusion of cycle lanes and three covered traffic calming. Amongst the non-code projects, Newcastle Great Park provided the most comprehensive element of street coding (fig 5.20 Newcastle Great Park).
Fig 5.12 Upton, street coding

Where Mews meet any street other than Main Street, distance between buildings – 4.5m minimum.

Section codes to be noted for each case.

Fig 5.13 Swindon, detailed coding of right-of-way alignment
Fig 5.14 Fairfield Park, street furniture coding
### Fig 5.15 Upton, street boundary treatments

<table>
<thead>
<tr>
<th>CHARACTER AREAS</th>
<th>BOUNDARY CODING</th>
<th>MAIN STREET</th>
<th>STREET</th>
<th>SKIDS STREET</th>
<th>LANES</th>
<th>Mews</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PRIVACY STRIP</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimension</td>
<td>1m at junctions 2.5m otherwise</td>
<td>2m</td>
<td>N/A</td>
<td>N/A</td>
<td>0.8-1m</td>
<td></td>
</tr>
<tr>
<td>Materials</td>
<td>Hard landscape; peeling materials should 5 years to public realm</td>
<td>Hard or soft landscape; materials should 5 years to public realm</td>
<td>N/A</td>
<td>N/A</td>
<td>Granite sets</td>
<td></td>
</tr>
<tr>
<td><strong>ENCROACHMENT</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>At Junctions</td>
<td>N/A</td>
<td>Max. 1m</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Otherwise</td>
<td>Max. 1.5m</td>
<td>Max. 1m</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

### Fig 5.16 Upton, detailed coding of street details

**Services in the Public Realm**

Utility mains, such as gas, electricity, water and telecommunications will be located within a services corridor within the adopted highway. Where practicable this will be installed beneath the footway but in certain locations will fall beneath the car parking bays. Developers are encouraged to use a common service corridor and should adopt an integrated approach to positioning services, trees, lighting columns and other street furniture.

A services strategy has been developed for Upton to provide advance mains to all sites within the development along strategic roads, primarily Main Street. Developers should refer to the Site Constraints drawing for information regarding the position of these services.

---

Figures 5.1 - 5.6: Street boundary treatments

Figure 5.17: Utilities services corridor on Main Street
Fig 5.17 Fairfield Park, hierarchy of street profiles
Fig 5.18 Hulme, ensuring active streets

Fig 5.19 Hulme, proportioning the public realm

<table>
<thead>
<tr>
<th></th>
<th>Maximum</th>
<th>Minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Streets</td>
<td>1:2.5</td>
<td>1:1.5</td>
</tr>
<tr>
<td>Squares</td>
<td>1:5</td>
<td>1:4</td>
</tr>
<tr>
<td>Parks</td>
<td>1:10</td>
<td>1:7</td>
</tr>
</tbody>
</table>

Diagram of enclosure ratio.
<table>
<thead>
<tr>
<th>Road Type</th>
<th>Speed</th>
<th>Sight stopping distance</th>
<th>Typical width</th>
<th>Traffic calming</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘Home Zone’</td>
<td>10mph</td>
<td>14m</td>
<td>Desired maximum width 4.0m for ‘Gateway’ throttle. Roadway range 3.1-3.25m(^{77}) allowing for emergency and service access.</td>
<td>Horizontal, vertical and changes in surface material(^{79}).</td>
</tr>
<tr>
<td>Local access and bus routes</td>
<td>20mph</td>
<td>33m</td>
<td>6.0m roadwidth plus segregated on-street cycle routes and footways as above.</td>
<td>Horizontal for vehicular traffic with cycle gates and changes in surface material(^{79}).</td>
</tr>
<tr>
<td>Main traffic routes</td>
<td>Above 20mph</td>
<td>60m where speeds can be contained to 30mph on roads in vicinity of local centre.</td>
<td>Roadwidth in accordance with design manual for roads and bridges plus 2 x 1m for segregated cycle routes and 2 x 1.8m footways.</td>
<td>n/a</td>
</tr>
</tbody>
</table>
PARKING:

The pilot codes varied in the attention they paid to parking. Six of seven codes set both numerical standards and design requirements for on-street parking (fig 5.21 Rotherham), and four did so for off-street parking as well. However, across all the case studies, it was not always clear whether parking requirements could or must be met on or off-street. The pilots generally prescribed the location and form of off-street parking; all seven defined parking courts (fig 5.22 Swindon & fig 5.23 Rotherham), and four offered codes for private garages, including their distance and entry from the street and their location on site (fig 5.24 Swindon, figs 5.25 Hastings & fig 5.26 Hastings). Often freestanding garages were prohibited and/or their architectural expression was circumscribed. Some codes either required or encouraged the placement of garages underneath the main building and/or away from main frontages and intersections. For high-density areas in Aldershot, like in West Silvertown, “Access to parking will be predominantly from rear courtyards to maintain the continuous street frontage”. Blank walls facing streets were typically discouraged.

West Silvertown focused on the organisation of access to parking (to minimise conflict with its pedestrian waterfront) and screening parking with colonnades. Numerous codes constrained the width of access drives into parking courts. Greenwich offered a page of specific design solutions for communal podium parking. Fairford Leys showed detailed design drawings which served as specifications rather than regulations (fig 5.27 Fairford Leys). Upton offered a comprehensive set of regulations, including provision for secure cycle parking, sockets for electric car-sharing, and setting a maximum of 1.5 off-street spaces per dwelling, as well as schematic plans of courtyard organisation (fig 5.29 Upton), as did Ashford (fig 5.28 Ashford). Because densities were often high, courtyard (mews) parking was generally preferred over garages or kerbside parking, thus requiring coding for surveillance. Lightmoor, like many, limited the number of parking spaces in courtyards, as well as the number of garage doors in a row in terraces.

Private (off-street) parking standards and design were generally covered in a separate section to public (on-street) parking, as this demand was related to land use mix and density. Newcastle Great Park asserted that parking near home should be expandable in width to 3.3m to accommodate wheelchairs, whilst Cambourne provided space for disabled parking. Greenhithe restricted garages to within the building curtilage.
Fig 5.21 Rotherham, on-street parking

Fig 5.22 Swindon, parking courts
3.4 GARAGES
All single residential garages shall have the minimum internal dimensions of 2.4m in width and 4.8 in length with no internal obstructions (4.2 meters in width and 5.7 meters in length for wheelchair accessible dwellings).

Along the street, garages must be set back at least 1.5m behind the building line, and at least 6.0m behind the back of footway. See Figure 3.5. They must be a separate or attached subsidiary structure. For example, a lean-to structure to the side of a building is acceptable. Garages may not be part of the main building volume (See Figures 3.6 & 3.7) except in rear areas, where it is acceptable.

Garages to be similar in architecture to main house. They are to use the same materials, but may be more utilitarian in appearance.

Along a street, where two or more garages are side by side between properties, or where a driveway is wider than 3.2m, gates will be required to maintain the line of railings. See Figure 3.6.

Garage doors to be painted timber or pressed steel. Glazing is not to exceed 35% of the overall door surface area. Double-side garage doors are not permitted.

Minimum garage setbacks maybe increased for some building types. Refer to boundary conditions and building type criteria of relevant neighbourhood code.

3.5 RESIDENTIAL DRIVES / DRIVEWAYS
Residential drives and driveways are to be at least 0.9m long and 3.2m wide.

Figure 3.5: Garage set back 1.5m from building line / front of building and at least 6.0m back from the footway.

Figure 3.6: Garage side by side.

Figure 3.7: Driveways beginning with gates to maintain the line of railings along a footway, required where a driveway is more than 3.2m wide.

Figure 3.8: Painted timber garage doors with vertical slats & reveal panels.
Fig 5.29 Upton, parking courts
OPEN SPACE AND LANDSCAPE:

The pilot codes were seldom used to regulate the design of private open space; but did set controls on the size of private outdoor space, including building setbacks, defining indirectly front gardens. They also regulated the landscaping of streets and set standards for public open spaces. Four of the pilot cases had reasonably extensive requirements for open space, setting planting standards (such as spacing and types of trees) and controlling the design of front gardens. Two other pilots only coded for building setbacks. Aldershot’s draft code did not include comprehensive details of its open space standards, which were limited to the dimensioning and casual surveillance of mews, although it included an overall standard for private open space (front + rear gardens = minimum 10m). Hastings provided a clear statement of play space standards, with their locations having already been determined by its regulating plan – an approach also used at Cirencester.

Cirencester’s draft code had given detailed regulations of private open space for various house types, but this had been removed from the final version, allowing the more flexible placement of houses. A number of Hastings’ open space provisions related to their prime goal of environmental sustainability; including use of native plant species, increasing biodiversity, creation of wildlife corridors with buffered perimeters and forbidding lighting within them, reducing water usage and hard surfacing and the use of SUDS, as well as recommending the use of fountains to mask noise pollution from traffic. Their code encouraged provision of outdoor space which is suitable for drying washing (to reduce energy used in dryers), and recommended private outdoor space which “allows residents to sit outside”. Street trees and boundary treatments were almost always coded in the pilot cases, usually as part of the coding for the hierarchy of street types, which was typically more detailed than that for open space.

Five of the eight advanced cases used the masterplan to define their open spaces. Fairford Leys, by contrast, provided a whole volume detailing landscape design criteria for 25 public spaces in great detail (fig 5.30 Fairford Leys). Two other codes listed tree species, size, and so forth, as a feed into detailed landscape plans, whilst Greenwich provided such detail as general landscaping parameters for all areas. Two of the codes said little about open space, while Hulme had a very different focus, with aspirations for the enclosure of urban open spaces (fig 5.31 Hulme), making sure they were functional and maintained, and encouraging high quality landscaping in private urban outdoor spaces such as courtyards, roof gardens, balconies and window boxes. Greenwich, like Hulme, aspired to define the ‘urbanness’ of spaces through the careful specification of width to height ratios (fig 5.32 Hulme). Front garden dimensions were given in three cases, rear garden dimensions only once. Six of the advanced cases coded for street trees (species, size, spacing), and five for boundary treatments.
Most open space decisions were embedded in the masterplan for the non-code cases; although in some, documents included detailed landscape plans for all open spaces. Front garden dimensions were regulated in three of the four cases (Cambourne noting they could be smaller on the north side of streets), and structural landscaping and planting standards in two cases. Cambourne provided an extensive planting palette and was the only non-code case to aspire (albeit vaguely) to regulate street trees and planting. Cambourne also suggested locations and forms for public monuments, as did the Swindon pilot, which also prescribed fountains. National Playing Fields Association standards were cited twice, but as guidance rather than requirements.
DESIGN CODE REFERENCE contd.

What the codes contained: Content (design aspirations)

LAND USE MIX:

Five of the pilot codes sought to regulate unit sizes and types (fig 5.33 Cirencester). Newcastle and Rotherham listed the unit types suitable for each street type, Hastings and Aldershot for each block. Aldershot’s code also featured a table of building types, the densities they could achieve and the streets and blocks for which they would be appropriate (fig 5.34 Aldershot). None were prescriptive. Swindon was both simpler and more definite, requiring between 10% and 20% cottages on any one street (fig 5.35 Swindon). In contrast to the advanced codes, tenure mix and affordability were not mentioned in the pilots. There was also relatively little attention given to land use mix within the pilot codes.

Cirencester’s draft code had included a prescribed building type with commercial on the ground floor and residential above, but removed this from later drafts. Specified ranges of non-residential uses were permitted in Hastings on identified block frontages (fig 5.36 Hastings) and in Rotherham and Newcastle on several major street types. Rotherham listed use classes, highlighting that such controls are little more than zoning; Newcastle prescribed uses by floor – ground floor, first floor and other floors. Adaptability for changes in use was a more common concern, addressed by all but one pilot, although some were merely aspirational. Hastings permitted lot widths to vary between 4.5m and 8m, “to create an adaptable pattern of development that can accommodate incremental change” (fig 5.37 Hastings), although there was no compulsion to provide variation. Rotherham’s structural requirements for ‘Adaptable Shop Units’ were similar to Upton’s. To suit possible future changes of use, Ashford and Aldershot set minimum floor-to-ceiling heights in their mixed-use cores.

Fairford Leys was the only advanced case with no coding for land use or unit type, which was instead entirely determined through its masterplan. At Lightmoor, developers “must ensure a wide range” of unit types; and must also provide an indicative plan showing location of the types, tenures and affordability of units. A varied and fine-grain mix is expected, including single person housing, but no other standards or criteria are given. Upton provided a clear summary table of uses and unit types which are permitted in each character area (figs 5.38 & 5.39 Upton), whilst a requirement for 22% affordable housing is to be met through individual development briefs – i.e. through masterplanning.

Fairfield Park’s code set out the locations of unit types in its regulating plan and matrix (figs 5.40 & 5.41 Fairfield Park), establishing that in the interiors of major street blocks a wider variety of unit types is allowed, although all buildings must be two storeys. Affordability and rental tenure were mentioned more often than unit type, sometimes in connection with Section 106 agreements. The general aspiration was that such housing should be indistinguishable from other housing, and for this reason there was no separate coding for it. Fairfield Park prescribed scattering of affordable units, “in groups of not less than six or more than nine”. Greenwich offered examples of desirable integration of sets of affordable units within four multi-unit building typologies, including 3D drawings.
Building adaptability was addressed by three advanced codes. Greenwich was merely aspirational. Hulme’s broad guidance suggested “space should be left to accommodate uses not currently viable”, such as shops and services, and that “non-housing development should be designed with sufficient flexibility to enable change of use without major refurbishment works”. For Upton, a section on ‘flexible frontages’ prescribed floor-to-floor heights of 3.6 to 3.9m for ground floors, the use of construction techniques that allow easy and efficient modifications, configuring internal circulation to allow potential independent access to upper floors, and design of floor structures to allow for future conversions. Appropriate areas for flexible buildings and mixed use were also mapped. Five of the advanced codes had aspirations for the land use mix, but these issues were addressed through the masterplan, including locations of commercial and community uses and identifying areas suitable for mixed use buildings.

The four non-code cases had relatively few aspirations for land use or unit mix, and fewer still prescriptions. Port Marine aspired to deliver adaptable buildings, and Newcastle anticipated allowing for future flexibility through variation in plot sizes. Cambourne pursued a mix of unit types. Greenhithe embraced both issues and pursued a mix of uses within the ground floor of apartment blocks.
**Fig 5.36 Hastings, coding for block frontages**

**Statement**
Permissible land uses are defined in the plan below. Block frontages where non-residential uses are permissible are indicated. Appropriate uses include retail (use classes A1, A2 and A3), at ground floor level, community uses e.g. doctors surgery, creche or training facilities (D1), office use (B1) and residential (C1, C2, and C3) at ground or on upper floors.

The interface between buildings and the public highway is defined for mixed use and residential land uses in codes BF10 and 11.

**Justification**
- To reinforce and consolidate character and identity of the area.
- To provide sustainable pattern of development.
- To create legible local centres.
- To provide a variety of activities at different times of day.
- To provide active frontages at street level.
Fig 5.37 Hastings, coding for varied lot widths

**Statement**

Development should present a line urban grain with residential plot widths in accordance with the following:

- Houses and maisonettes, minimum plot width 4.5m, maximum 8m.
- Commercial buildings and residential apartment blocks must maintain a vertical proportion to elevations. This can be achieved through vertical eave line changes in material, set backs of building line and/or changes in roofline as illustrated, where the wall set back is less than the height to the building shoulder line.
- Entrances to non-residential buildings must be created a maximum of 15m apart measured along the street.

**Justification**

- To provide a varied elevational treatment that is appropriate to Hastings character.
- To create an adaptable pattern of development that can accommodate incremental change.
- To provide continuity of enclosure of streets and public space and to secure private open space within blocks.
Fig 5.38 Upton, unit types and land uses for different character areas

Fig 5.39 Upton, character areas

Fig 5.40 Fairfield Park, regulating plan

Fig 5.41 Fairfield Park, matrix of lot sizes, building types and boundary treatments which accompanies the regulating plan
DESIGN CODE REFERENCE contd.

What the codes contained: Content (design aspirations)

NEIGHBOURHOOD CHARACTER:

Across the range of case studies, most codes included coding that was applicable to specific ‘areas’. In some codes, such controls defined actual geographical neighbourhoods that were different in character. In other cases, ‘area’ controls defined a hierarchy of street and block types which were morphologically different, and which could be applied to locations where that type and intensity of development was appropriate. The former tended to suit projects where the built form is morphologically uniform (especially areas of detached housing). The latter presupposes masterplanning of both a street layout and urban form, with coding providing the next layer of detail. Whichever approach is used, the differences between individual areas are usually generated by taking particular generic code parameters (e.g. height, roof slope) and setting different standards for them. ‘Character’ is therefore built up by the particular mixes of these elements, as the detailed codes themselves are seldom character-specific. Another feature common to many codes was that some key areas have more prescriptive standards than others.

Among the pilots, Cirencester defined neighbourhoods in terms of morphological difference: and a plan of ‘character areas’ is repeated in the code as a plan of ‘building types’ (figs 5.42 & 5.43 Cirencester). Newcastle combines character-driven and morphological approaches, including character areas called ‘Boulevard’, ‘Neighbourhood Spine’ and ‘Riverside edge’ as well as one called ‘Neighbourhood General’ which is divided into seven distinct sub areas. These offer considerable context-specific detail, reflecting the nature of the project regenerating an existing area of development. Aldershot (fig 5.44 Aldershot) pursues neighbourhood distinctiveness through eight ‘town character’ areas and
seven ‘ridge character’ areas, as well as six smaller sub-areas “where important character areas overlap”. Hastings provides a model, with one-page introductory summaries for its four character areas, with cross-reference to the relevant detailed code requirements.

Amongst the advanced case studies, Upton included a table which shows what detailed code requirements are applicable to each character area (fig 5.45 Upton). However, these character areas tend to determine urban forms which are focused along different classes of street in a hierarchy, rather than through other differences in character. Similarly, at West Silvertown, character areas are defined through a range of different urban morphologies within the masterplan, including a spine road, courtyard blocks and crescents.

Each of the non-code cases used a masterplan to define neighbourhoods or villages, rather than using other detailed design guidance to set parameters for later neighbourhood differentiation. Greenhithe, for example defined nine ‘character areas’ each focused around an open space or historic building, and organised the remainder of its guidance on this basis.
What the codes contained: Content (design aspirations)

BUILT FORM AND TOWNSCAPE:

Across all 19 case studies, the coding of built form and block layout always included provisions for townscape and built form, often building from masterplanning principles (fig 5.46 Swindon). This included controls on building line and height, the latter usually expressed in number of storeys and expressed graphically (fig 5.47 West Silvertown & fig 5.48 Upton). Natural surveillance was another very common built form related aspiration (often with particular reference to the need for overlooking of internal parking courts), although there was no simple formula for how to ensure this. The scope, depth and innovativeness of built form coding varied considerably between cases.
All seven pilot studies had comprehensive codes for built form and block layout. This was one topic where considerable scope and detail continued to be added as code drafts progressed. In addition to townscape, building height and building line (figs 5.49, 5.50 Rotherham & 5.51 Ashford), the pilot codes generally regulated density; block sizes; frontage continuity and requirements for perimeter blocks; building types (detached, terrace etc.); other boundary setbacks; and projections (canopies, porches, arcades, colonnades). In contrast to Upton, Rotherham did not prescribe block sizes, allowing mews as an option. Hastings provided detailed codes for a typology of sectional interfaces between streets and buildings which covered privacy strips, ground floor insets for colonnades and setback angles for additional storeys.
above the prescribed shoulder height (fig 5.52 Hastings). The Hastings code also responded to the steep topography of the area through coding the relation between the ground floor entry and the street level; varying eave and roof line to respond to terrain, and encouraging placement of living areas on the downslope side of sites to optimise daylighting (fig 5.53 Hastings).

Aldershot, asserted that “A block will be surrounded by a number of different street types, so the edge of the block must therefore respond to the creation of character appropriate to the street hierarchy”. They included a regulating plan for density (fig 5.54 Aldershot), which linked to a table of appropriate housing types, and one for height (fig 5.55 Aldershot) promoting prominent corner buildings. Other codes were more precise, and also included minimum heights (fig 5.56 Hastings). Cirencester allowed variation in floor-to-floor height (2.5m to 4.4m), with the same aim as Greenwich of providing a varied roofline. Inhabited roofs were counted as half a storey. Envelope controls at Hastings included restrictions on gable-ended roofs which were designed to minimise the ratio of volume to surface area, and thus minimise heat loss. Built form controls served a wide range of objectives, aesthetic, urbanistic and functional.
Fig 5.54 Aldershot, regulating plan for density

Fig 5.55 Aldershot, regulating plan for building heights

Fig 5.56 Hastings, regulating plan for minimum building heights
Fairfield Park was amongst the most comprehensive of the advanced codes, although its layout had already been masterplanned in considerable detail. Its regulating plan set out storeys, key frontages which were to be composed of particular kinds of continuous and/or detached building types, and yet others which were unregulated (fig 5.57 Fairfield Park). Plots were defined by their width-to-depth ratios (fig 5.58 Fairfield Park). Prescription of eave lines and roof ridge lines effectively produced a coded ‘roofscape’. Sheets defining ten ‘key groupings’ (fig 5.59 Fairfield Park) included illustrative plans and 3D drawings, yet they provided principles and visions without setting standards or prescribing elements. Fairford Leys had a complex coding for frontages, requiring maximum and minimum percentages of frontage to be built-up, maximum percentage and distances for façade projections, and for bridging entranceways to internal courts (fig 5.60 Fairford Leys). Hulme prescribed enclosure ratios for streets, squares and parks (fig 5.61 Hulme), effectively setting frontage heights for surrounding buildings, although buildings of less than 100m² footprint were to be unrestricted in height, to create a varied skyline.
Greenwich similarly set both maxima and minima for building heights, the former related to solar penetration into courtyards, and encouraged variation in height “to create a lively roofline and façade”. Lightmoor required developers “to produce specific (i.e. distinctive) designs for corner buildings”, and provided illustrations of local examples (figs 5.62 & 5.63 Lightmoor). It also mandated that overlooking of private parking courtyards “must be designed in”, and listed flats over garages as one of several solutions. Where Hastings had permitted varied lot widths to facilitate incremental change, Lightmoor noted that this could also introduce townscape variety. Upton’s chapter on block principles
provided a clear requirement for perimeter blocks and prohibited block consolidation. It establishes three block types to be deployed across the masterplan, although frontage setbacks varied according to street type not block type. The only height regulation along major streets was a minimum one – three storeys.

Among the non-code examples, townscape for Greenhithe meant emphasising corner buildings and the end units of terraces. Landmark buildings and key building frontages were identified in Port Marine’s masterplan, although there was no obvious regulatory mechanism to ensure their quality. Cambourne’s requirements for a mix of housing types seemed to serve an aesthetic objective of providing visual interest through shifts in scale and massing. Port Marine specified that housing blocks should run along site contours (rather than across them), to reinforce its dramatic landform (fig 5.64 Port Marine), whilst Newcastle Great Park had only general aspirations to respond to landform, and also to consider the microclimatic effects of building layouts. The Greenhithe design statement restricted frontage widths for terraces; it also required that frontages near the waterfront should not be continuous, but rather stepped, to allow glimpses through to the water from deep within the site.
DESIGN CODE REFERENCE contd.

What the codes contained: Content (design aspirations)

ARCHITECTURAL DESIGN:

The level of control required over building design varied dramatically between the different kinds of case studies. The pilot codes that regulated building scale usually did so only through constraints on height; Ashford set a minimum floorplate size; Hastings prescribed detailed massing envelopes with 3D setbacks (fig 5.65 Hastings), and these, along with a requirement for buildings to be staggered on slopes (fig 5.66 Hastings) served their aspiration for visually interesting rooflines. Visual interest was sought at Aldershot through allowance for feature doors. Like the advanced codes, the pilots contained detailed aesthetic controls and tended to look to local context for standards (e.g., vertical proportioning, or matching local bricks). However, the use of traditional character was only mentioned explicitly in Aldershot and in...
Swindon’s very detailed coding (fig 5.67 Swindon), although Cirencester also required compliance with the traditional approach to architectural design contained in the separate district-wide Cotswold Design Code (fig 5.68 Cirencester).

Rotherham and Ashford, by contrast, deliberately pursued contemporary architectural expression. Ashford’s attempted to code for ‘Kentish contemporary’ (fig 5.69 Ashford) drew upon a thorough list of characteristic local architectural features. It required “balancing horizontals and verticals” and asymmetrical designs which “lead the eye” (although it also aspired to the ancient principle of façades having a base, middle and top). For Rotherham, similarly, “The facade and visual structure of buildings should include elements of both horizontal and vertical orientation (not excluding other angles or near equivalents) to avoid a single predominant orientation”. Here, coding of architectural design was “deliberately less prescriptive to allow for flexibility, innovation and variety within the realm of architectural style”. Whilst Hastings explicitly avoided judgments on style. Rotherham wished its riverfront to have “consistent building type and style”, but did not say what style that should be.
Design details were regulated in only four pilots. The most detailed, Swindon, included five A3 pages of illustrations of appropriate and inappropriate elements such as string courses, cornices, lintels, rustication, chimneys, balconies, doorways and gates, as well as correct patterning of solar cells on roofs (fig 5.70 Swindon) – but these did not set measurable standards. Corners were usually coded only in terms of urban scale, although Aldershot noted that “corner frontages should be continuous” (fig 5.71 Aldershot), and Ashford that both facades should be articulated (fig 5.72 Ashford). Five codes had controls on fenestration. Ashford required residential windows to have vertical proportions and two or three divisions, and public buildings to have transparent ground floors. Rotherham required of shopfronts that “Openings and display windows must follow the structural logic and pattern of openings for the whole building”, whilst Aldershot required that windows and other sub-elements should conform to the proportioning of the façade.

In the coding of rooflines, Newcastle banned half-hipped and mansard roofs. Hastings banned blank gable ends from facing higher-order roads. Materials and colours were almost always controlled, most clearly at Rotherham (fig 5.73 Rotherham) and Swindon (fig 5.74 Swindon) through the use of a palette. Aldershot were more flexible, including provision that “There is no defined palette of materials for buildings... in the interests of not restricting architectural expression, however once the palette is set for a character area it must be applied consistently and adjoining areas must respond appropriately”. In doing so the code implies that early parcels will set the precedent for later ones. Extensions
Fig 5.71 Aldershot, coding for corner buildings
Continuous frontage using buildings only on higher order streets
Corner building with active windows on both frontages

Fig 5.72 Ashford, coding for corner buildings
Figure 3.6 Higher buildings mark termination of axes
Figure 3.7 Corner buildings have articulated facades on both street facing elevations

Fig 5.73 Rotherham, colour and material palette
to buildings were never specifically coded, and many architectural aspirations were encouraged rather than required, so as not to hinder design excellence.

The advanced codes almost never prescribed scale and massing for individual buildings, other than as part of wider townscape objectives (fig 5.75 West Silvertown). Greenwich set volumetric principles which conformed to its detailed design masterplan. However, most of the advanced codes contained detailed aesthetic requirements which drew their inspiration from analysis of the local architectural context. Greenwich was again an exception; reflecting the lack of any significant established residential context near the site.

Distinctiveness was never an expressed architectural objective in the advanced codes and none of them mentioned style explicitly, or required ‘contemporary’ solutions. Instead, coding addressed a range of discrete elements and properties of architecture. Six of the eight codes aspired to create visual interest, although both target standards and means of ensuring this were usually unclear. Lightmoor cautioned “the temptation to create interest by combining a wide variety of materials should be avoided. Visual interest should come predominantly from the form of the building rather than its materials”, and aimed to use “a limited palette of materials”. Materials (either acceptable or unacceptable), fenestration and design details such as porches, colonnades, doorcases, brickwork openings and string courses were also commonly regulated, particularly at Fairfield Park. Newhall forbade “‘add-ons’ to elevations to distinguish one house from another in the mind of the buyer... pastiche and fake architectural devices should be avoided”. Fairford Leys set limits on the percentage of a street’s doors which could have elaborate designs (figs 5.76 & 5.77 Fairford Leys), although it was not clear exactly what this meant.
Fig 5.76 Fairford Leys, coding for doors

Fig 5.77 Fairford Leys, coding for doors
**Fig 5.78** Fairford Leys, coding for fenestration

**Fig 5.79** Fairfield Park, coding for fenestration

**Fig 5.80** Upton, proportion of facades

---

**Figure 12.1**: Proportioning system using 'golden section'
Fenestration was often coded (figs 5.78 Fairford Leys & 5.79 Fairfield Park). Fairfield Park’s code advised that for visual interest, “On larger buildings odd windows, such as staircase windows or oriel windows can be placed in asymmetrical positions on a façade. These different windows should be small, individual or of a different format to the other windows and should not dominate or unbalance a façade. The window to wall ratio on any one wall should be no greater than 1:3, on any building no greater than 1:5 and on a north facing wall no greater than 1:5”.

Fairford Leys specified window proportions, whilst Upton required the use of the ‘golden section’ for proportioning entire façade layouts (fig 5.80 Upton).

Another design element usually coded was roofs, most commonly their pitch, but also their shape (fig 5.81 West Silvertown), roofline direction, eaves, dormers, chimneys (whether functional or as screening for equipment), and very often the material and colour of rainwater goods. Four advanced codes addressed the wider use of colour. Fairfield Park provided a list of acceptable bricks and slate and a colour palette drawn from National Trust archives (figs 5.82 & 5.83 Fairfield Park), whilst others’ pallets drew upon local examples. West Silvertown took a design-led approach, and established a sophisticated ‘colour route’ which defined building colour schemes to distinguish between ‘the public realm’ (buildings on major streets), the private realm (buildings interior to private courtyards) and ‘special’ buildings (community uses) (fig 5.84 West Silvertown).

Fig 5.81 West Silvertown, coding for roof shape
Two of the non-code studies made no provisions at all for architectural design. By contrast, Port Marine’s SPG determined that buildings “should reflect the vernacular”, and although contemporary design was also “encouraged”, any specifics were lacking. Cambourne regulated scale and massing. It required consistent proportioning of facades, with tripartite vertical composition. It also required that facades at various locations on the site should be styled “in the manner of 17th – 18th Century buildings”, “stoic, serious” or “formal classical... similar to many East Anglian village Corn Exchanges”. Designers were warned: “DO NOT use an excessive amount of one colour. DO NOT overdo variety”. Very different requirements were set for Cambourne’s business park which required the use of a “sophisticated curtain wall system” and the industrial area where flexible single-span layouts were sought, although with no controls on external appearance.
Content and expression

Expression

SUMMARY

- No single format for codes is apparent, and instead codes are structured, expressed and presented in the light of local circumstances.

- Most codes were seen as robust working documents, primarily meant for a professional audience, that, if appropriately presented, can also be used as promotional tools.

- The consensus is that diagrams, tables of requirements, detailed plans, sketches and precedent illustrations should be dominant (not words) and that photographs should be illustrative; although in practice words often dominate.

- 2D illustrations, often combining annotated plans and sections (especially sections of street types), can obviate the need for 3D images.

- Codes should systematically and gradually break down elements of the built environment for users, moving from strategic to detailed concerns.

- A testing exercise can help to refine the content and particularly the expression of codes, e.g. where jargon is undermining comprehension.

- Enough detail is required to give clarity and certainty, but precision to legal standards is not a major concern; nevertheless, codes that are succinct, as a result, also seem to be open to greater interpretation.

- Careful expression should distinguish mandatory from advisory components of codes.

- Careful cross-referencing between different elements in codes, careful justification of specific codes, consistency of page layouts, attention to document structure, clear numbering of pages and sections, and avoidance of ambiguous aspirational statements are all features of the clearest codes, whilst codes should begin with a succinct guide to their use, and with an explanation of how they relate to the physical vision.
5.8 Different stakeholders were more or less confident about the extent to which coding could be used to prescribe elements of the built environment. At one end of the spectrum some believed that all aspects of the built environment would lend themselves to coding. At the other, a number of areas were identified as potentially problematic. These included:

- Detailed architectural design and style issues (there was a feeling amongst some that coding should concentrate on public realm concerns, and should not be prescriptive about architectural elements to avoid stifling innovation).
- Existing housing areas and one-off buildings (i.e. for community use).
- Sustainability dimensions.

5.9 Concern was also expressed about the need to be seen to legitimise the codes. For example, in Cirencester, the key influences on the code are articulated, including contextual analysis, community dialogue, and the vision, before the codes themselves are offered. In Hastings, the code follows the structure of government guidance on design contained in ‘By Design’ in order to legitimise it.

5.10 It was widely argued that codes should be as user-friendly as possible, an issue given particular consideration in Ashford. There, the codes themselves are in the form of bullet points, whilst running text provides a rationale, diagrams are used for illustration and clarity, and tables provide detail. In Hastings, the intention is to use a loose-leaf format so that pages can be assembled in different ways for different sites and purposes. To aid this, all the pages have the same layout and are cross-referenced to each other. By contrast, the decision to confine ‘inspirational’ material to a Design Statement in Aldershot has resulted in a less attractive and less friendly code document than originally envisaged.

5.11 Most pilot teams felt that a careful balance was required between descriptive text and imagery, whilst attempting to produce codes that were both inspirational and informative, for example through the use of illustrations and photographs. In this regard a common set of views were expressed across the pilots:

- Diagrams should be dominant, not words, and are particularly important to aid parcel designer comprehension.
5.12 Illustrating this approach, in Swindon the intention was that diagrams would be used to describe all mandatory elements of the code, with photographic illustrations to provide examples for inspiration.

5.13 Regarding the structure of codes, typically pilots were opting to gradually break down elements of the built environment as the document progresses, thus ensuring a systematic and logical coverage of key elements. In Swindon, for example, the code is in the form of five books, dealing respectively with introduction and background, overall coding principles, and one volume for each of the three neighbourhoods. These are accompanied by a series of A0 building line drawings that set out the entire development in plan form. Other pilots also intended to supplement the main code with separate sub-codes for individual parcels/character areas, including Aldershot’s proposed mini-codes. In this case, the mini-codes will offer the potential for a more flexible approach to coding, providing a means to supplement the master code over time to reflect changing circumstances.

5.14 An important concern for all pilot teams was the balance between prescription and flexibility. Developers generally favoured greater flexibility in order to keep their options open to sell off parcels to other developers. Local authorities, by contrast, prefer greater prescription. Collectively, however, a view persisted that codes need to be flexible enough to deal with changing circumstances over long-term project horizons.

5.15 Within this general framework, stakeholders felt that it was legitimate to be more prescriptive over certain dimensions than others. Highways and public realm issues often fell into the former category, as did design in the more sensitive historic areas, for example in Aldershot. There, unfortunately, the lack of any clear rationale for design decisions, consideration of delivery, or comprehensive approach to design or to the historic context, seems to undermine this aspiration.

5.16 In Rotherham, a view was advanced that coding dealing with the public realm and block edges should be prescriptive, with block interiors advisory, and that dimensions of urban form should be coded in detail, whilst the balance of uses should remain flexible. The decision was taken to structure the document according to scale and importance, thus the regulatory plan sits at the beginning of the document as the key element in the code, whilst more detailed concerns are dealt with towards the back, including materials.

5.17 A similar view was expressed in a different manner in Swindon. There it was concluded that those dimensions that need to be controlled require careful prescription whilst other issues can be left more flexible. The view in Swindon, and elsewhere, was that a high level of detail in the code will give (not reduce) clarity, and that designer jargon should be avoided (or at least explained) where possible. In reality, this code is long and detailed and resembles a pattern book rather than a code, with everything prioritised to the same degree. As a consequence it does not give a sense of what is important and where there is flexibility. In Ashford, this view extended to coding for process
issue (i.e. guidance on submission requirements for reserved matters applications). Good coding of this type, it was believed, can help to clarify roles and responsibilities. Newcastle seemed to be an exception, where some overly descriptive and imprecise text made it difficult to resolve the different options presented in the code, leading to a lack of clarity and potential difficulties for those charged with its interpretation.

5.18 In Hastings, careful expression is being used to distinguish mandatory from advisory components. For example, it is mandatory to achieve the Millennium Community Standards, but how they are achieved is advisory. However, disagreement was at first apparent about which elements should fall into which category, with some inconsistency around the use of the terms ‘must’, ‘should’ and ‘will’. The Ashford code takes a similar approach, using ‘must’, ‘may’, ‘should’ and ‘could’ to relay the balance between mandatory and advisory elements, and ‘example’ and ‘indicative’ next to illustrations.

5.19 Although a general feeling existed that precision in the wording of text was required to avoid ambiguity – particularly if the intention was to adopt codes as SPD – there was little feeling that precision to legal standards was required. Although stakeholders hoped that justification in the text and precise wording backed by illustration would withstand legal challenge, few expected such circumstances to arise; particularly where there is no legal agreement between the partners.

5.20 From the evidence it seems that the balance between robustness and flexibility is a difficult balance to strike. Concern was expressed, for example, that the complexity of some codes meant that they were difficult to update over time, particularly if the original consultants were no longer in place. A key lesson might be that codes need to be conceived and expressed in the light of the skills and resources available to those who will be charged to implement them. Another has been the value of a testing exercise to establish whether the codes are capable of delivering the design aspirations sought by their promoters. Each pilot project went through a ‘code cracking’ exercise during which participants were asked to produce a housing layout using the code. These events were widely regarded as valuable means to help refine the expression and content of the codes.

5.21 Typically the advanced codes were structured to move from strategic to detailed concerns, sometimes overlain with a topic by topic (Harlow, Greenwich), or area by area subdivisions (Fairford Leys). Upton takes the strategic to detailed approach, and moves to re-structure it on a topic by topic basis during its first review were rejected because of user familiarity with the initial approach. In Fairford Leys, although the area by area approach looks at first daunting, because users are generally only concerned with one area, users report that it is relatively straightforward to interpret and use. The Hulme code, by contrast, is compact with a clear structure and uncluttered format. The guidance is meant to be simple, jargon-free and inspirational, as well as providing a means to convey basic ground rules for control purposes. As such, stakeholders argue it has been effective at getting over key principles to developers, reinforced by the message that non-compliant schemes need not bid for sites.
The glossy and concise layout at Hulme has also been valuable in raising awareness of the development and in the marketing of the area as a new place to live. Presentation of the other codes varied. The predominance of illustrations at Lightmoor, for example, has also made the document both highly useable and valuable for marketing purposes, whilst the presentation of the West Silvertown code reflects its nature as a working, rather than a public, document, although the designers recognise that today desktop publishing would transform its appearance. The purpose was nevertheless to deliver a robust code that accommodated changes and could respond to different design ambitions.

At Upton, great care was taken that the illustrations encouraged neither modern nor pastiche solutions. Indeed feedback has indicated how useful the illustrations are, although concern was expressed about the confusing level of detail in some. The Fairford Leys code uses tables of requirements, detailed plans, sketches and precedent illustrations to communicate requirements in legally precise terms, whilst at Fairfield Park difficulties in interpreting the regulating plan and matrix are put down to their presentation, whilst full colour axonometric drawings of key building groupings and illustration and guidance relating to Victorian detailing are seen as very helpful.

Only a small number of issues were felt by some to be difficult (although not impossible) to code for, including:

- Community
- Character
- Architectural style.

Developers were generally in favour of flexibility and argued against coding for elements that were open to variable interpretations. The different codes all struck different balances on the question of flexibility, balances that carried on developing – in both directions – as the codes were used. At Hulme, the code had originally been based on the rigid and inflexible Seaside model from the US. A process of refinement developed a more flexible model, with clear mandatory principles, but flexibility in how they might be achieved. At West Silvertown, a balance needed to be struck between clarity and detail, reflecting the perceived audience – mainly professionals and politicians. Stakeholders agreed that the codes were in fact too prescriptive, and that whilst the layout needed to be clear and set in stone, the remainder of the coding could have been more flexible to avoid repetitive designs. In fact, most issues in the code were mandatory.

One danger of over-prescription seems to be the inflexibility it engenders in those responsible for the code’s production and policing, even when improvements are being suggested. At Upton, the question of flexibility versus prescription is clearly an issue on the evidence of the wide range of views on the relative flexibility/inflexibility of the code. Thus whilst English Partnerships felt the code gave a lot of flexibility on some aspects (i.e. architectural detail) but not on others (i.e. road layout), the developer felt that the code was too inflexible throughout. In this case, great attention had been given to expression to distinguish mandatory from non-mandatory elements, although in practice developers seem to interpret most of the code as mandatory. The second edition of the code makes the distinction more clearly.

At Lightmoor, following the mandatory development framework, two types of codes are offered – ‘general design codes’ (non-mandatory general
At Fairfield Park, concern over the degree of prescription led to the insertion of a statement that details had the status of guidance only. Generally, however, all stakeholders, including developers, were positive about the level of detail in the code, particularly given the proximity of the new housing to the listed centrepiece to the development.

The non-code schemes were subject to the same debates and concerns with regard to the degree of prescription and detail. At Cambourne, the developers were particularly concerned over the extent of prescription regarding unit mix and sizes, preferring to leave such matters to the market, whilst others felt that architectural matters and private space should not be the subject of detailed guidance. Although the masterplan and overall design guide remain unchanged, the briefing plans have become less prescriptive, not least to prevent developers slavishly following indicative layouts and designs which had been a problem in the early phases. The result is a general feeling that the guidance strikes the correct balance between flexibility and prescription, although developers expressed some concern that the flexibility has been used against them, with different interpretations being made in similar circumstances and undermining certainty. The highways guide was particularly clear, with issues clearly differentiated by the terms ‘must’, ‘should’ and ‘could’. Unfortunately experience has shown that developers tend to ignore the ‘coulds’.

At Greenhithe, the clear, logical and repetitive structure used for the character areas enhanced clarity, and carried with it the conviction of all parties that architectural detail should not be the subject of the guidance. Illustrations and easy to understand bullet point lists were used wherever possible, with all parties concerned to allow enough flexibility for changes in market circumstances over the course of the project. In this case, an agreed flexibility in interpretation has been a feature of both developer and local authority during successive reserved matters applications.

A similar flexibility was noted in relation to the guidance used at Port Marine, with those involved concerned that spontaneity should not be lost from the design process. Here, illustration was favoured wherever possible, and...
mandatory elements were distinguished with the words ‘need to be’ as opposed to ‘could be’. In fact, the close association between the elements of the masterplan and clauses in the Section 106 agreement has ensured that much of the guidance is mandatory. By contrast, the surfeit of guidance at Newcastle Great Park has tended to undermine clarity, with concerns expressed that the flexibility that has resulted has led to disappointing outcomes in the first phases of the development. Moreover, despite the fact that the guidance has not been tested, worries abound that the lack of precision concerning how the various documents should be used make them open to considerable interpretation and to potential challenge.

DESIGN CODE REFERENCE

What the codes contained: Expression

The level of clarity and prescriptiveness of the pilot codes was generally high, and indeed it was difficult to see how many codes would allow any flexibility to provide for variation in design execution. The notable exception was Cirencester, where precise requirements from an earlier draft had later been removed, allowing a higher level of flexibility in interpretation. All codes contained numerous aspirational statements, general guidance and advisory elements which were not always backed up by specific standards or requirements. Although all the codes comprehensively covered the urban design agenda, Swindon, Ashford and Hastings were the only codes with comprehensive architectural coding.

In many ways Hastings provided an ideal model for a code, combining much of the best practice of the others. Following a succinct guide to its use, four main colour-coded and numbered sections reflected the logic of the design process: layout; built form; landscape and public realm; and detail and materials. Pages had standardised layouts, with statements of requirements followed by justifications, accompanied by simple images specially prepared to clearly convey the principle, and clear and thorough cross-referencing to other relevant code pages. Aldershot was similarly well-organised, with each page itemising objectives, principles and key dimensions, although its content was incomplete at the time of review, and compliance would be open to greater interpretation reflecting the fact that the requirements themselves were more vaguely worded and were less often illustrated or expressed in a measurable form. Swindon was also very detailed and prescriptive, with the most thorough use of illustrations, but it lacked any clear rationale for much of its content, as did most other codes.

In format, the pilots all used 2D illustrations, often combining annotated plans and sections (especially sections of street types), which often obviated the need for 3D images (fig 5.85 Aldershot); photographs of indicative examples were also common (fig 5.86 Aldershot). Tables were used frequently, particularly for highways requirements (fig 5.87 Newcastle Walker Riverside), which often seemed to have been copied from road and footpath standards. Rotherham’s tables were abundant, small and often unnecessarily repetitive, for
example details which seldom changed between street types, or which could have been more clearly expressed in illustrations.

Upton was the most detailed and prescriptive of the advanced codes, setting a standard for expression and control which was only matched among the pilot codes by Swindon and Hastings. Upton presented clear, precise and well-justified requirements for a wide range of aspects of development, making good use of both illustrations and numerical standards to communicate intentions. Fairfield Park also had extensive images and quantitative information and both were used to particularly good effect in its regulating matrix (fig 5.88 Fairfield Park), although elsewhere the text was extensive.

All the advanced codes included both 2D and 3D illustrations, and almost all included tables of requirements and indicative examples. In four of the advanced codes, advisory and illustrative elements outweighed mandatory ones. At Upton, much prescription is actually achieved through the very detailed masterplan. Similarly at West Silvertown, the text did not match the high level of specificity in the drawings.
Hulme gave the strongest justification for its guidance. In this case the code needed to be persuasive as it was advisory rather than mandatory, and accordingly it lacked images and quantitative standards. Explanations of how a code was to be used within the design and approval process were generally lacking, apart from Upton, which provided a useful flowchart (fig 5.89 Upton), and Newhall, where the code had been part of the brief for an invited design competition. Fairfield Park required specific kinds of design drawings to be submitted as well as a design statement explaining compliance with the code. Consistency of page layouts, attention to document structure, and clear numbering of pages and sections aided navigation through the documents.

The non-code documents were very rarely prescriptive. They tended to offer general advice that was either advisory or merely illustrative of possible approaches, and which therefore allowed a high degree of flexibility in interpretation. There was less scope and detail than in the design codes, and more text than illustrations, although all of the ‘non-codes’ used 2D images, and most used 3D images and indicative examples. Port Marine’s guidance was the most detailed; it also offered more justification for its recommendations.
Engagement and adoption

Engagement

SUMMARY

- Community consultation on technical codes is both difficult and undesirable, although communities can still be kept informed.

- If expressed in non-technical language and in an accessible format, the core principles of codes can be consulted on as the critical ideas underpinning the physical vision.

- Community engagement should occur prior to coding, when the physical vision is being defined, although formal public consultation may be required during code adoption.

- Community planning events with a focus on establishing a broad physical vision are valuable in building a consensus around the idea of coding and in establishing momentum.

- A wide range of creative means can be found to involve the public and stakeholder groups during the evolution of the physical design (i.e. masterplan) of coded and non-coded projects.

- The failure to engage all key technical stakeholders (external and internal to organisations) can quickly undermine trust in the work of coding teams and in the code.

- The highways authority is a key technical stakeholder who should be involved from the start of the coding process; indeed early involvement can help to overcome resistance to abandoning out-dated highways standards.
Two types of engagement were being undertaken; engagement with the community and engagement of other stakeholders. Taking the latter first, the involvement of various stakeholders in the code production process varied alongside their different roles and relationships (discussed above). In more than one pilot team, engagement and trust between stakeholders had deteriorated during the coding process, reflecting significant disagreement between stakeholders about the content of the code and the process leading to its adoption.

In Ashford, the development consortium has been disappointed with the slowness of the code writing and adoption process and so are pressing ahead with detailed planning applications for future phases of the development prior to the adoption of the code (not the original intention). In part the problem resulted from the difficulties faced by the consultants in reconciling conflicting views that emerged during the two workshops held to air stakeholder views on the codes. Elsewhere, particularly where codes are less advanced, more positive approaches are being taken, not least to involve stakeholders outside the immediate code production team. In Newcastle, a series of ‘critical friends’ (future project architects and parcel designers) have been involved to give critical feedback on what is being proposed. There, significant public involvement had preceded the production of the code, although with the coding project followed by the decision to prepare an Area Action Plan, stakeholders were concerned that communities were tiring of consultation (‘Walker fatigue’ as they called it was settling in), and the momentum was being lost from the whole project. In Rotherham, stakeholder engagement was concentrated within the local authority where it was considered important to raise skill levels and secure buy-in amongst those who will be involved in delivering the code, once prepared. In Swindon, an Office Project Team was appointed to help co-ordinate the work of different departments within the council, and includes a dedicated officer to manage the council’s work on the Southern Development Area.

Interviewees argued that the engagement of the public with the code preparation process was generally minimal. Indeed a widespread view exists that public consultation on coding is both difficult – because of the technical nature of coding – but also undesirable if public involvement has already occurred during the masterplanning process. An exception was made for statutory consultation processes that might be necessary during any formal adoption processes.

Pilot teams were aware that consultation would be required if plans to adopt codes as SPD were to be carried through. The aim for the majority of pilot teams was to ensure that adequate public engagement had already occurred during the development of the physical vision, for example the Enquiry by Design exercises at Aldershot, Newcastle and Ashford, and that some form of formal public consultation followed the preparation of the code to legitimise it prior to adoption. Exceptions included Cirencester and Rotherham where the least work had been done on masterplanning the sites. In Cirencester, where the code was produced prior to the masterplan, its production was accompanied by a community event in November 2004 at which examples of codes were introduced to the audience, followed by a walkabout in Cirencester and a bus tour of surrounding villages to identify what makes the town and...
Cotswold villages distinctive, and finally an evening session to establish community aspirations for the site. In this case the designers argued that consultation was only undertaken because a masterplan for the site did not yet exist, but also that the event had very little impact on the code that was finally delivered.

5.36 Consultation exercises at Rotherham included a series of workshops that were primarily attended by officers from the local authority, and the distribution of leaflets in the local area requesting views – none were received back. The developer/landowner felt that this was not an effective system of consultation and that the local authority lacked interest in the views of other commercial interests, wishing instead to promote a pre-conceived notion of a small scale, mixed-use development.

5.37 It was widely believed that more active involvement during the coding process would lead to consultation fatigue and in time to public apathy. In Swindon, where consultation processes have continued following the completion of the masterplan, interest has waned. There, the discussion focused on testing the illustrative master plan principles and on defining appropriate character references for the code. Although attendance at these events was disappointing, the council intends to conduct further consultation on the completed codes. In Hastings, the community representative agreed that extensive involvement was probably inappropriate, but argued that the public should be kept informed about the coding process, for example through the already established newsletter. There, the consultation that did take place remained at a strategic level because the code was considered too technical for the general public.

5.38 The extent of public consultation varied considerably within the advanced case studies, a factor explained in part by the different role of the codes in each case study. At one end of the scale, the Hulme code was subject to extensive consultation – stakeholder and community – and all interviewees confirmed that the process was genuinely and intensively inclusive. Here the code was a glossy, non-technical, public document, and the only published output from the design process. In parallel with, and informing the design of the code, detailed designs were being prepared of the social housing with participation from residents to test urban forms and densities. Residents were involved extensively in the initial development framework, masterplan and in the detailed design/testing processes, as well as in discussing the principles that finally made their way into the code.

5.39 At the other extreme, the code at Greenwich Millennium Village was regarded as a private document and therefore – to the regret of some – not available for public scrutiny. There was no public consultation either at Newhall or Fairford Leys, justified on the basis that there was almost no existing community, and in the case of the former because there was very little local opposition to the proposals, and for the latter, because the local authority as part landowners could represent community concerns. In Fairfield Leys, new residents have not been involved in the production of the codes, whilst at Newhall, as the first parcels are completed, new residents will be consulted on future phases. Stakeholders involved in the West Silvertown site faced a similar situation, with almost no established community in the area. Tenants in two tower blocks were balloted and voted for relocation, freeing
land which became the village green. These codes – like most – were more technical in nature, and not immediately accessible to a non-professional audience.

5.40 Typically residents were consulted on physical masterplanning proposals which were seen as tangible and meaningful to residents, but not on the more technical codes. This was the case at Lightmoor where local residents were extensively consulted on the masterplan in the run up to the outline application, with a PR consultant being employed to allay their fears. Moreover, for each reserved matters application, the applicant is required to give a presentation to local people before the application is made. In the case of Upton, the overall form of the project originated at an Enquiry by Design process during the masterplanning stage, whilst a regular newsletter was sent out to the general public at the beginning of the project to inform them of progress. These were later stopped (to the regret of some), and no specific consultation has occurred on the code. At Fairfield Park, local residents were consulted on the masterplan and coding proposals jointly in a series of public meetings at key stages in their development in the run up to the planning application. Subsequently, formal presentations have been used to keep residents informed.

5.41 Extensive technical stakeholder consultation on the codes was a feature of the advanced case studies. In Fairfield Park, for example, the council undertook consultation with the local town and parish councils, drainage authorities, the police authority, neighbouring local authorities, amenity organisations, utilities providers, as well as, indirectly – through the working group – with relevant internal audiences within the local authority itself. Technical consultation with other local authority departments was a feature of many processes, although not always on the codes themselves. In West Silvertown, for example, fortnightly project meetings on the masterplan were attended as and when necessary by the housing and education departments of the local authority, although only the highways department was consulted on the code. At Newhall, the development team approach adopted to deliver the project has involved all key departments in the formulation of the proposals, including the codes.

5.42 The non-code case studies did not face the problem of whether or not to consult on technical coding documents. At Cambourne, an attempt was made to involve local residents and councillors from the outset. Thus representatives of each group sat on the Development and Environment Group of key stakeholders that typically discussed emerging design guidance and the briefing plans, whilst a Concept Office was set up on site where people could view plans and models and a timeline indicating progress. In addition a series of open evenings and presentations to the Cambourne Residents Association have been instigated, and local schools have been involved in the design of the play spaces. Despite the efforts, dissatisfaction exists locally about what is seen as a lack of information and transparency about the development, whilst residents have been vehemently opposed to proposals to increase densities on the remaining development parcels. On the technical side, a number of workshops with key stakeholders, including highways, fed into the masterplan and guidance, but the designers still regret that highways adoption officers were not more fully engaged early in the process.
The developer at Greenhithe faced a concerted anti-development lobby against the proposals, and employed a PR consultant to produce a regular newsletter and hold focus groups and public exhibitions to explain the proposals during the outline planning stage. Ideas expressed at the public exhibitions were fed back into and informed a revised masterplan, and generally local residents seem to be happy with the results. The teams at Port Marine and Newcastle Great Park adopted a similar range of approaches to involve the local community and stakeholder groups – including those internal to the local authorities – in the development of their proposals. In the former case, these included presentations as each character area was developed, the result being prior agreement from most stakeholders before formal applications were made, and overall a very smooth planning process.
DESIGN CODE REFERENCE

What the codes contained: Engagement

All of the pilot codes described in some detail the forms of consultation used during the code preparation process, including design workshops (at Newcastle, a 5-day Enquiry by Design) (fig 5.90 Newcastle Walker Riverside); circulation of newsletters; public presentations; public exhibition of drafts for feedback; meeting with local councillors; and the use of focus groups and community forums. One code stated that full details of public consultation were available on a website, another provided a contact person for details. Swindon noted the public consultation for its code had been acclaimed as ‘best practice’ in a Government report and also used a specialised consultant to manage stakeholder consultation.

The early draft of Cirencester’s code included 18 pages describing the form and outcomes of community involvement in the preparation of its masterplan, including a school youth workshop. This was subsequently reduced to one page in the final code, reflecting the shift from project validation to regulation. Cirencester also included a flow chart showing stages of review and local community input into the process (Fig 5.91 Cirencester).

Four advanced codes described processes of consultation: for three, this merely meant regular internal communication between the core working group and their consultants. The detailed planning and design brief which preceded Newhall’s design code involved “detailed discussions” with highways authorities which “led to greater flexibility in highway standards”, and with Essex County Council officers who had prepared the well known Essex Design Guide.

Guidance for Newcastle Great Park mentioned the need for public consultation. Port Marine showed a flow chart of the development process which indicated consultation and approval phases (fig 5.92 Port Marine). The Cambourne guidance had been developed with numerous district and parish councils and many national government agencies.
**Fig 5.91 Cirencester, community input into the coding process**

**Fig 5.92 Port Marine, timeline of the coding and approvals process**

<table>
<thead>
<tr>
<th>Development Process</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Portishead Quay</strong></td>
<td></td>
</tr>
<tr>
<td>1. Outline Planning applications approved in principle</td>
<td>13 March 1996</td>
</tr>
<tr>
<td>Power station (95/0033)</td>
<td></td>
</tr>
<tr>
<td>East of dockside (94/0348)</td>
<td>16 November 1994</td>
</tr>
<tr>
<td>2. Decision re-affirmed</td>
<td>May 1996</td>
</tr>
<tr>
<td>3. Urban Design Study</td>
<td></td>
</tr>
<tr>
<td>Produced (Llewelyn-Davies)</td>
<td>May 1996</td>
</tr>
<tr>
<td>4. Portishead Quay</td>
<td></td>
</tr>
<tr>
<td>Supplementary Planning Guidance</td>
<td>March 1997</td>
</tr>
<tr>
<td>Draft for consultation</td>
<td></td>
</tr>
<tr>
<td>5. Approved document</td>
<td>June 1997</td>
</tr>
<tr>
<td>6. Detailed masterplans submitted by developers for Power station site, Remainder of dockside</td>
<td>Autumn/Winter 1997 onwards</td>
</tr>
<tr>
<td>7. Detailed application for development submitted and approved for separate parts of Portishead Quay</td>
<td>Spring 1998 onwards</td>
</tr>
<tr>
<td>8. Development commences</td>
<td></td>
</tr>
</tbody>
</table>
Engagement and adoption

Adoption

SUMMARY

- A wide range of approaches have been used successfully to give codes status, including: formal adoption as SPG, adoption for development control purposes, conditioning through the outline planning process, use of development agreements, control of freehold rights, as briefs for design competitions and developer procurement, through submission as reserved matters information, and various combinations of the above.

- If intended as public documents as a material factor in the making and deciding of planning applications, then formal adoption seems valuable to enhance the status of codes.

- Formal recognition of codes for highways purposes is also highly desirable to overcome highways and drainage adoption problems later.

- Pilots wish to adopt codes as SPD or as Area Action Plans to give them greater weight.

- Transitional arrangements are being used during the switch to the new planning process, by adopting codes as Interim Development Control Guidance.

- Some councillors remain concerned that codes could lead to a diminution of their planning powers in what are typically large and locally significant projects. Without a culture change, such attitudes may undermine the potential for codes to be adopted through Local Development Orders (LDOs).

- If conditioning is used as a means to give status to design guidance of all types, careful wording is required to provide the level of flexibility or firmness desired.
Faced with the changed requirements encompassed in the new planning act, there was uncertainty about how codes would be adopted. Predominantly, however, the assumption was that codes would be adopted through the planning process, either as action plans or SPD. In Ashford, the intention is to adopt the code as SPD for both planning and highways purposes. The local planners are concerned that until this happens, they lack the mechanisms with which to attempt to deliver design quality. In Rotherham, initially debate surrounded whether to adopt the code as SPD or to prepare an Action Plan as part of the LDF. However, in the transition to the new LDF system, the authority had been advised not to be over-ambitious, and so had decided to pursue the SPD route. In Cirencester, despite the current position of the code in limbo, the intention remains to adopt it as an annex to the masterplan, which will in turn be adopted as SPD.

Transitional arrangements were being used by some pilots. In Hastings, the code has been adopted as Development Control Guidance, and later it may be formally adopted as SPD. This, it was believed, will enable the code to withstand challenges at appeal, eventually apply to areas outside the primary landowner’s ownership (perhaps in the form of an Area Action Plan), and support any necessary Compulsory Purchase Orders. The process of code adoption turned out not to be straightforward, and required that a number of concessions were made by the landowner. They commented that the Planning Board seemed to be concerned about how the code might affect their authority in the area. Rotherham also plan to adopt as SPD, but have been informed that the priority of the authority should be to adopt the LDF first, and the code later, rather than both in parallel.

Elsewhere, legal agreements are being drafted to give codes appropriate weight in the absence of formal adoption. In Newcastle, formal adoption is not expected until 2006, and legal agreement will be pursued in the interim. In Swindon the code will be approved pursuant to a planning condition, a process during which Highways will be consulted. The code will also form part of the land sales agreements; directly in the case of the council owned lands, and via the formalised Collaboration Agreement in the case of the land over which the developer holds an option. Early feedback suggests that, where considered, Local Development Orders (LDOs) are viewed with suspicion in terms of their ability to deliver quality. Finally, in Aldershot, the original intention was for the code to be submitted with the outline planning application. Instead it is now expected that a condition to the outline permission will require the production of the code prior to the submission of any reserved matters applications.

The advanced coding projects had had longer to consider and act on the pros and cons of the different approaches to adopting their codes, and a range of different approaches were chosen. At one extreme, in Greenwich, the local authority had never formally received the code, reflecting the code’s role as primarily a private decision-making device for English Partnerships. An alternative approach was taken in Upton where the code was adopted as a development control document on top of the safeguards already in place through the landowner development agreements. The code for Hulme had never been adopted formally as SPG but the guide was adopted by the local authority for purposes of development.
control, and therefore has some limited status in development control. At Fairfield Park, the code has been subject to public consultation so could have been adopted as SPG, but instead was simply approved by the Committee as required by the terms of the outline planning permission. Some regret exists amongst the council officers about this. They argue that adoption as SPG would give the document more weight in the case of any appeals, although so far there have been none.

5.48 Other cases had not formally adopted their codes, but found other ways to give them status. At West Silvertown the code was tied to the development agreement and had no planning weight. Indeed interviewees argued that there was no need for formal adoption as the LDDC (the instigators) were both landowners and planning authority, and also co-signatories of the development agreement through which the developer could obtain the freehold only upon compliance with the terms of the agreement. The London Borough of Tower Hamlets nevertheless endorsed the document, thus meeting a condition to the outline consent.

5.49 At Newhall the code documents have not been adopted either, and have legal status only in relation to the sale of the land to parcel developers. For the development of the third parcel, this status was removed, and instead the developers were selected as joint venture partners to build a concept design commissioned by the landowners and developed utilising the code as a brief. By contrast the planning/design brief and masterplan were approved by the local authority under a condition to the outline permission, although the codes themselves are not referred to in any condition. Thus codes are simply submitted as information in support of reserved matters applications. At Lightmoor, although the code is not formally adopted, it can rely on a condition in the outline consent, which states “development shall be in accordance with the design guidance”.

5.50 Problems with the highways adoption process dominated the discussion of problems encountered by the advanced case studies. For example, at Fairford Leys where codes have not been formally adopted, the relationship (or lack of it) with highways adoption officers has led to difficulties. Regular changes of personnel at the county council have left planners feeling frustrated that code compliant schemes do not necessarily gain the support of highways adoption officers despite principles having been previously agreed and incorporated into the codes. More critically, despite the intention of the developers to provide street trees and public art in the public spaces, the highways authority has refused to adopt roads and spaces with such features on the basis of the maintenance liability they represent. Attempts by the code designers to compensate by specifying the inclusion of planting and trees within front gardens is only partially addressing the problem.

5.51 At West Silvertown, despite consultation on the code with the highways authority, the adoption officer did not see a copy of the code, and did not fully consider highways matters until reserved matters applications were submitted. It seems that the code itself was not considered particularly relevant by the highways authority who instead were determined to consider highways issues in the normal manner – after-the-fact. Even when highways adoption issues are considered in advance, it seems that problems can still result. At Newhall, for example, although the highways
proposals were approved in principle by highways officers at the masterplanning stage, when implemented on site they have still raised adoption problems. Some argue that in this case pre-adoption of the codes might have been valuable, if for no other reason than to get a formal agreement prior to implementation.

5.52 The non-coded cases also illustrated a diversity of approaches to adoption. In Newcastle, the original Great Park masterplan was adopted as SPG, and along with UDP policy is linked to the planning permission through the Section 106 agreement. The authority also wish to adopt the subsequent more detailed masterplan, but in the transition from the old to the new planning system have so far been unable to do this. A failure to fully integrate highways adoption standards or to seek variation from them in the guidance seems to be the main adoption difficulty, again revealing the potentially problematic highways adoption machinery.

5.53 At Greenhithe, the framework for development and the character area study are both referred to in a condition to the outline consent as approved documents, but this does not state that all detailed applications should strictly adhere to them. This has allowed the developer to vary elements during the detailed applications process in consultation with the local authority. In this case, highways approvals have been very smooth because of the bespoke standards that have been agreed for the site through what the highways officer referred to as no more than a ‘gentlemen’s agreement’. The approach highlights the vital contribution of personalities and personal relationships to the successful negotiation of regulatory processes.
6 Code delivery

Beyond the processes of designing the design code itself (and related instruments) will be the processes of delivering actual development on the ground through design, development, development control and other formal regulatory processes. These delivery processes are likely to be intimately tied to, and dependent for their success upon, the processes of code preparation, adoption and engagement that came before.
Design and Development

SUMMARY

- One benefit of coding has been the ability to challenge the status quo of housebuilding, from concept design through to procurement and construction.

- Codes help set quality aspirations that not all designers and developers are able to meet, and in doing so weed out such players early in the process.

- They help to establish a level playing field for developers when tendering for projects, enabling an efficient tendering process based on clear quality benchmarks.

- Codes can be used as an important feed into the design and development procurement process, as part of the parcel briefing process or as the basis for limited design competitions.

- They can provide a means to assess potential parcel design/development teams and their proposals.

- A pre-selection process prior to full tendering may help to cut down the significant resources developers are required to invest in preparing code-compliant bids.

- Implementation of any design guidance can be all too easily undermined if processes are not in place to consistently focus on delivering high quality outcomes.
6.1 At the conclusion of the monitoring and evaluation, few of the pilot codes were in a position to use the codes to inform scheme design and/or development processes. Nevertheless, in Ashford the consortium believed that the process of developing the code had an early and beneficial impact on the design procurement process by identifying that new parcel designers were needed. Moreover, although in draft form, the code was used as a detailed brief for the new parcel designers to work to, for example, setting the parameters for the high street and the residential blocks and character areas. It has also been used to demonstrate the quality expected by developers who are contributing the non-residential components of the scheme and who are outside of the consortium. Workshops have been run with these stakeholders, including the primary Care Trust, and the draft design code has provided the basis for discussion. Finally the code is already being used as the basis for a series of parcel briefs which are being prepared for later phases of the scheme that the consortium intend to sell off to other developers.

6.2 In Hastings, only one developer finally came forward to be part of the joint venture agreement, but all parties were happy that the code had ensured that the aspirations of that developer were suitably high. Those involved argue that the code gave greater certainty to developers who were considering involvement about what was required, and in doing so enabled developers to target their proposals more efficiently. In Newcastle, the main developers were on board from the start, but they were nevertheless supportive of codes, believing that they help to level the playing field for all those who tender for sites.

6.3 The transition from design code preparation to the actual development design on the basis of the code was particularly smooth at West Silvertown, largely because in this case the code designer became the development designer. This sped up the process and led to a greater certainty with regard to outcomes and to savings on design consultants. The experience is the exception rather than the norm. At Lightmoor, for example, where it took a year to work up phasing proposals for reserved matters applications, the design costs were substantially higher than one of the parcel developers would normally expect for a scheme with outline consent and an existing design guide.

6.4 Codes sometimes had other unexpected impacts in the journey from paper to project. Whilst much of the content of the Hulme code, for example, is very general, other aspects are very specific and not always consistent. Thus while one part of the code requires level access for dwellings at ground floor level to facilitate less mobile users, another part required raised ground floors to enhance overlooking and passive surveillance of the street. Another conflict resulted in the requirement for clearly defined and unbroken building lines, leading to the loss of mature street trees from the site. Finally, the requirement to articulate street corners with landmark buildings, not only presented design challenges, but arguably reduced legibility as all street corners were emphasised to the same degree. These potential glitches only materialised as the code was used in practice and as the development was gradually built out. One result has been that known problems have been interpreted in an increasingly flexible
manner as the project started, illustrating the need to carry on learning as a result of design practice throughout the delivery phase.

6.5 Similar issues were faced at Fairfield Park, where departures from the code have been required to modify some of the building footprints defined in the code matrix, which no longer worked after elevations had been designed. At Greenwich also, environmental performance targets have sometimes come into conflict with the masterplan, requiring modifications to the configuration of the latter. Typically this has required discussions between parcel designers and the masterplanner to ensure that the original masterplan philosophy is not compromised. The parcel architects believe it depends on choosing parcel designers and developers who are sympathetic to the masterplan and code agendas, and also having an open dialogue which does not preclude the potential for variations.

6.6 The same applies at Fairford Leys where developers were only invited to join the consortium if they were willing to embrace the vision and spirit of the codes. Parcel architects have in turn had to produce schemes that are both code compliant, and which satisfy the marketing requirements of their clients, the housebuilders. The process inevitably meant that the sales and marketing teams were forced to depart from their conventional wisdom, for example by providing features which they felt their customers would not appreciate. One housebuilder reported a perception amongst his buyers that handmade bricks looked like cheap ‘bent’ rejects, whilst admitting that the overall effect was one of quality and coherence.

6.7 In case studies such as West Silvertown, the developer was already in place when the code was prepared, and the code had no bearing on that selection; a feature of the Greenwich case also. Elsewhere, the codes had a significant impact. At Lightmoor, for example, a design evaluation matrix derived from the code was produced for each development parcel. This matrix was central to the selection process and operated as follows:

- Tenders were opened to developers, with a development brief that included the design matrix.

6.8 Those involved on the code design/landowner side believe the process had a beneficial effect in raising the standard of design, although the process was time consuming largely because developers were unfamiliar with the design code concept. For their part, parcel developers argued that the financial outlay during the tender process was much more than for other projects, and the process might be improved by short-listing prospective teams earlier in the process, rather than requiring detailed tenders from up to ten developers.
teams. The local authority was also unhappy that they had been left out of the process.

6.9 At Upton, the code has been used as an essential part of the procurement process, not least as a basis for discussions between different sides of the process. The codes are used as part of prospective developers’ information packs and incoming proposals are assessed against them, with proposals weighted 70% on design and 30% on financial offer, emphasising the importance of the codes if developers hope to win the bids process. The process itself has been refined over time in the light of experience, and despite developer concerns, English Partnerships and the local authority are happy with the results. However, one parcel developer involved during the first phase was so concerned about the length of the developer selection process and the large upfront costs it involves that they decided not to bid for subsequent phases. Nevertheless the two-stage process adopted at Upton had forced this developer to employ a respected architect in order to win their parcel bid. In that respect, they believed, it had helped to raise the standard of design.

6.10 At Newhall a range of procurement processes have been attempted in order to deliver better quality. The first and second parcels used conventional design/offer and conditional sale of land processes leading to the selection of a developer/architect combination, with the code being used as part of the developer briefing package. The third parcel utilised the design code as the brief for a landowner commissioned limited competition, with the resulting design being used to select a developer. The landowner then entered into a joint venture with the selected private developer. The result has been a very tight control on the resulting design, producing a design which the developers believe is unnecessarily complex and designed without due regard to ‘buildability’. The developer concluded that competitions of this nature invariably produce expensive design solutions because they over-emphasise the ‘wow’ factor and underestimate other factors.

6.11 Volume housebuilders have been removed from the process altogether in the fourth phase of the development as they have been unable to deliver the quality that the landowner aspires to. Instead, the fourth parcel is to be directly commissioned. The process has increasingly emphasised design, and has moved further and further from conventional procurement processes. Respondents felt that the design codes had had a beneficial impact on the procurement process, but observed that the same code had produced very different outcomes in design quality terms (parcels one and two), whilst the increasing emphasis on design during procurement delivered very different and increasingly successful design solutions.

6.12 Stakeholders at West Silvertown argued that the creation of design codes made little difference to their approach to procuring the development, but did have the effect of focusing attention on design right down to the design details. The result was the employment of specialist suppliers and quality materials that would not normally have been used by a volume housebuilder, whilst contractors had to pay more attention to the details and finishes. A number of stakeholders across the different coding projects reported that one benefit of coding has been their ability to challenge the status quo of housebuilding from concept design through to construction.
6.13 The experience of the non-code guidance in use had revealed similar experiences, generally a feeling that the guidance had helped to raise quality, but also that compromises and inconsistencies were a factor that needed to be dealt with. At Cambourne, for example, design consultants felt that some issues should have been considered in more detail from the beginning, including phasing, spoil, drainage and refuse storage issues. Compromises were required for market and other factors, for example in the commercial centre, which largely consists of a supermarket rather than housing a range of shops, pubs and a hotel. For their part the county council resisted the idea that it had to build schools and a library in a non-contemporary style, eventually agreeing on a middle way. Moreover the landscape requirements of the code were directly undermined by the requirements of the SUDS exemplar project that had been planned for the site. All this required a degree of flexibility to resolve the conflicts.

6.14 Elsewhere, at Greenhithe, flexibility has been part of the problem. In general the aspirations of the developer and designer to build a high quality landmark scheme have been well received, and have been assisted by the retention of the same developer/designer throughout the development with the exception of half of one parcel. On the face of it, these high aspirations and the consistent application of the undoubted skills of the architects would seem to be more significant than the exact nature and content of the guidance itself. However, for the parcel that was sold off, the content of the guidance has been watered down, with a lower quality development being built. The local authority is considering taking enforcement action.

6.15 At Newcastle Great Park, the early phases were disappointing, again because the original guidance allowed too much flexibility, resulting in a lack of a coherent high standard of design. Faced with a potential ‘call in’ of the outline application which did not comply with the emerging PPG3, the developer opted to bring in masterplanners and architects to advise him, and as such has raised the standard above volume housebuilder norms; with better results expected in future phases. Some concern also existed with regard to Port Marine that parcel developers had been allowed to misinterpret the guidance for their own parcels, thus undermining the overall quality of the development. The combined lessons from the non-code studies seems to be that despite the quality of the masterplan or other design guidance, its implementation can be all too easily undermined if processes are not in place that focus on delivering a consistent interpretation and quality outcomes.
Assessment and Regulation

SUMMARY

- Assessment of coded schemes can be successfully undertaken by either the local planning authority, landowner/funder/master developer, code designer or other design advisor.

- Bringing all key regulatory, funding and landowner/master developer stakeholders together to make assessments of parcel proposals has the benefit of ensuring that one co-ordinated set of comments, from one point of contact, is produced.

- Where separate processes of assessment are undertaken, parcel developers can sometimes feel trapped in the middle.

- The involvement of code designers in the assessment process can help to ensure consistency in assessment, overcomes potential skills and knowledge gaps between code designers and code controllers, and allows some on-going adaptation in the interpretation of the code as circumstances require.

- The process of landowner teams and/or their representatives assessing the compliance of parcel designs with codes prior to formal planning applications has been very effective.

- Checklists, statements of compliance, and appropriate training can help development controllers to assess compliance.

- Codes are perceived as robust tools for controlling design that are difficult to challenge at appeal.

- Any design guidance that allows too much interpretation can lead to conflicts that need to be resolved through time-consuming negotiations.
Some pilots had begun to think about how they would assess and regulate proposals against the codes, and all envisaged a significant role for the local authority in this. In Aldershot, for example, following adoption of the code by the council, the intention was to use it to assess reserved matters applications. In Newcastle, the intention is that input would be sought by planning officers from all the constituent parts of the local authority, before planning applications are determined. They were aware that councillors would need to be trained to understand the use and purpose of the code, but felt that one of the advantages of preparing the code in-house had been that a broad team were already familiar with its content. In Rotherham, officers involved in preparing the code were concerned that those who would need to use it to assess applications for compliance lacked the necessary knowledge. To help them, a checklist was being devised for use by development control officers to aid assessment and regulation.

Only Ashford and Hastings had actually begun using their codes. In Ashford, in its draft format, the code had been used for determining a reserved matters application for Phase 1b of the development. In this case the authority not only checks applications against the draft code themselves as an integral part of the planning approvals process, but also request a statement of compliance from the developer concerned. They are nevertheless happy to engage in discussions with developers to vary the code as long as reasoned and sound justifications are made. Their view is that the code remains guidance, and is open to interpretation and negotiation if and when required. Highways and drainage approvals will happen as a separate process and after planning permission has been granted, although officers believe that ideally these processes should be combined.

In Hastings, concerns existed about the ability of the local authority to use the code during the statutory planning process, and in fact the main developer had not yet submitted any applications. However a third party had submitted an application in the code area for a site not owned by Sea Space who, as the primary landowner, used the code to make representations on the application to the local authority. At the time of the interviews, it was understood that the local authority was planning to reject the application on the grounds of non-compliance with the code.

The extent to which the presence of the code might allow decisions to be delegated to officers for the 10 years it will take to build out the Swindon project was a matter of discussion. There, the local authority intend to require that developers comply with the code through their role as land owners, and expect a code checking process to be established prior to reserved matters being considered.

The advanced coding projects revealed a number of different relationships between the code and the statutory approvals process. At West Silvertown, the process of assessment was generally straightforward, facilitated by the clarity of the code, with only very minor discrepancies reported around such matters as bin carrying distances and window details. For their part the developer referred to the code in every reserved matters application. There, the process of assessment changed following the winding up of the LDDC which had not shown great interest in the code as part of the statutory approvals process. Subsequently, when planning powers returned to Newham, the authority
checked every reserved matters application against the code. Thus the process of assessing compliance and obtaining statutory planning approvals became fully integrated.

6.21 This contrasts with the situation at Greenwich. There the developer consortium submit a detailed package of information to English Partnerships for each phase of development, following review by their masterplanning consultants and completion of a statement of compliance which establishes that the proposals comply with the original masterplan. On receipt, English Partnerships assesses the proposed design against the code and consult their own design mentor in the process. These processes are entirely distinct and separate from the planning and highways approvals processes.

6.22 At Upton, reserved matters applications are assessed against compliance with the codes by the Working group that includes representatives from the local planning authority, English Partnerships, the highways authority, and the Prince’s Foundation; the latter in the role of design advisor. The process has the advantage of bringing all key stakeholders together in one place, and ensuring that the developer receives one co-ordinated set of comments, from one point of contact. Thus although further details are required for English Partnerships internal sign-off, the process ensures that when proposals come forward for reserved matters approval, the development control process is simply administrative, with key decisions already made, and a preliminary assessment made against the County’s Estates Road Construction Details. The whole process is time consuming and resource hungry for those on the control side, but has the advantage for developers of effectively creating a one-stop-shop for approvals. Moreover, as developers are becoming more familiar with the codes and know what is expected of them, fewer inconsistencies are arising.

6.23 Neither the code nor masterplan have any planning status at Fairford Leys, and planners at the local authority are content to rely on the prior approval of schemes by the landowners before they are submitted for planning approval as a means to ensure compliance and quality. Schemes that are not code compliant do not get past the code designer as the landowner’s design quality custodian, and therefore fail under the terms of the land sales agreement. This central involvement of the consultant designer in the assessment process helps to overcome the skills shortages in the local authority, ensures consistency in assessment, overcomes problems of staff changes at the local authority, and allows some on-going adaptation (or at least interpretation) of the code over time as circumstances require.

6.24 In Hulme and Fairfield Park the public sector has taken a far more proactive role in assessing proposals. At Hulme the relative flexibility of the code means that its requirements have been interpreted with a greater degree of variation than the other codes, both by users and approving bodies. Thus the way adherence was sought varied from case to case in light of the practical problems encountered, with inconsistencies and deviations resolved on a case by case basis. Because the City had wide ranging powers, as landowner, grant distributor, and as planning and highway authority, they effectively had tremendous discretion in how the guide was interpreted. A dedicated sub-committee was set up under the Chairmanship of the Leader of the Council to give approvals, something that was instrumental in speeding up the
process (if applications were code compliant, or when inconsistencies had been resolved to the satisfaction of key stakeholders). Those involved argue that technical inconsistencies seem to have been resolved as much by political will as by negotiation between professional stakeholders.

6.25 The codes at Fairfield Park are used at both pre-application stage and to assess reserved matters applications, with developers submitting a statement of how their proposals comply with applications. So far the local authority has resisted variations, and to date no developer has challenged the codes, instead opting to withdraw and re-submit revised proposals. The process of assessment is simply viewed as part of the statutory planning process, but one that has required a lesser involvement from Councillors who have been happy for delegated powers to be used in determining reserved matters.

6.26 Those involved at Lightmoor feel that the local authority could have been better integrated into the process of using the code. At the reserved matters stage, the code is used by the local authority to check applications for compliance with the masterplan and code, but during the first phase a number of inconsistencies still needed to be ironed out. Those involved put this down to the lack of involvement of the local authority in the early stages of each parcel’s development, in either pre-application discussions or through the tender process.

6.27 By contrast, the process of assessing the compliance of planning applications to codes by landowner teams prior to formal submission has worked well where used in the case studies. In Newhall, submissions are refined until the team are happy that they can be submitted for formal approvals, the local authority then use the code submitted with each reserved matters application to assess compliance themselves. The process relies heavily on the expertise of the code designers who are retained by the landowner. Worries exists, however, that such processes may be vulnerable to landowners relinquishing control by selling schemes on, leading to an absence of a robust assessment, and eventually to a lack of enforcement and quality.

6.28 With regard to the involvement of highways authorities, cases such as Upton and Hulme where highways considerations are considered using a development team approach seem to have been particularly successful. Elsewhere problems have frequently arisen. At West Silvertown, national highways standards were simply incorporated into the code, and the process of assessment followed the normal statutory process. At Lightmoor, however, the design code did not initially reflect the level of detail required for highways and drainage matters. The omission led to disagreement during the assessment of Phase One, where the highways authority were felt to require different standards to those already agreed in the code. Consultants were subsequently employed to write a specific Public Realm Design Code specifying these matters in greater detail. The highways authority now uses the document to assess all reserved matters applications. A similar experience at Fairfield Park has meant that the highways authority has challenged some of the proposed materials for adoption despite being involved in preparing the code.

6.29 Amongst the non-code authorities, Port Marine had adopted the most integrated approach to assessment and approvals. There the extent of internal and external
consultation led to a remarkable degree of agreement and a very smooth planning process, with just two applications being referred to committee. In general the masterplan was regarded as mandatory, but not to the extent that improvements could not be suggested as part of reserved matters applications. Applications are considered by three officers – one development controller, one urban designer and one from the highways authority. Following agreement of all key principles at the pre-application stage, so far they have gone through the process smoothly.

6.30 This contrasted with practice at Cambourne, where, as well as forming the basis of the briefing plans, the masterplan and guide are referred to in the development control process with committee reports listing issues of non-compliance. Some concern was expressed, however, that the process was often inconsistent, and non-compliant schemes have been approved that undermine the quality of the streetscape. Quite separately each proposal needs to be agreed by the consortium before they get submitted for planning approval. Unfortunately sometimes this process conflicts with decisions taken during pre-application discussions with the local authority, leading to a more lengthy process and to developer frustration.

6.31 The local authority at Greenhithe argues that the guidance should be mandatory, but in practice it is flexibly written and less prescriptive than a design code. Moreover, its lack of formal adoption means that on occasions it is seen as advisory rather than compulsory. The local authority use the guidance during pre-application discussions prior to each reserved matters application, and have had no difficulties with the main developer, leading to the efficient processing of applications when they arise. However, in the case of the single parcel that has been sold off, the process has not been so smooth, and here the authority would have welcomed the extra certainty that a code might have provided.

6.32 Newcastle demonstrated a more extreme case of too much flexibility. The city uses the guidance to assess proposals, as does the developer, but unfortunately, because of the rather disjointed range of guidance, extensive negotiations are still required on every application. Moreover, development control still place more emphasis on the general policies in their UDP and on city-wide SPG, and tend to refer to the Great Park guidance only in cases of disputes. Highways and drainage adoptions are also considered on their merits, because none of the guidance includes enough detail for adoption purposes. The lesson seems to be that guidance that allows too much interpretation can lead to conflicts that need to be resolved through time consuming negotiations. The flexibility of the guidance at Newcastle Great Park seems to limit its use as an effective assessment tool, a problem multiplied where design skills are lacking within development control that could otherwise help to fill the gap.
As projects are built out, codes are likely to retain an important role in delivery processes through managing the delivery of high quality design during construction, and thereafter helping to maintain it. These roles represent a natural continuation of the procurement and regulatory processes, and encompass monitoring and enforcement and evaluation and aftercare.
Monitor and enforce

SUMMARY

- The advanced codes were in the main monitored by landowners and their consultant teams, with enforcement via development/land sale agreements, a mechanism that has proved very effective at ensuring compliance.

- It seems that local authorities will be primarily responsible for monitoring and enforcing compliance in the future through normal planning and highways processes.

- However, the non-code case studies tended to rely on local authority monitoring and enforcement, with less overall success.

- Enforcement is considered difficult and time-consuming, and unless problems are identified during construction and before the sale of a dwelling, then it is unlikely that a breach will be enforced.

- Codes will be fatally undermined if enforcement is weak, yet the complexity of many codes suggests that they will be difficult to enforce without retaining the original code designers.

- One option is for developers to fund a compliance officer within the local authority.

- For the public realm, the sanction held by highway’s authorities to refuse to adopt street works is extremely effective at ensuring compliance.

- The presence of codes have generally helped to ensure that breaches are kept to a minimum, although training and additional resources will be required to ensure compliance.

- Legal means to ensure compliance are being explored by some pilots, including development agreements, land covenants, and Section 106 agreements.

- Some argue that that negotiation should be possible if alternative schemes promise benefits over and above those offered by the code.
7.1 In the majority of pilots, the view was clearly expressed that local authority partners would be primarily responsible for monitoring compliance with the codes as projects were built out. Some also expressed the hope that development consortia would monitor their own compliance and that of their consultants.

7.2 In Aldershot, the landowner (Defence Estates) was clear that monitoring the delivery of the code on the ground and enforcing non-compliance would be entirely the local authority's responsibility. They conceded, however, that the code would play a part in selecting developer bids for parcels although it would not form part of the land sales agreements. In Ashford, the original phase of the project had failed in design quality terms in part because of the local authority's own failure to enforce the drawings they had approved. A dedicated officer will now be allocated to monitor the compliance of applications with the codes, with other officers charged with monitoring the discharge of conditions and compliance on site. To make this process more straightforward, in Rotherham, a tick-box approach to compliance is being considered, with elements coded in a manner that facilitates their monitoring. There, as elsewhere, an acceptance was apparent that training and additional resources would be required to ensure the effective monitoring of proposals. To overcome this in Swindon, the code designer may be retained to ensure compliance with the code, although this is yet to be confirmed. In this case, the complexity of the code, its inflexibility and lack of resources in the local authority conspire to make such an approach a necessity if the code is to be delivered. As yet, however, no decision has been made.

7.3 Enforcement was also envisaged to be a local authority function, operating through normal processes of planning and highways adoption. However, lack of resources, for example in Newcastle, may dictate a minimal enforcement function, except where formal complaints are received. There, stakeholders also felt that considerable flexibility was likely to be used in interpreting the code, not least because the level of prescription has fallen in successive drafts. Thus, as with the Great Park site, councillors are likely to be open to alternative solutions that promise greater speed and efficiency, or which improve on those contained within the code. In Cirencester a particular concern was voiced that future alterations may gradually undermine the code's principles and should be controlled. This concern is yet to be fully considered.

7.4 Beyond normal planning processes, legal means were being considered to facilitate monitoring and enforcement efforts. In Hastings, English Partnerships and their landowner partner will be part of a joint venture with a developer and will seek to control through the development agreement. The legal agreement between development partners in Newcastle could be used in a similar manner, both when assessing applications, and during delivery to ensure compliance. In Swindon, a preference exists for the code to fit in to a legal framework in order that it is seen to be robust enough to accompany land sales and withstand third party challenge, and be measurable and enforceable. Even there, however, those involved feel that the code is open to negotiation. Other processes being explored included land covenants, and Section 106 agreements.
In contrast to the pilots, the advanced codes were in the main monitored by landowners and their consultant teams, with enforcement via development/land sale agreements. At Fairford Leys, for example, the code and masterplan provided the basis for a legal agreement between the landowner and housebuilders to ensure quality, the view being that through its precise expression the code is both measurable and enforceable as part of the development agreement, something that also helps to increase certainty. There are no plans to alter these arrangements which have been highly effective at delivering compliance, with stakeholders arguing that enforcement via planning powers would inevitably be weaker. In this case the code designer has been retained to make weekly site inspections and identify inconsistencies as they arise in order that they can be efficiently rectified. In fact very few breaches have been recorded, but the ultimate sanction remains in place that the landowner can withhold the transfer of the title deed in the event of a major breach. So far the local authority have played no role in enforcement.

Lightmoor, Newhall and Upton illustrate variations on this theme. In Lightmoor, the code is used by the consortia to monitor the final completed schemes of parcel developers before signing over the freehold to the developer. In the interim, developers are granted a licence to complete the development. Stakeholders stress that withholding the freehold would be a last resort, but is nevertheless a powerful incentive to comply. For their part, the local authority have no dedicated system for monitoring compliance. At Newhall, the landowner’s team also monitor and enforce compliance with the code. They accept however that enforcement is difficult and time-consuming, and unless problems are identified during construction and before the sale of a dwelling, then it is unlikely that a breach will be enforced. At Upton, a site inspector ensures compliance on behalf of English Partnerships, whilst the highways adoption officer ensures the public realm is constructed as required. So far this has worked well, and no cases of non-compliance have occurred. A final sanction is held by English Partnerships in their ability to retain freehold until compliance has been certified. This process is phased on the basis of careful monitoring, with freeholds transferred 5-10 units at a time.

The other case studies relied on the public sector to monitor and enforce delivery. At West Silvertown, following the demise of the LDDC, enforcement powers have reverted to the local authority, but no instances of non-compliance ever arose and the codes are now no longer in use. This may have much to do with the retention of the same architect to design the code and complete the detailed design of all phases of the development. Monitoring and compliance at Hulme has been undertaken primarily by the regeneration company acting as the gatekeepers of the code. This system ensured that there were very few breaches of what had been formally approved, not least because the flexibility of the code and the way it was implemented allowed variations to be negotiated in advance. The use of the code has been waning in recent years, although it is still used in development control negotiations, and to date neither the code nor any decisions stemming from its use have been challenged on appeal. At Fairfield Park there have been no breaches of the code – so far – with differences of opinion dealt with through negotiation, and the local authority taking an active role in attempting to resist departures
from it. In the event of a breach, the normal local authority enforcement processes will apply.

7.8 In each case, the presence of the code has helped to ensure that breaches are kept to a minimum, if they occur at all, and although the codes monitored by the public sector have tended to be implemented with a greater degree of flexibility, the lack of any enforcement (or the need for any) was a characteristic of the coded schemes.

7.9 The non-code case studies tended to rely on local authority monitoring and enforcement, although with less overall success. At Greenhithe, for example, the local authority is ultimately responsible for monitoring and enforcement, and is currently contemplating enforcement action on the one parcel that was sold off by the main developer. For their part, the main developer carefully checks every reserved matters application from their consultants to ensure compliance, and so far – with the exception of minor highways matters – no enforcement has been required. Currently the planning department lacks resources for adequate monitoring and they tend to rely on officers from the highways authority to feed back issues to the planning department. The lack of resources in the public sector for these activities seemed to be the norm. In the case of Port Marine, for example, the local authority is responsible for determining non-compliance in the normal manner, and afterwards for enforcement, but they admit that their staffing situation means that this work will be limited. The local authority now regret not negotiating with the developer to fund a compliance officer.

7.10 At Newcastle Great Park, one parcel was handed to another housebuilder, but the original developer has retained quality control. Final monitoring and enforcement is the responsibility of the local authority, although no special processes are in place to ensure this happens. Interviewees argue that in practice the guidance is unlikely to prove effective as an enforcement tool as it is not sufficiently clear, although so far non-compliance has been raised informally at the joint developer/City weekly meetings, and has been resolved through negotiation.
DESIGN CODE REFERENCE

What the codes contained: Monitor and Enforce

Six of the pilot cases stated that their code would be applied through the usual local authority development control processes (fig 7.1 Rotherham). Only Swindon made no explicit mention of this, although the same approach was implied. In addition, at Aldershot, like Upton, land ownership enabled developer selection on the basis of conformity with the code, and this was explicit in the code. This was also the case at Newcastle, where compliance was also a prerequisite for Housing Market renewal funding (the only financial incentive mentioned in any pilot codes). To assist in monitoring compliance, Swindon required designers to complete a detailed compliance checklist (fig 7.2 Swindon) and submit a design statement. Cirencester’s draft code had provided very detailed recommendations on the appointment of a Town Architect to interpret and enforce compliance with the code, including sections on items to be submitted by applicants, and grounds for permitting variances and amending the code itself. All this was removed from the final version of the code.
Fig 7.2 Swindon, conformance checklist for developers

<table>
<thead>
<tr>
<th>Category</th>
<th>Item</th>
<th>Self-Conformance with Code</th>
<th>Code Required / Not Self-Conformance with Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. General Arrangements are included in this submission</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01</td>
<td>Plans</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>02</td>
<td>Building Line Plan is overlaid on Plan sheet</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>03</td>
<td>Plan cannot be Building Line Plan requirement</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>04</td>
<td>Proposal includes Landmarks &amp; Measurements as per Design Code provisions</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>05</td>
<td>Landmarks and all public spaces, etc. (including street furniture, etc.)</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

Note: If application is for more than 4 blocks, please repeat this first page as necessary to address all blocks.
Three of the advanced codes also omitted discussion of implementation. In Lightmoor, for example, both developer and landowner aspired to pass on their aspirations to parcel developers, but the mechanics of this was not specified in the text of the code. Upton’s code included a flow chart which suggested the code would feed into the processes of planning permission and developer selection (fig 7.3 Upton): the landowner was to make sites available to preferred bidders on the basis of their compliance with the code. At Greenwich, “The Design Code forms part of the Variation Agreement between the landlord and the developer to inform and direct the developer”. At West Silvertown, normal planning enforcement was identified as the means to ensure compliance, a model that Fairfield Park followed. Hulme stated that the City would not adopt “ill-defined” open spaces or those “without a function”. This provided a clear incentive for developers to comply with this specific design guideline, despite the code itself being largely advisory.

None of the four non-code cases mentioned monitoring procedures, but only one made no mention of enforcement. Two of the others presumed normal approaches to planning enforcement. Newcastle Great Park made passing mention to the possibility of using restrictive covenants, but only in relation to ensuring the adaptability of off-street parking for use as garden space.
Evaluation and aftercare

SUMMARY

- Codes tend to evolve throughout their use, being either formally or informally evaluated and revised.

- Codes require flexibility from code designers and regulators, both in how they interpret codes where conflicts become apparent, and in a willingness to update them in the light of early experience of their use.

- Code principles should not be seen as set in stone, but, particularly on large long-term sites, capable – through due process – of informed review.

- Code supplements can avoid the need for complete review.

- The potential for codes to manage developments following their completion is not being systematically considered.

- Codes can have a role in the long-term management of developments, but this requires an appropriate process i.e. through planning, local management companies, restrictions placed on inhabitants at the point of sale, or the provision of a post-completion design guide based on the code.
7.11 The questions of evaluation and aftercare had not been considered by most of the pilot teams. In Newcastle, those involved with the code feel that it will have an on-going role in the management of the development following its completion through the auspices of a likely management trust or company, and through the local authority utilising it internally for the long-term design and management of the public realm. Only the Swindon team had explicitly built provision for evaluation and review into the masterplan and code, with the first review planned for one year after its implementation. At that stage it is planned that any changes to the masterplan will be formalised.

7.12 By contrast, only a minority of the advanced codes (West Silvertown and Fairfield Park) had not been reviewed at all since their original creation. Elsewhere, codes had tended to evolve in use, and had been either formally or informally revised. In the case of Lightmoor, although no formal mechanism exists to review the code, it has evolved with use, including recently with the addition of the Public Realm Design Guide in order to better address highways adoption concerns. The content of the Fairford Leys code has also evolved over time and a second generation of documents is in the process of being produced, reflecting new policy and market circumstances.

7.13 The changing national policy context seemed to be a major motivating factor for reviewing codes. A review of the Greenwich code is planned, for example, in order to raise densities in the later phases of the development. At Newhall, the changing procurement practices discussed above have led to changing roles for the code, and also to its gradual evolution to reflect the changing circumstances. However, Upton reflected perhaps the most systematic review process, undertaken in order to correct areas where outcomes have been problematic. Thus in the second addition, more detail was added on a range of design issues including on the design of courtyards. The experiences suggest that codes need not be fixed in stone and that although potentially time-consuming (as was the case in Upton), codes can and perhaps should be reviewed to reflect changing contexts and lessons in use.

7.14 The role of codes in the ongoing management and aftercare of the projects they inspired was patchy. In some, the code has had no role in ongoing management, with no mechanisms in place to check future changes against the code. West Silvertown and Fairfield Park fall into this category. In the former, other mechanisms are used, with restrictions built into leases of occupiers (i.e. no satellite dishes or sheds), whilst owners have been provided with information regarding rebuilding and replacing materials to match existing. The West Silvertown Community Foundation has also been set up to look after the common areas such as the village green, playground and dock walkways.

7.15 Elsewhere the code is being used in management. In Hulme, for example, the role of the regeneration company has been taken over by a Hulme Manager based in the Chief Executive’s Regeneration Team with responsibility for monitoring compliance with the code as well as for environmental management more generally. This has ensured a successful transition of responsibility. At Upton a management company has now been set up with responsibility for the open spaces and SUDS. It is also expected that this company will have a role to safeguard
the code over the long-term. A different approach is being taken at Lightmoor, with a separate post completion design guide being prepared. This will use principles from the design code as well as removing certain permitted development rights (i.e. conservatories and paving front gardens). Until it is in use, the existing code is being used for management purposes. The experiences demonstrate that although codes can and do have a role in long-term management, that role will also need a system putting in place to deliver it over the long-term. Alternatively, the principles in codes need interpreting in a manner that can be used for on-going management as opposed to development purposes.

7.16 A management/after care role had not been built into the design guidance of the non-code case studies, although, with the exception of Port Marine – which was regarded as flexible enough to accommodate change – all had been subject to on-going review. At Cambourne the consortium holds an aspiration to raise density levels following national guidance given in PPG3. As a result the developer has submitted a revised outline application and masterplan which has been rejected by the local authority and is now the subject of appeal. The masterplan and guidance have been informally updated through the development control process and phasing briefs, but some stakeholders believe a formal review is overdue in order to address market changes.

7.17 The Greenhithe design guidance has been able to evolve over time, for example introducing higher densities reflecting changes to the wider policy context. Planners believe, however, that this process has been rather ad hoc and that specific timeframes should have been built into the process from the start to review the guidance. At Newcastle, the guidance has also been continually updated, often in a confusing manner with the addition of new layers of information, whilst the previous guidance still remains in force. The masterplan will be formally revised in the near future. The combined experiences suggest that on large long-term sites, regular review is required, unless guidance is flexible enough to accommodate change in the first place. In the case of relatively in-flexible design codes, this would seem to be a necessity.
8 Sustainable outcomes

Sustainable outcomes represent what the various inputs and processes are attempting to deliver. Outcomes can be understood in terms of speed, quality, certainty, co-ordination (of stakeholders), inclusion (of the community), and value (economic). The extent to which they are achieved is likely to determine whether coding as an approach is sustainable, or not. The last three of these have already been dealt with above (see discussion of roles & relationships, engagement, and resources). The first three are dealt with here.
**Speed of delivery**

**SUMMARY**

- The speed of initial code production depends on the range of stakeholders involved and their working relationships, and on the extent of existing design work (i.e. whether a masterplan is already in place).

- Given the right circumstances, incentives and information, draft codes can be prepared in as little as two or three months, however, their refinement, agreement, and adoption can take much longer – up to two years.

- Formal development control processes do not take longer for coded schemes, however, the periods running up to the outline planning consent and subsequent (first) reserved matters application are typically very time consuming.

- This is regarded by many stakeholders as nothing out of the ordinary, as all large sites today require detailed design guidance of one form or another, and the pursuit of better design, and securing consensus over detailed design – however achieved – takes time.

- Large-scale developments such as those for which codes are typically prepared, are complex and their progress is dependent on a wide range of factors beyond the influence of the code. Indeed the choice of coding per se has little bearing on the length of the development or consents processes.

- A wide range of bottlenecks occur at critical junctures, many tied to the failure to develop a convincing partnership approach or a strong vision from the start; these can quickly undermine the commitment to coding.

- Possible streamlining processes include: professional project management, dedicated local authority personnel, multidisciplinary (inclusive) project teams, project champions, contracting out code preparation, fora for key decision-makers, and the use of delegated powers.

- Most important is the need to involve high quality parcel designers to creatively interpret codes and produce designs which accord with them without the need for significant time consuming negotiations.

- Over time, the process of applying for and obtaining reserved matters consents becomes more efficient, it is also expected that increased familiarity of teams with coding will increasingly streamline their preparation.

- Other forms of design guidance showed similar costs and benefits, with significant up-front investment, offset by increasingly efficient processing of phases as developments commence.
8.1 The question of coding speed is characterised by two experiences. First, that for some of the pilots, driven on by the pilot programme deadlines, coding (at least up to a first draft form) can be a relatively quick process – 3 to 5 months. These experiences established that with all stakeholders pulling in the same direction, much can be achieved. Elsewhere, often in the more advanced pilot projects, coding has been seen as a time consuming process, and by some as an unwelcome interruption to progressing development. Moreover, even amongst those pilots that made rapid initial progress, all recognised that the time required for coding should not be under-estimated and was more time-consuming than expected, not least in the time required to refine the code following the production of the first draft in order to get it in a state that could be agreed, used and adopted.

8.2 In Hastings, the time taken for coding has meant that the first infrastructure contract was approved and made its way to site prior to code adoption, although the first planning application will be considered against the code. In Ashford, the perceived delays caused by coding have led to disillusionment amongst the development consortium who were initially enthusiastic. In reality, the delays seem to be caused more by the decision of the consortium to change the original parcel designers of Phase 1b of the development, to re-masterplan this phase and re-submit it for reserved matters consent. The adoption of the code has been significantly delayed as a result of the changes, largely because of the need to revise the code itself to reflect the new masterplanning principles and because of the difficulties encountered in trying to get the various stakeholders to agree the content of the code before it is put forward for adoption. The experience illustrates that finding consensus over detailed design concerns can be very time consuming unless the process is built upon the solid foundations of a strong partnership and an agreed vision.

8.3 Latterly with the appointment of new high quality designers, the process has speeded up, and both the developers and authority believe that reserved matters applications will now proceed in an efficient manner, particularly by reducing the need for extensive pre-application negotiations. In this regard the quality of the designer seems more important in delivering an expedited design process than the presence of the code, whilst all stakeholders agree that the statutory 13-week determination period will dictate the length of the formal development control process, with or without the code. Nevertheless, the developer suggests that much tighter timetabling of the coding process would have been beneficial, and confirmed that they are planning to sponsor a dedicated local authority planner to act on their behalf during the development control process – they are already sponsoring an urban designer in the local authority two days a week.

8.4 Significantly, throughout the process of code design, the developers have continued to bring forward applications for parts of the site for consideration. In part this reveals the lack of concern of the developer for the code (something imposed by, and produced for, the local authority), but also that work can go on in tandem with the code, thus reducing the scope for delay. Nevertheless, the code itself reflects the local authority’s aspirations to produce a higher quality development on this site, and these higher aspirations indirectly led to the change of parcel designers and to the subsequent delays. The experience illustrates that achieving a higher quality design solution can take more time, but
that this is not necessarily related to the decision to use a code – or not. The local authority is also confident that if less skilled parcel designers were used for subsequent phases, then the code would help to reduce delays by setting out their aspirations in a suitably robust manner.

8.5 In Rotherham, it is argued that delivery of the code will rely on making non-compliance as difficult as possible. Thus applicants will be forced into more lengthy negotiation and planning processes if they deviate from the code. It is as yet unclear exactly how this will pan out, but development control officers in the borough feel that coding risks slowing their decision-making processes down because some applicants show little desire to comply with it.

8.6 The extended timeframes of some of the pilot coding projects may be influenced by the lack of experience of many of those involved in design coding. Aldershot, for example, were on their fifth draft of the code at the time of the final research evaluation, although there the failure to agree the masterplan was substantially responsible for the delays. In Newcastle, the local authority resolved to handle as much of the work as possible in-house. Thus the design code was prepared by the local authority following the completion of a masterplan by external consultants. Six months later, a charrette held on the proposals revealed significant weaknesses in the code. An Enquiry by Design process re-worked aspects of the masterplan, and was followed by the production of an Area Action Plan, which will inform the revision of the code.

8.7 This envisages a series of options and the resolution of this following public consultation will determine how the code develops. Such a learning process was seen as invaluable for those involved and for the production of future coding projects, but has greatly extended the length of this project – approaching two years and counting (post masterplan). It is possible to conclude, however, that much of the time spent has been for reasons independent of the decision to code the project, not least the statutory processes required under the new planning act to prepare and adopt area action plans, and the departure of the council’s urban design officer during the course of the project. Nevertheless, those involved conclude that using consultants to produce the code would have been far more efficient, and that the lack of management and leadership or a dedicated team with specific time allocated to prepare the code had been critical. In the meantime, applications have been coming forward for parts the site, and these have been slowed down as the authority tries to clarify its own aspirations.

8.8 Streamlining of the coding project was generally thought possible by careful timetabling, use of consultants, using professional project management, having dedicated local authority personnel (particularly if preparing the code in-house), using multidisciplinary project teams, and ensuring that key decision-makers regularly meet to push matters forward. Key potential bottlenecks were variously identified as:

- Gathering contextual and background information.
- Agreeing highways issues, particularly when an innovative approach is being taken and highways officers need to gain consensus within their authority given their safety remit and long term liability, which effectively requires that they balance innovation with caution.
- Slowness and inconsistency of local authority comments/decision-making, sometimes caused by the unavailability of senior staff.
Slowness of developers in responding to local authority comments.

Checking conformity issues i.e. with planning policy and highways standards.

Delay in Section 106 negotiations.

Securing final agreement.

Staff turnover, with key individuals leaving during the course of the code preparation process.

Slowness of consultation and adoption processes.

Requirements to produce parcel briefs (estimated at 3 months each).

Having to re-visit masterplans to ensure they provide a robust (and suitably detailed) basis for coding.

Poor communications.

8.9 Realistically, and without the pilot process operating, the view by some was that detailed coding takes a year. Others felt that 6 months would be realistic, although approvals processes can delay matters considerably.

8.10 The advanced code stakeholders were able to take a more informed view on the question of speed, having been through the entire planning process and onto site. Most concluded that although the development control process need not, and did not, take longer, the actual process of preparing and agreeing a code was very time consuming, as were the periods running up to the outline planning consent and subsequent (first) reserved matters application. However, this was regarded by many as nothing out of the ordinary, as all large sites today require detailed design guidance of one form or another. Furthermore, over time, the process of applying for and obtaining reserved matters consents became more efficient.

8.11 West Silvertown and Greenwich were perhaps the exceptions where interviewees were in agreement that the code preparation process had been very efficient. In West Silvertown the code took six months to prepare, streamlined by the LDDC acting as instigator, landowner and planning authority, and by the absence of any real local community. Even here a very long outline and first reserved matters consent process followed (18 months), although, following trend, subsequent reserved matters applications sped up, facilitated by their consideration under delegated authority. At Greenwich the code was produced in a very short time – two months – but was based upon two years of detailed masterplanning work and an initial set of design guidelines. Subsequently additional time was needed from interested parties to sign the code off.

8.12 At Lightmoor, the agreement of the first reserved matters application took a year, although this was due to the parcel developers failing to meet the expectations of the joint venture partnership, rather than because of any intervention from the planning authority. So far the formal planning applications have taken the same length of time as other detailed planning applications of a similar nature in the authority, with phase one determined within 13 weeks. Those involved believe that coding will speed up the planning and construction processes over the long run. At Newhall stakeholders are already seeing the benefits of faster reserved matters applications resulting from prior agreement of the code principles. So far they have taken less than eight weeks and are quicker than normal, although the total development time has been slower than normal. Thus the developer of the third parcel noted that it took 16 months to the first completion as compared with 6-8 months for other developments.

8.13 For Upton, design code production took a year, with a further two to three months
for the preparation of each parcel brief, and developer selection running at four months. Nevertheless, the first phase was determined in less than 13 weeks, and the second in under eight weeks; although these timescales do not include the extensive pre-application negotiations or the internal sign-off processes within English Partnerships. Those involved feel that the overall process will be faster despite the hold ups at the start. Fairfield Park and Fairford Leys demonstrate similar patterns. The code and masterplan at Fairfield Park took 15 months for document preparation and ratification by the local authority through the grant of outline permission, but reserved matters are now being approved more efficiently. At Fairford Leys the initial process of producing the masterplan and codes took two years but paved the way for faster approvals of reserved matters applications, at least for code compliant schemes.

8.14 A number of critical bottlenecks were identified by the advanced case studies, including:
- The time taken to educate prospective developers about the detail required.
- Long tender processes as developer teams need to satisfy a more detailed specification.
- Negotiation with highways engineers.
- A lack of clear communications between developers and other parties.
- The general length of the planning process, irrespective of coding.
- The time taken (with or without codes) to prepare a complex and high quality design solution and get it agreed by all stakeholders.

8.15 A number of pointers were also suggested by these case studies who had found means to streamline the remaining/latter stages of their respective developments:
- Ensure that the same people should attend all meetings.
- Provide a single informed point of contact for the developer i.e. a lead architect.
- Take time to formally agree street and public realm design guidelines with the highways authority at the start of the process to avoid successive developers repeating the same discussions.
- Carry on designing whilst developing the code, i.e. a two way process was used at Hulme with the code informing early housing design and being informed in turn by it.
- Resolve problems and inconsistencies before the statutory planning process begins.
- Use a dedicated sub-committee where applications need political consent.
- Make as many decisions as possible under delegated authority.
- Developers can fund a dedicated planning officer to streamline matters.

8.16 All interviewees reported that over time, as experience builds, things tend to speed up anyway with or without the code.

8.17 In the non-code case studies, the experiences were mixed. At Greenhithe and Port Marine, the experience of preparing detailed design guidance had sped up the processing of subsequent applications. At Greenhithe, for example, the period from submitting an outline permission to signing of the Section 106 and submitting the first reserved matters application took two years, with the Section 106 substantially delaying the project. Nevertheless all parties were generally happy with the length of the process and felt it was not out of the ordinary. The local authority increasingly used delegated powers to streamline the process as it commenced and interviewees feel that the guidance
helped to speed up the pre-application discussions for the subsequent reserved matters applications, as negotiations could focus in on the detail, without having to review strategic decisions each time. Over the whole process, they argue, the guidance has saved time, and the investment at the front, would anyway have been required in one form or another for a development of this size. At Port Marine it took 12 months for the preparation of the local authority SPG and 12 months for the detailed masterplan, followed by eight weeks for each of the 18 reserved matters applications for each phase. The process has been subject to continual refinement.

8.18 At Cambourne, by contrast, the masterplan and design guide took just six months to prepare during which time fortnightly meetings were held. However, development control was subsequently slow, and those involved argue that reserved matters applications do not seem to have been sped up by the presence of the guidance. On the Newcastle Great Park development, the succession of different types of guidance delayed and complicated matters. The range of initial guidance (brief, masterplan and design guide) took two and a half years to prepare and agree, although the detailed masterplan for one of the cells took just six months prior to consultation and adoption (which is expected to take a further six months). The changing approach resulted from the changing national policy context on design, political structures and personalities locally, and the complexity and scale of the project. Those involved believe that in this case a detailed design code produced at the start would have saved time by giving the scheme the certainty and direction it needed, leading to less interpretation and a more consistent approach on design. Here, the processing of planning applications generally takes longer than average, although stakeholders contend that this is only to be expected given the nature of the site.

8.19 At Newcastle the bottlenecks were typical of those affecting many large housing developments and are not necessarily linked to the choice of design guidance. Nevertheless they might have been addressed though the type of detailed negotiations and agreements up-front that the advanced coding projects seemed to benefit from. They included:

- Differences in expectations between stakeholders – developer, planning, highways and councillors.
- The lack of co-ordination of planning and highways adoption processes.
- Lengthy committee approvals processes and the degree of public scrutiny.
- Poor communications between developer and authority and between specialist officers in the local authority.
- Lack of information from the developer.
- Lack of guidance on information requirements from the developer.

8.20 Pointers suggested by those involved in the non-coded schemes might equally apply to the coded projects. These encompassed the need for greater front-loading of the design process to ease the path and save resources over the long-term, and for regular senior level meetings on large scale projects to bring decision-makers together. Involving highways adoption officers as early as possible to avoid delays and abortive work was strongly advocated, as was the funding of urban design consultants by the developer to help authorities administer design guidance during the determination of reserved matters.
Quality

SUMMARY

- Designs of very different quality can still be produced using the same code, emphasising the critical importance of other factors as well – the quality of the designer, the determination and resources of those charged with implementing the code, and the aspirations and ability of the developer.

- Overwhelmingly, where codes had been used through to fruition on site they received a strong endorsement from those who had been involved. Typically, it seems, coded schemes help to set new quality benchmarks in the locations where they are used, and act as flagship developments for the developers who are involved.

- Codes are having a beneficial effect in helping to deliver a more coherent public realm, resisting inappropriate development, generally raising the importance and profile of design, and in encouraging the appointment of better quality designers than would otherwise be the case.

- Codes can help to deliver quality contemporary as well as quality traditional architectural solutions.

- If highways authorities are responsive to their potential, codes can also help to overcome undesirable roads-dominated highways solutions by questioning standard approaches to the design of the public realm.

- They provide a valuable delivery tool for the physical vision that they support and a means to deliver consistent quality thresholds across large-scale developments that involve different developer and design teams.

- No single model for design codes exists, and given the right context, a range of approaches along a prescription/flexibility continuum seem capable of delivering quality.

- Other detailed design guidance tools can also help to deliver design quality, and for many of the same reasons; the ability to establish a vision and use design guidance to co-ordinate resources, processes, actors and aspirations to deliver it.
Most interviewees felt that it was far too early to postulate on the quality of outcomes that would be associated with the coded schemes, and many argued that a pre-requisite of good design was the involvement of good designers at every stage of the development of a scheme, although codes could help to deliver a greater coherence and sense of character across large sites where multiple developers were involved.

In a few cases, the codes were already having a measurable effect. In Newcastle, despite the code still being in preparation as the monitoring and evaluation concluded, early schemes for the site prepared independently of the coding exercise have since been amended to reflect the emerging coding principles, including a more coherent public realm.

At Rotherham, the landowner/developer has been disappointed with the code. His engagement with the process was predicated on a belief that it would oil the wheels of the planning process. However, his proposal for large format supermarket on part of the site has effectively been made more difficult by the code which codes instead for a network of streets and spaces and a mix of uses, and not for a car dominated introspective retail shed. The planners are pleased that the code is helping them resist such development, and argue that a masterplan in isolation would be less effective at delivering such an outcome.

Although in Ashford the quality of phases inspired by the code is yet to be seen, the authority are content that the experience has been a good one, by raising the importance of the design agenda in the minds of consortium members, and by forcing better parcel designers to be appointed. For them, the value has been in forcing discussions about design early on in the process. They accept that if high quality designers are involved then there is less need for a code, and conversely that codes are no substitute for poor designers. Nevertheless, as most designers are somewhere in between, codes can play an important part in helping to deliver better outcomes.

On the question of quality, overwhelmingly the advanced codes received a strong endorsement. This ranged from schemes such as Lightmoor, where construction has not yet begun, but where interviewees are optimistic that high quality will be secured, underpinned by an ‘excellent’ eco-homes rating; to West Silvertown (fig 8.1), which is completed on site and where general agreement was that the code (and masterplan) had brought only benefits. Indeed in this case a large volume housebuilder had been required to totally rethink their approach to design, in the process significantly raising their game.

At Upton (fig 8.2), those involved are pleased with the outcomes and feel that quality and sustainability is improving from phase to phase; in part because of the high quality infrastructure provided by English Partnerships, and their willingness to sacrifice land value for quality (at least in the short-term). The case demonstrates that even with their relative prescription, individual codes are capable of delivering a range of very different design solutions. In this case proposals submitted for tender during the first phase varied considerably. This might suggest that the codes allowed for desirable interpretation and innovation. Alternatively, it may be too flexible or simply unclear. The process of revision attempted to clarify the guidance in the second edition.
Fig 8.1 West Silvertown

Fig 8.2 Upton
The Newhall code (fig 8.3) demonstrated that codes are effective at delivering contemporary architectural solutions with a distinct sense of place. Nevertheless, despite widespread satisfaction over the quality being delivered, the continued evolution of the developer procurement process illustrates a desire to do better, and in particular to address the issue of varying workmanship between the phases. Greenwich (fig 8.4) has also been successfully delivering contemporary architecture. There the ‘private’ code has been effective in ensuring that the masterplan principles are translated into the design of each phase of development, despite the use of a range of different architects.

For their part, Fairfield Park (fig 8.5) and Fairford Leys (fig 8.6) demonstrate that codes can equally deliver high quality ‘traditional’ development. Those involved at Fairfield Park believe the development has set some new quality benchmarks. The local authority now use the scheme as a benchmark for negotiations on other developments, whilst the developers involved are using their parcels as flagship projects in their marketing. The codes have also led to a steep change in the approach adopted by the Highways Authority with positive effects on other sites in the area. At Fairford Leys a consensus exists that the codes have led to a much higher quality of development than would have been achieved without them – conforming to a high degree with the initial vision and incorporating a mix of uses contrary to the expectations of conventional property advisors.
8.29 The experience at Fairford Leys illustrates how a very prescriptive code can help to deliver a very particular vision. At the other end of the scale, complete censuses existed amongst those involved in Hulme (fig 8.7) that the code has been hugely significant in achieving a remarkable and desirable transformation in Hulme; particularly in the quality of the public realm, if not always in the housing. The success of this very flexible and far more generic code has led in turn to the production of other design guidance for Manchester and for the Guiness Trust and North British Housing Association (NBHA) seeking to improve the quality of their own developments nationally. The two examples illustrate how no single model for design codes exists and that given the right circumstances, a range of approaches along a prescription/flexibility continuum may equally be capable of delivering quality.

8.30 The advanced codes suggested a range of possible advantages of coding as a means to deliver design quality; codes:

- Provide a delivery tool for the masterplanning vision.
- Give a reassurance of quality in schemes that develop incrementally over time.
- Allow visualisation of key elements (important for decision-makers).
- Give a degree of standardisation which delivers economies of scale.
- Provide a good marketing tool for the developer.
- Set a benchmark for the quality of future developments.
- Provide a consistent level of quality across different parcel designers and developers.
Can reduce the competition between developers for their schemes to stand out, and lead instead to more harmonious development.

- Can provide economies of scale for particular specialist aspects of schemes i.e. stonework.
- Can have an educational purpose i.e. of highways engineers.

8.31 However, the non-code examples also illustrated that other tools can equally help to deliver design quality, and for many of the same reasons, namely the ability to establish a vision (more or less detailed) then use design guidance as a means to co-ordinate resources, processes, actors and aspirations towards achieving that goal.

8.32 At Port Marine (fig 8.8), the guidance has been able to increase the design quality delivered across the range of different developers involved, for example by co-ordinating density, land uses, bulk and massing across the site. There the quality of the masterplan helped to sell the vision, whilst the range of design awards received testifies to that quality. Greenhithe (fig 8.9) also boasts its fair share of awards, and all stakeholders believe the guidance has been successful in helping to deliver the vision. The developers, for example, believe the development has a strong sense of place, that it has maximised value for them, and delivered a greater consistency of design quality across the site. At Cambourne (fig 8.10), by contrast, some concern exists that the separate proposals coming forward under the guidance are too variable, and their quality depends on the extent to
which different developers buy into the vision. Some argue that the inconsistent interpretation of the guidance by the local authority has undermined the quality of the final development, with permissions being granted when they should not be. This, however, is set within a wider context where all stakeholders agree that overall the guidance has greatly raised the quality of development over what otherwise would have been built on the site.

Fig 8.9 Greenhithe

Fig 8.10 Cambourne
To date, the Newcastle Great Park (fig 8.11) example provides perhaps the least successful development in terms of its quality. There, the elongated and complex process has delivered high quality infrastructure and open spaces and a satisfactory form and layout, although it has so far failed to deliver on the original vision for quality as regards the detailed design of dwellings. Yet optimism remains high that the quality will improve as stakeholders learn from the experiences of the first phases, and as new guidance is produced with a greater clarity and unifying vision.
Certainty

SUMMARY

- Coding can help to guarantee that a set level of quality will be delivered across the different phases of a development, safeguarding the investments of developers and purchasers alike.

- When used across large sites, codes assist developers to cost units (and thereby developments) with more certainty by introducing a degree of standardisation.

- Codes provide certainty for developers applying for reserved matters permissions, as long as their schemes are code compliant.

- For non-compliant schemes the opposite is true.

- Codes allow the selection of development partners with greater certainty that aspirations will be compatible, and that necessary negotiations will be smooth.

- Detailed design guidance of all types seems suited to deliver greater certainty, in so doing allowing developers to plan ahead in an efficient manner to deliver a coherent vision.

- Significant uncertainty exists, however, around the very concept of coding itself, and when design guidance is or is not coding – in whole or in part.

- Coding need not necessarily be considered as distinct and separate from other types of design guidance, but instead as a detailed form of prescription that complements and sits alongside or as part of other forms of design prescription.

- The analysis points to a simple definition of design codes to distinguish them from other guidance: A design code is an illustrated compendium of the necessary and optional design components of a particular development with instructions and advise about how these relate together in order to deliver a masterplan or other site-based vision.
The final outcome dealt with here is certainty, which to some degree is a reflection of the ability of guidance to deliver on speed and quality. Again, those involved in the pilot projects felt that the jury was still out with regard to whether design codes increased the certainty of the process. Nevertheless, the experience of producing the code had convinced the landowner at Hastings that codes had value in giving greater certainty during the selection of their development partner, and would deliver a greater consistency across parcel boundaries. By contrast, at Newcastle, the developers fear that at the start of what is projected to be a 10-15 year project, the code has led to greater uncertainty as it has been in preparation during a period when proposals were already being submitted for consent. Nevertheless, across the pilots, most concluded that in time the presence of the codes would make negotiations smoother and more certain simply by virtue of the fact that codes are more prescriptive than most other forms of guidance, and are therefore (in theory) less open to interpretation.

A significant uncertainty still focused, however, around when is a code a code, and when is it not, with elements of coding often found as part of other types of design guidance (and vice-versa). As a consequence, the conceptual break between what is a code and what is not remains difficult to make, the implication being that coding need not necessarily be considered as distinct and separate from other types of design guidance, but simply as a detailed form of prescription that complements and sits alongside or as part of other forms of design prescription.

With regard to certainty, most of the advanced coding schemes helped to deliver a more certain design and development process. At West Silvertown, for example, a strong belief was expressed that coding delivers quality for the local authority, speed for the developer, and certainty for both – in part by setting the ground rules for later phases of the development to follow. In this respect it also helped to reassure the initial occupiers that future phases of the scheme were to be of an equally high quality as the early phases. A view was also expressed that because codes favoured conformity instead of variety, when used across large sites they should be particularly attractive to the large national housebuilders. For them, the standard unit is the basic measurement of delivery, and the means by which developments can be costed with certainty.

At Fairfield Park the case was made that codes are particularly valuable for providing certainty during the reserved matters approval process, whilst at Upton, it was argued that codes can provide certainty for developers, but only as long as their proposals are code compliant. For non-compliant schemes the exact opposite is true. Here, and elsewhere, the case was also made that codes provide certainly for communities through establishing a means to control the long-term vision. On a related note, at Farifield Leys, the argument was made that developers are offered a high degree of certainty that code compliant schemes would be approved, but equally that adjacent schemes by other developers would maintain the level of quality, and not undermine their investment. Only at Lightmoor were some reservations expressed. There it was argued that codes provide greater certainty primarily by being more prescriptive, but only with the danger that the flexibility that may be required to deliver enhanced quality on occasions will be denied.
For their part the non-code case studies also seemed able to deliver certainty. At Greenhithe, for example, the design guidance increased the certainty of the approvals process for the developer, whilst at Port Marine it was argued that the guidance was particularly important in allowing the developer to plan ahead in an efficient manner to deliver a coherent vision. Greater flexibility was a feature of some of the non-codes, with the danger that designs of lesser quality were sometimes able to slip through (Cambourne and Newcastle Great Park). In this respect the non-codes echoed the experience of the coded projects, and in particular that of Hulme.
Each case study is briefly introduced below, starting with the pilots:

Aldershot Urban Extension – is a development of 4,500 dwellings on a 137.5 hectare site to be released by the Ministry of Defence for development and owned by Defence Estates. An early draft code was produced early in 2005 and discussed with developers. A fifth draft was produced in September 2005. During this time the main focus has been on developing the masterplan with a view to submitting an outline planning application in early 2006. It is not clear whether a code will be submitted with the outline application, or will follow later. Five interviews were undertaken at the start of the monitoring and evaluation with key stakeholders, including with the landowner, consultant urban designer, local authority planner, representative from English Partnerships and with the county highways authority. These interviews were repeated towards the end of the process.

Ashford Barracks – is a development of 1,300 dwellings on a 48.6 hectare site owned by Wimpey Homes and Westbury Homes. The code was developed using stakeholder workshops, following the preparation of a development brief and schematic masterplan prepared using Enquiry by Design workshops. At the time of the retrospective interviews the code was being updated following evolutionary changes to the masterplan, and the code was still not adopted. Eighteen interviews in total were undertaken with representatives of the development consortium (the two developers and project manager), the code designers, the project architects and landscape architects, the local authority (with urban design, development control, and development engineering officers, and with a councillor), highways authority and CABE enabler. Towards the end of the monitoring and evaluation process, six key stakeholders were re-interviewed from across the different stakeholder groups.

Cirencester Kingshill South – is a development of between 260 and 340 dwellings on a site of 8.7 hectares owned jointly by Berkeley Community Villages and Cotswold District Council. A final version of the design code was presented at the Cotswold Committee Member meeting in February 2005. Committee members decided that it was not appropriate to adopt the design code in its current format. Unusually, the code has been prepared prior to the formal allocation of the site to which it relates. It would appear that this is one of the reasons why the Code has not been formally adopted by Cotswold District Council. Four interviews were undertaken at the start of the monitoring and evaluation: developer, county highways authority, planning authority and urban design consultants, who were/are responsible for producing the code and masterplan. The interviews were repeated at the end of the process, apart from the highways authority, who had had no further involvement since the initial interview.

Hastings Ore Valley – is a development of 700 dwellings on three sites amounting to 67 hectares constituting the Hastings Millennium Community, and owned by a variety of mainly public bodies. The code was formally
adopted for Development Control purposes on 29 April 2005. This follows planning permission already being granted for site infrastructure. By the end of the monitoring and evaluation period, a first planning application had been submitted for evaluation against the code. Early in the process six interviews were undertaken with representatives of the consultant urban designers, public landowner representatives, planning authority, highways authority and with a community representative on the local regeneration partnership. These interviews were repeated as the end of the monitoring and evaluation, although with a councillor substituting for the community representative.

Newcastle Walker Riverside – is a development of 2,500 (net gain) dwellings on a 5km² site, owned by Newcastle City Council, and focusing on revitalising an existing community. At the time of the baseline interviews the draft code was under preparation, with a first draft completed in the spring of 2005, but was subsequently hampered by statutory consultation on the revised masterplan. It is hoped to finalise the code in the spring of 2006, but in the meantime construction of phase one has begun on site, and two more applications are in the pipeline. Nine interviews were conducted with fourteen representatives of the main partners: city councillors and officers (regeneration, highways, urban design, development control, landscape design), and the developers (regeneration consortium and parcel developers). The interviews were repeated at the end of the process.

Rotherham Town Centre River Corridor – is a mixed use development including 600 dwellings on a 12 hectare site owned by Satnam Developments and a complex array of other private owners. The code has been formally approved and become an Interim Planning Statement in October 2005. It will eventually become a Supplementary Planning Document. In the early stages of the project six interviews were undertaken with representatives of the local planning authority, highways authority, regeneration and funding agency, developer and landowner, and with the CABE enabler. These were repeated at the end of monitoring and evaluation exercise.

Swindon Southern Development Area – is a development of 4,500 dwellings on a 309 hectare site owned by Swindon Borough Council and Bryant Homes. The code itself follows a masterplan and outline planning consent with a planning condition requiring a code. Final revisions were being made to the code (fourth draft) at the time of retrospective interviews following discussions with planning officers and councillors, and prior to formal submission to the planning authority for approval. Six interviews were undertaken with representatives of the developer and consultant urban designers, and with representatives of the local authority in their separate landowner, planning authority, highways authority and councillor guises. These same interviewees were interviewed again at the retrospective stage, and this was supplemented by an interview with the now Major Projects Team Leader at the local planning authority.

The advanced case studies were as follows:

Fairfield Park (Mid Beds) – is a development of 800 new homes in the 27.7 hectare grounds of a listed Victorian hospital building in Letchworth, owned by a consortium of developers. The masterplan and design codes were produced in partnership between the local planning authority and the developer consortium’s team to satisfy a planning condition and clause in the Section 106 agreement. This case study initially formed part of the stocktake research (see Annex B). Three ‘expert papers’ were commissioned from representatives of the local planning authority (design and conservation and development control), the developer’s planning consultant, and the architect for the master developer and individual parcels.
A representative of the master developer was also involved via a stakeholder workshop.

Fairford Leys – is an urban extension to Aylesbury of 1900 dwellings, with a mixed use town centre on a site of 200 hectares promoted by the landowner, a private trust. Following the grant of outline planning consent, a masterplan and design codes were produced in 1992. The development is largely code compliant and is now over 75% complete. This case study initially formed part of the stocktake research. Three ‘expert papers’ were commissioned, from representatives of the consultant urban designer, the master developer consortium, and the local authority development control officer.

Greenwich Millennium Village – is a development of over 1400 dwellings on a 30.9 hectare site owned and promoted by English Partnerships as the first Millennium Community. Following a masterplanning/developer competition the masterplanners designed the first phase of development. A code was prepared for the remainder of the development to ensure that the masterplan vision was realised as other architects and consultants became involved in the development process. This case study initially formed part of the stocktake research. Three ‘expert papers’ were commissioned, from representatives of the landowner, the developer and parcel architect.

Hulme – is a redevelopment of the 100 hectare 1960’s Hulme estate on the edge of Manchester City Centre. The land was owned by Manchester City Council who, through City Challenge, aimed to regenerate the area via a public/private joint venture. The code, The Hulme Guide, was formulated through an intensive consultation process and was used to control the quality of development through the procurement and planning process. This case study initially formed part of the stocktake research. Three ‘expert papers’ were commissioned, from representatives of the partnership, a housing association developer and the local planning authority.

Lightmoor – in Telford is a development of 800 dwellings on a 71.8 hectare site owned by English Partnerships and the Bournville Village Trust. The new community is being developed jointly as a type of second Bournville. The code was written in 2003 and was included in the outline planning application. The first phase for 40 units has recently started construction. Nine interviews were undertaken with the representatives from the landowners/developers, the code designers, the parcel developers, the parcel designers, the local authority (Head of Planning and development control officers) and the highways authority.

Newhall – is a development of 440 dwellings on a site of 17.4 hectares in Harlow, and the first phase of a proposed new neighbourhood of 2800 homes, promoted by the private landowner. The first phase development has outline planning consent and a code was prepared as part of the developer brief for the first two parcels of land to be marketed in 1999 and 2000. This case study initially formed part of the stocktake research. Three ‘expert papers’ were commissioned, from representatives of the landowner, planning authority and a parcel developer. The urban design consultant was also involved via a stakeholder workshop.

Upton – in Northampton is a mixed use urban extension of 1020 residential units, a school and a number of shops. The land is owned by English Partnerships, who are also acting as master developer and who are providing the main infrastructure and the sustainable urban drainage (SUDs) system. Upton is developed on a phase by phase basis and the first phase is almost complete and dwellings are currently being marketed. Recently the Design Code has been revised to improve its clarity and practicality. Nine people have been interviewed, some twice at different stages of the project. Interviewees included representatives of developers, landowner, local authority and consultants.
West Silvertown – is a residential-led, mixed-use development on 14 hectares of brownfield land within the London Royal Docks. The development consists of 1,000 units (780 for sale) with support facilities and new infrastructure: retail, school, community centre, a ‘village green’ and new road and drainage systems. Bids for the site’s regeneration were invited in 1994 and the nine phases of development took place between 1996 and 2004. The London Docklands Development Corporation (LDDC) was the major landowner and initially the planning authority, and provided the main infrastructure. Six interviews were conducted with the project managers for the two main developers (Wimpeys and Peabody Trust), the chief executive of the LDDC, planning and highways officers of the London Borough of Newham and a partner in Tibbalds Monro, code designers and master planners.

The non-code studies were:

Cambourne – in South Cambridgeshire is a greenfield development of 3300 dwellings, with a mixed use settlement centre, including two schools, a supermarket, library, doctor surgery and a business centre. The total site is 322 hectares and owned by a developer consortium. Following a condition on the Outline Planning Approval a masterplan and design guides were produced in 1995 and a Highway Guide in 1999. The development is 75% complete. A revised Outline Planning Application which sought to increase the density of the outstanding development has been refused. Eight interviews were undertaken, with representatives of the Local and County Authorities, the developer consortium and the team who prepared the masterplan and guidance.

Greenhithe – in Kent is a development of 1,200 dwellings on a 70 acre site owned by Crest Nicholson. The detailed design guidance was designed using a character area approach. The development is now over 75% complete, with almost half the units occupied. The development also includes a restored grade II listed building, now used for offices, and a heritage trail of listed structures set in parkland. It is hoped the final phase that includes a primary school and a mixed use centre, will follow soon. Six interviews were undertaken with the representatives from the landowners/developers, the code designers, the parcel designer, landscape architects, the local authority and the highways authority.

Newcastle Great Park – is a project for a mixed development on a greenfield site on the edge of Newcastle, consisting of 80 hectares of business park and 2,500 residential units with support facilities: retail, leisure, school and a hotel serving the whole development. The project also provides for new road and drainage systems and public open space (country park). The housing started on site towards the end of 2001 and is expected to take 10-years to complete. A wide range of design guidance of different types has been produced. Seven interviews were conducted with 11 individuals representing both the developer consortium/landowner, including the project manager and master planner and Newcastle City Council, the Head of Planning & Transportation, Head of Urban Design, Project Co-ordinator, and officers from highways, development control and policy/major projects implementation.

Port Marine – in Portishead is a development of approximately 800 units on a 21.4 hectares site owned by Crest Nicholson. The detailed masterplan was prepared as part of the Section 106 agreement attached to the outline permission for the site and was approved in 1999. The scheme is nearing completion with the majority of the dwellings having been completed. Five interviews were conducted with the key stakeholders involved in the development process, including: current developer, ex developer, Highways Authority, urban design consultant and urban design advisor to the local planning authority.
The pilot programme

The urban design coding pilot programme started in May 2004. The programme was managed by CABE Enabling on behalf of ODPM, and involved:

- Selecting and signing-up seven pilot coding projects
- Commissioning a stocktake review of existing practice in the UK and overseas incorporating a literature review, national survey and an initial set of case studies (published by CABE in 2005 as ‘Design Coding, Testing its use in England’)
- Establishing an advisory panel and network of enablers to work with the design code pilots
- Developing an advisory Working Methodology for the pilots to follow and a timetable
- Working through CABE’s specially commissioned network of Code Enablers to progress the pilot codes.

Over the twenty months that followed, the intention was to take the selected pilot coding projects as far as possible through the different stages of the design coding process.

An independent evaluation

Separate to the enabling activities, UCL’s Bartlett School of Planning and Tibbalds Planning & Urban Design were commissioned by ODPM to undertake an independent monitoring and evaluation of the initiative – reported here. This evaluation included the seven pilots, but extends beyond them to include twelve other case studies outside the pilot programme.

The additional case studies were of two types – ‘advanced’ and ‘non-code’ (see Annex A for the full list). The nineteen case studies can therefore be distinguished as follows:

- Seven ‘Pilot’ projects, which on the conclusion of the monitoring and evaluation had reached various stages in their evolution, but in large part had not yet began to be used in the regulation or detailed design of development phases on site.
- Eight ‘Advanced’ studies, where the code has been completed and the project is being, or has been, built-out. These include five advanced projects that were partially evaluated during the stocktake review, and which were revisited and reevaluated for this study. The stocktake review was undertaken by the same research team.
- Four ‘Non-code’ studies, which do not use design coding, but which use other forms of detailed design guidance, and which therefore provide valuable comparisons. These tools had all been used on site to deliver projects in various stages of completion.

Annex B: the methodology
The evaluation methodology

The monitoring and evaluation process was structured utilising a common methodology for all of the case studies. A series of research tools were devised to evaluate the case studies utilising the analytical framework as a basis (see Chapter 1). Six types of monitoring and evaluation were undertaken, although in the case of the Advanced and Non-code studies, stages ‘b’ and ‘e’ were rolled into one:

a. Contextual information – gathering background contextual information on each of the case studies to establish the economic, social, environmental and political contexts for the developments.

b. Baseline interviews – systematic interviewing of all key stakeholders involved in the projects as a means to establish a baseline set of aspirations for, and approaches to, coding.

c. ‘Fly on the wall’ monitoring – attendance at key events and meetings throughout the life of the pilot projects and feeding discussion and outputs into the analysis.

d. Content analysis – systematic analysis of the content of all key outputs from the case studies, including the codes themselves against a structured pro-forma. The code documents varied in length between approximately 25 to 100 pages, with most of the pilot codes taking the longer variety.

e. Retrospective interviews – looking back at the coding processes towards the end of the research project through a further and final comprehensive round of interviews with key stakeholders. For the five advanced case studies undertaken during the stocktake review, written papers had initially been commissioned from key stakeholders associated with the production and use of those codes. Where necessary these ‘expert papers’ were supplemented with additional interviews during the monitoring and evaluation work.

f. Post-occupancy evaluation – a case-by-case evaluation of the urban design qualities and perceptions of residents of developments that are completed or partially completed using a simple urban design appraisal tool.

This Final Report is based on comprehensive analysis of all nineteen case studies. However, at the time of analysis in December 2005, only two of the pilot case studies had agreed a final draft of their codes and had them formally endorsed/adopted by the relevant local authority. One of these and one other (in its draft form) had begun to use their codes to assess and determine applications for development proposals. The eight Advanced studies and the four Non-code studies were therefore particularly valuable in helping to fill the gaps.
This glossary is not comprehensive, but includes key technical terms used throughout the document. A glossary of design terminology can be found in the Government’s guidance ‘By Design, Urban Design in the Planning System: Towards Better Practice’. An up-dated glossary of planning terms as they relate to design can be found in CABE’s guidance ‘Making Design Policy Work, How to Deliver Good Design Through Your Local Development Framework’.

<table>
<thead>
<tr>
<th>Term</th>
<th>Meanings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area action plan</td>
<td>Document used to provide the planning framework for areas where significant change is anticipated or where conservation is paramount</td>
</tr>
<tr>
<td>Building envelope</td>
<td>The three dimensional envelope (volume) within which the building exists</td>
</tr>
<tr>
<td>BREEAM</td>
<td>Building Research Establishment Environmental Assessment Methodology</td>
</tr>
<tr>
<td>Call-in</td>
<td>Planning applications called-in for determination by the Secretary of State</td>
</tr>
<tr>
<td>Character areas</td>
<td>Areas of distinct and identifiable character within a larger development</td>
</tr>
<tr>
<td>Character area matrix</td>
<td>A matrix laying out the design qualities and features of each character area</td>
</tr>
<tr>
<td>Charette</td>
<td>An event bringing together a range of people to discuss design issues. Also known as a design workshop</td>
</tr>
<tr>
<td>Conditioning</td>
<td>The process of using a condition to a planning permission to establish a particular requirement to which the permission is subject</td>
</tr>
<tr>
<td>Delegated Powers</td>
<td>Powers delegated from the formal planning committee to their officers, for example to determine certain types of permissions</td>
</tr>
<tr>
<td>Design statement</td>
<td>A statement accompanying a planning permission that lays out the design principles on which a development proposal is based</td>
</tr>
<tr>
<td>Design guidance</td>
<td>The generic name for a wide range of guidance – design briefs, frameworks, codes, guides, etc.</td>
</tr>
<tr>
<td>Development agreements</td>
<td>Legal agreements between the landowner/master developer and parcel developers laying out the principles on which freehold rights to develop will be granted</td>
</tr>
<tr>
<td>Development brief</td>
<td>The generic term for documents prepared by the local planning authority setting out the broad design, development and planning principles for a particular site</td>
</tr>
<tr>
<td>(planning briefs,</td>
<td>design briefs)</td>
</tr>
</tbody>
</table>
| Design coding in practice – An Evaluation
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development framework (design frameworks)</td>
<td>Design guidance for large sites establishing the broad two/three-dimensional form of development, including all key structural elements</td>
</tr>
<tr>
<td>Enquiry by Design</td>
<td>A methodology of collaborative design promoted by the Prince’s Foundation</td>
</tr>
<tr>
<td>LDDC</td>
<td>London Docklands Development Corporation</td>
</tr>
<tr>
<td>Local design guide</td>
<td>A form of generic design guidance used by planning authorities for particular types of development e.g. housing</td>
</tr>
<tr>
<td>Local development order (LDO)</td>
<td>An order made by a local planning authority granting automatic planning consent for the form of development specified in the order</td>
</tr>
<tr>
<td>Local vernacular study</td>
<td>A systematic study of the characteristics of the local vernacular architecture for a specified area</td>
</tr>
<tr>
<td>Masterplan</td>
<td>A three-dimensional spatial vision for a site establishing key urban design relationships but not necessarily the architecture</td>
</tr>
<tr>
<td>Mini codes</td>
<td>More detailed codes for the different character areas of a site already covered by a design code</td>
</tr>
<tr>
<td>Natural surveillance</td>
<td>The passive surveillance of streets and spaces from the occupants of surrounding buildings and from the users of the streets and spaces</td>
</tr>
<tr>
<td>Outline planning consent</td>
<td>Planning permission given subject to reserved matters, for example detailed design</td>
</tr>
<tr>
<td>Parcel</td>
<td>A sub-area of a larger site divided off for development, often by a parcel developer chosen on the basis of a tender process</td>
</tr>
<tr>
<td>Perimeter block</td>
<td>The traditional means of developing urban areas, with buildings surrounding urban blocks and protecting private space within the centre of the block and facing onto public streets and spaces around</td>
</tr>
<tr>
<td>Planning Policy Guidance</td>
<td>Planning Policy Guidance Notes (PPGs) are prepared by the Government after public consultation to explain statutory provisions and provide guidance to local authorities and others on planning policy and the operation of the planning system. PPGs are being replaced by Planning Policy Statements</td>
</tr>
<tr>
<td>Planning Policy Statements</td>
<td>Planning Policy Statements (PPS) set out the Government’s national policies on different aspects of land use planning in England. They should be taken into account by planning authorities in preparation of their development plans, and may also be material to decisions on individual planning applications.</td>
</tr>
<tr>
<td>PPG1</td>
<td>Planning Policy Guidance Note 1: General Policies and Principles. This has been replaced by Planning Policy Statement 1: Delivering Sustainable Development</td>
</tr>
<tr>
<td><strong>PPG3</strong></td>
<td>Planning Policy Guidance Note 3: Housing</td>
</tr>
<tr>
<td><strong>PPG6</strong></td>
<td>Planning Policy Guidance Note 6: Planning for Town Centres. This has been replaced by Planning Policy Statement 6: Planning for Town Centres</td>
</tr>
<tr>
<td><strong>PPG13</strong></td>
<td>Planning Policy Guidance Note 13: Transport</td>
</tr>
<tr>
<td><strong>PPG17</strong></td>
<td>Planning Policy Guidance Note 17: Planning for Open Space, Sport and Recreation</td>
</tr>
</tbody>
</table>

| **Procurement process** | The process of procuring design or development services |
| **Regulating plan** | A two dimensional plan setting out the key development parameters of a site – building lines, frontage widths, block and street dimensions, active frontages, etc. |
| **Reserved matters** | Matters held over for future consideration following the granting of an outline planning consent, and subject to a further reserved matters application |
| **Section 106 agreements** | An agreement setting out the planning gain obligations that developers enter into as part of the planning permission |
| **Statement of compliance** | A statement submitted by a parcel developer to a landowner/master developer or local authority, formally confirming compliance with the design code |
| **Street hierarchy** | The hierarchy of street, road and footpath types used in an area |

| **Supplementary planning guidance (SPG)** | Guidance produced to supplement the old-style development plan |
| **Supplementary Planning Document (SPD)** | Guidance produced to supplement the new-style Local Development Documents, which may be adopted as part of the Local Development Framework |
| **Sustainable urban drainage (SUDS)** | A form of drainage designed to collect and recycle water and drainage on-site |
| **Urban design strategy** | A form of urban design guidance for a large area e.g. a city centre, giving spatial expression to design policy and identifying a desired future urban form |
| **Urban village** | A traditional urbanism concept for a sustainable urban neighbourhood originally promoted by the Urban Villages Forum |
## Acknowledgements for images and case studies

**Documents:**

<table>
<thead>
<tr>
<th>Case Study</th>
<th>Document Title</th>
<th>Prepared by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ashford Barracks</td>
<td>Ashford Barracks Design Codes 18th October 2004</td>
<td>EDAW</td>
</tr>
<tr>
<td>Cirencester Kingshill South</td>
<td>Kingshill Design Code Berkeley Community Villages</td>
<td>John Thompson and Partners</td>
</tr>
<tr>
<td>Newcastle Walker Riverside</td>
<td>Walker Riverside Draft Design Code November 2005</td>
<td>Newcastle City Council</td>
</tr>
<tr>
<td>Swindon SDA</td>
<td>Swindon Southern Development Area Design Code, Introduction and Planning Background July 2005</td>
<td>John Simpson and Partners</td>
</tr>
<tr>
<td>Fairfield Park, Letchworth</td>
<td>Urban Design Strategy Fairfield Park Consultation Draft October 2002</td>
<td>Tetlow King for Mid Beds District Council</td>
</tr>
<tr>
<td>Fairford Leys, Aylesbury</td>
<td>Masterplan Design Criteria for the Coldharbour Farm Development Updated April 1993</td>
<td>John Simpson &amp; Partners</td>
</tr>
<tr>
<td>Greenwich Millennium Village</td>
<td>Greenwich Millennium Village, Masterplan Design Code January 2000</td>
<td>Ralph Erskine Architect Planner AB</td>
</tr>
<tr>
<td>Case Study</td>
<td>Document Title</td>
<td>Prepared by</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Hulme, Manchester</td>
<td>A Guide to Development Rebuilding the City Hulme, Manchester, June 1994</td>
<td>Hulme Regeneration Limited</td>
</tr>
<tr>
<td>West Silvertown, Newham</td>
<td>The Urban Village Design Codes, West Silvertown Urban Village, Royal Victoria</td>
<td>Tibbalds Monro for LDDC, Wimpey Homes</td>
</tr>
<tr>
<td>Cambourne, Cambridgeshire</td>
<td>Cambourne Design Guide May 1995</td>
<td>Terry Farrell &amp; Company for Alfred McAlpine</td>
</tr>
<tr>
<td>Greenhithe, Kent</td>
<td>Greenhithe Waterfront Character Area Study – Design Statements February 1999</td>
<td>Tibbalds Monro for Crest</td>
</tr>
<tr>
<td>Newcastle Great Park</td>
<td>Newcastle Great Park Design Code November 2000</td>
<td>Newcastle City Council</td>
</tr>
<tr>
<td>Port Marine, Portishead</td>
<td>Development Framework for Portishead Quay at East Portishead Supplementary</td>
<td>North Somerset Council</td>
</tr>
<tr>
<td></td>
<td>Planning Guidance 1997</td>
<td></td>
</tr>
</tbody>
</table>
### Images:

<table>
<thead>
<tr>
<th>Case Study</th>
<th>Images</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fairfield Park, Letchworth</td>
<td>Urban Design Strategy Fairfield Park Consultation Draft Tetlow King October 2002</td>
<td>Mid Beds District Council</td>
</tr>
<tr>
<td>Hulme, Manchester</td>
<td>A Guide to Development Rebuilding the City Hulme Manchester Hulme Regeneration Limited, June 1994</td>
<td>Manchester City Council</td>
</tr>
<tr>
<td>West Silvertown, Newham</td>
<td>The Urban Village Design Codes, West Silvertown Urban Village, Royal Victoria Dock South Tibbalds Monro LDDC, Wimpey Homes (no date)</td>
<td>© Gardner Stewart Architects</td>
</tr>
<tr>
<td>Case Study</td>
<td>Images</td>
<td>Credit</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Cambourne, Cambridgeshire</td>
<td>Cambourne Design Guide Alfred McAlpine, Terry Farrell &amp; Company May 1995</td>
<td>“All Cambourne images are by kind permission of MCA Development Ltd”</td>
</tr>
<tr>
<td>Greenhithe, Kent</td>
<td>Greenhithe Waterfront Character Area Study – Design Statements Crest, Tibbalds Monro February 1999</td>
<td>© Gardner Stewart Architects</td>
</tr>
<tr>
<td>Newcastle Great Park</td>
<td>Newcastle Great Park Design Code Newcastle City Council November 2000</td>
<td>Newcastle City Council and Ordnance Survey 100019569</td>
</tr>
<tr>
<td>Port Marine, Portishead</td>
<td>Development Framework for Portishead Quay at East Portishead Supplementary Planning Guidance 1997</td>
<td>North Somerset Council</td>
</tr>
</tbody>
</table>

Photographic images of development credited to the research team unless otherwise stated.
£40.00
ISBN 1 85112 855-7
ISBN 978185112855-6