URBAN DESIGN COMPENDIUM

HOMES AND COMMUNITIES AGENCY

LLEWELYN DAVIES YEANG

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When the Urban Design Compendium was first published in 2000 it noted that quality of design was becoming one of the most important criteria in determining whether a project should be eligible for public funding. Since this time understanding of the importance of design quality in creating places people want to live and work in has grown. All development proposals – whether for new development or redevelopment of small infill sites – need to demonstrate that they will be delivering quality places.

It is therefore vital that those evaluating the quality of design proposals have some guidance on what forms of urban design work well and why. Similarly those developing proposals need information on what will be expected of them in terms of their investment in project design.

The purpose of the Urban Design Compendium is to help equip all those involved in the delivery of places with guidance on achieving and assessing the quality of urban design in developing and restoring urban areas.

It is not an exhaustive text. The Compendium provides an analysis of core design issues through the different stages of the project process, from assessment of overall context to deciding the detail of proposed developments. It is principally about the substance of urban design in creating the product. In other words, how do we change the urban landscape to create places where people want to live, work and socialise, from the street corner to the settlement. The Compendium is not generally intended as a guide on how design relates to the detail of the planning and management process. However, we address these issues in the new companion publication 'Urban Design Compendium 2: Delivering Quality Places'.

The material within the Compendium reflects good practice both in the UK and overseas, relying on the stream of new and rediscovered approaches to urban design that emerged at the end of the twentieth century. The regeneration movement has been at the forefront of producing this new wave of thinking about how design can position development in the market, change perceptions of place and create value. There is also a strong body of research to be drawn upon what constitutes urban quality.

Greenwich Millennium Village is already demonstrating new forms of city living

The Compendium was developed following the work of the Urban Task Force, which was established by the Government to consider how we can use a projected 20% increase in the number of households in England over the next 20 years as a basis for regenerating our towns and cities. In its 1999 final report: Towards an Urban Renaissance – the task force callled for design-led regeneration. This led to wider support for improving design quality, particularly through the planning process.

The Compendium was developed to complement the DETR/ Commission for Architecture and the Built Environment design guide 'By Design: Urban Design in the Planning System: Towards better practice. This document was published to promote higher standards in urban design and provide sound, practical advice to help implement the Government's commitment to good design, as set out in Planning Policy Guidance Note 3: Housing (2000).

In the years since these documents were published there has been increasing government commitment to the improvement of design quality. Planning Policy Statement 1 (2005) clearly states that 'high quality and inclusive design should be the aim of all those involved in the development process'.

Despite this growing understanding of the importance of good urban design CABE's housing audit have highlighted there are few high quality schemes actually being delivered on the ground. This edition of the Compendium is therefore accompanied by Urban Design Compendium 2: Delivering Quality Places, which provides detailed guidance on how to overcome key barriers in the design process which currently impede delivery of quality places.

Why the Homes and Communities Agency?

The Homes and Communities Agency has inherited a strong legacy from both English Partnerships and the Housing Corporation in leading the way on behalf of the public sector in promoting innovation in the design and delivery of the projects they have been involved in.

The Homes and Communities Agency strives to put the latest thinking into practice in its projects and those of its partners. It has pioneered new techniques such as Enquiry by Design and Design Coding on its projects and promoted innovation through competitions such as such as Design for Manufacture, Carbon Challenge and the Public Land Initiatve. It was also the first body to set compliance with Building for Life assessment criteria as a standard requirement on all projects. This emphasis on design has resulted in projects of exceptional design quality being delivered.

The Guinness Trust and Knightstone Housing Association have combined in Frome, Somerset, to create 'The Piggeries' – a mix of high density housing that responds sensitively to local context

Good design is one of the key elements which help the Homes and Communities Agency achieve their aim to invest in homes that create sustainable environments. This means creating areas that are desirable, healthy, safe and better places for people of all ages to live and flourish. The Agency understands that good design can create attractive sustainable communities for residents and justify their sense of pride in their environment.

Over the past decade the Homes and Communities Agency and its predecessors have used their Quality Standards and the competitive bidding process to improve standards and the quality of design. In addition the Agency and the Local Government Association agreed a national protocol which set out how they would work together in ensuring that high quality affordable housing is built and managed.

The bringing together of the Housing Corporation, English Partnerships and significant parts of Communities and Local Government into the Homes and Communities Agency has provided a one-stop shop for local authorities and their partners. With a substantial budget for housing and regeneration activities the Agency has significantly greater critical mass than any of the previous organisations acting on their own. Innovation in design remains a fundamental tenet of the Homes and Communities Agency in maximising the delivery of regeneration and new homes.

Who should use the Compendium?

The Compendium was developed to guide policy development and practical application in new development and regeneration for the Homes and Communities Agency. It was also hoped to have wider relevance so it would inform and assist all those involved in new development and regeneration and contribute to the improvement of housing-led regeneration projects and the promotion of sustainable new development.

Since publication over 30,000 copies of the compendium have been distributed worldwide and it has become a standard text for those studying urban design. It is also being translated into Korean and Serbian with interest from several other countries.

The principles in the Compendium remain constant and we hope they continue to inform and assist those involved in creating and delivering places.

For those requiring further guidance on the practical delivery of quality places the Compendium should be read in conjunction with 'Urban Design Compendium 2: Delivering Quality Places'.

1.1 THE IMPORTANCE OF URBAN DESIGN

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Urban design draws together the many strands of place-making - environmental responsibility, social equity and economic viability, for example - into the creation of places of beauty and distinct identity. Urban design is derived from but transcends related matters such as planning and transportation policy, architectural design, development economics, landscape and engineering. It draws these and other strands together. In summary, urban design is about creating a vision for an area and then deploying the skills and resources to realise that vision.

Since the Second World War, this country has seen very extensive urban development and renewal. While there are exceptions, a great deal of this development has been third-rate and is lacking in any 'sense of place'. At worst, the results have been downright ugly and unpleasant. Fine urban fabrics have been spoilt through the process of re-development. The remarkable built heritage flowing from the English urban tradition has yielded to banal and monotonous development, humdrum in design and dominated by traffic. We have repeated standard housing types and layouts, retail boxes and road layouts so many times, with little or no regard for local context, until we find that now almost everywhere looks like everywhere else.

Unblocking the blockages

The development process, and the players within that process - central and local government, politicians and professionals, developers, financiers and builders – have become entangled in a system which produces developments, but not places. We hope that this Compendium will fulfil a useful role in redirecting efforts, to create a framework for development as a contributor to the creation of quality places. There is a growing commitment on the part of funding agencies, as well as planning law and guidance, to underpin this effort to ensure that developments will not be considered acceptable unless they address the issue of place and do it well. To make quality places the norm rather than the exception means overcoming a whole series of constraints, including :

- The compartmentalisation of professional disciplines - the traffic engineer, chartered surveyor, architect, landscape architect, planner - rather than adopting a multi-disciplinary approach.
- The lack of recognition of the legitimate role of the public sector to promote high quality design through planning, site assembly, procurement and investment.
- The predominantly conservative, short term and supply-driven characteristics of the development industry - particularly the volume housebuilders, who concentrate on the 'house' product rather than the creation of a 'place', lifestyle or community.
- The property and financial industries' preference for single use schemes and buildings.
- A lack of innovation in development approaches in respect of sustainable development, use of new technology, construction efficiencies, and planning and design appropriate for the 21st century.

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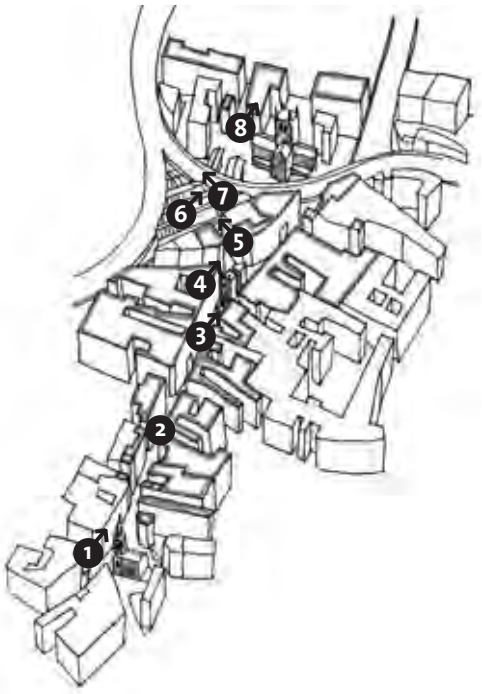
- Reactive planning and development control approaches and mind-sets, applying quantitative standards (zoning, density, car parking, privacy distances etc.) rather than providing qualitative advice and judgements .
- The lack of a reliable, robust and generally adopted series of guidelines and procedures through which high quality design can be procured.

Everyone owns Design

Design is not just for designers and their acolytes. Urban design, like all design, should involve a dialogue with the customer, whether the existing people within an area or those likely to move in. It is a process that needs to generate and draw upon consumer interest. The users hold the knowledge of how an existing area works, its needs and possibilities. Collaborative planning and design processes and a shared understanding of the issues ensure attention to local concerns and reduce possible antagonism from local communities to change.

Local communities can also have a role in implementing projects and managing aftercare. Involvement and commitment can be harnessed on these fronts through early involvement in the design process.

The commitment to dialogue extends, of course, to the professional interests. Urban design is not the province of one professional group; it should involve joint working between different stakeholders representing different interests. This means that a full range of professional skills needs to be involved at each stage of the design process, with the team members testing and challenging each other, coming under continual scrutiny from an informed client, and thus, through joint working, producing a single cohesive product to which all are committed.



By analysing existing places and the complex relationships between their constituent parts we can learn to recognise and create the qualities of a rich and stimulating urban environment

1.2 KEY ASPECTS OF DESIGN

Set out below is a summary of some key aspects of urban design which run throughout this Compendium. These have been developed with specific reference to regeneration and development issues and provide a basis for starting to think about a site or area - whether an empty brownfield or greenfield site, or for the refurbishment of an existing urban area. As such they differ in emphasis although not in broad policy direction, from design principles or objectives published in other design documents.

Table 1.1 – Key Aspects of Urban Design
Places for People
For places to be well-used and well-loved, they must be safe, comfortable, varied and attractive. They also need to be distinctive, and offer variety, choice and fun. Vibrant places offer opportunities for meeting people, playing in the street and watching the world go by.
Enrich the Existing
New development should enrich the qualities of existing urban places. This means encouraging a distinctive response that arises from and complements its setting. This applies at every scale - the region, the city, the town, the neigbourhood, and the street.
Make Connections
Places need to be easy to get to and be integrated physically and visually with their surroundings. This requires attention to how to get around by foot, bicycle, public transport and the car - and in that order.
Work with the Landscape
Places that strike a balance between the natural and man made environment and utilise each site's intrinsic resources - the climate, landform, landscape and ecology - to maximise energy conservation and amenity.
Mix Uses and Forms
Stimulating, enjoyable and convenient places meet a variety of demands from the widest possible range of users, amenities and social groups. They also weave together different building forms, uses, tenures and densities.
Manage the Investment
For projects to be developable and well cared for they must be economically viable, well managed and maintained. This means understanding the market considerations of developers, ensuring long term commitment from the community and the local authority, defining appropriate delivery mechanisms and seeing this as part of the design process.
Design for Change
New development needs to be flexible enough to respond to future changes in use, lifestyle and demography. This means designing for energy and resource efficiency; creating flexibility in the use of property, public spaces and the service infrastructure and introducing new approaches to transportation, traffic management and parking.

The table below sets out how these key aspects of urban design relate to the principles and objectives in key design documents

UDC1 Key aspects of urban design	By Design Principles of urban design	Princes Foundation Design and theory principles	Responsive Environments	PPS1 Principles of good design
Places for people	Quality of the public realm	Make Places	Robustness	create an environment where everyone can access and benefit from the full range of opportunities available to members of society
	Continuity and Enclosure			
Enrich the existing	Character	Build beautifully	Visual appropriateness	be integrated into the existing urban form and the natural and built environments
			Richness	
Make connections	Ease of Movement	Allow movement logically and legibly	Permeability	be integrated into the existing urban form and the natural and built environments
	Legibility		Legibility	address the connections between people and places by considering the needs of people to access jobs and key services
Work with the landscape		Design using natural harmonics		consider the direct and indirect impacts on the natural environment.
Mix uses and form	Diversity	Engender social interaction	Variety	address the connections between people and places by considering the needs of people to access jobs and key services
Manage the investment		Sustain land value		
Design for change	Adaptability		Personalisation	create an environment where everyone can access and benefit from the full range of opportunities available to members of society

The following chapters interpret these principles for each stage of project development.

1.3 HOW THE COMPENDIUM IS ORGANISED

Appreciating the context
How urban design thinking interprets and builds upon historic character, natural resources and the aspirations of local communities, and arrives at a realistic vision of what a place might become.

Creating the urban structure
Working out the inter-relationship between development blocks, streets, buildings, open space, landscape and all the other features that make up urban areas.

Making the connections
Achieving sustainable movement systems – the roads, streets, footpaths, public transport routes, green corridors, and systems for providing service utilities, all of which improve urban life .

Detailing the place
Considering the detail of buildings and the public realm, and the crucial interface between them - the corner treatments, the roof-lines, the pavement, the street lighting etc.

Implementation and delivery
Managing the design process to ensure that a commitment to quality continues beyond completion of construction.

The Structure of the Compendium

The scope of the Compendium

The Compendium has been designed to assist at three levels of project development :

1 Commissioning and setting up development projects

Ensuring that this complex process is done in a way that ensures that design is integrated throughout the evolution of a project. Therefore, at the very early stages of a project, the Compendium insists that urban design issues are considered, whether in respect of the economic appraisal, the preparation of an environmental statement, the development of a community participation strategy or other tasks.

2 Designing individual schemes

Within an overall development framework, the Compendium provides advice that will be useful in designing individual development schemes, from an entire block to an individual plot. For example, the guidance can be used to help construct individual site development briefs.

3 Evaluating project proposals in design terms

From major area regeneration schemes or town extensions to small applications for gap funding, individual buildings or spaces, the Compendium can provide the evaluating team with the triggers it requires to ensure a comprehensive assessment of a project's design potential and it can point funding bodies in the right direction. However it is not a substitute for project specific specialist advice.

The structure of the Compendium

The Compendium follows the chronology of the project development process (see left).

At times important advice is repeated but we make no apology for this. For example, issues that are crucial to making the right connections may also be essential to the pattern of the overall structure. To help the reader in making the right judgements as to what is relevant and what is not, and to assist the many readers who will want to 'dip into' the Compendium, rather than read it cover to cover, there are frequent cross-references.

The value of guidance

Taken together, guidance contained within the Compendium relating to both the 'product' and 'process' of urban design provides a comprehensive overview. Yet this is not a tick-box exercise. A note of caution is required. In design guidance, as in other fields, there is a sort of inverse utility rule; the value of new measures diminishing as a function of time. The more they are institutionalised, the less their utility. A classic case is the original Essex Design Guide - a first class piece of work in its time - rapidly adopted by planning departments and then by the development industry. This led to permissions being won on a 'deemed to comply' basis, almost regardless of the actual design quality. They learnt the tune but ignored the music!

For every piece of general guidance produced, there is an excellent place that defies the guidance, or shows other ways of achieving high quality solutions. Genius, or indeed serendipity, breaks the rules.

Important to the spirit of the Compendium is its encouragement of clients and their designers to aspire to the creation of high quality places. Our overall messages are that there is a need for everyone to contribute to a new culture of high quality urban design and that there is no substitute for a good design team.

How to use the Compendium

The Compendium has been constructed in such a way that it can be read as a single coherent narrative, tracing the design of a project from first principles to specific features, but at the same time it can be dipped into on a topic-by-topic basis. There is no prescription in the Compendium but neither does it shirk from giving quantitative advice where this is deemed helpful. Thus, throughout the report, there are many rules-of-thumb and guideline values that should be considered in drawing up design proposals.

Different parts of the Compendium will be relevant to different types of project. In respect of significant area regeneration schemes, town extensions or new settlements, most of the material contained in the Compendium will be relevant. For smaller infill schemes, it will be a case of extracting those items that are relevant in any given case. What is important is that funding applicants do not sell themselves short. Even the simplest infill scheme must, for example, have due respect for its site context and its overall contribution to the neighbouring urban structure.

The Compendium contains a series of tables and checklists. These are intended for practical use, to be employed in real project scenarios by project promoters and evaluators, in testing the robustness of the design approach. In the final chapter there is a particularly important flow diagram that presents all the core elements of the urban design process. All significant area regeneration projects should pass through each of these processes. Smaller projects will need to employ some but not all of the stages.

The Compendium also provides case studies to illustrate different approaches and points of principle. Each case study has contact details so that relevant projects can be followed up.

How does it fit with Urban Design Compendium 2: Delivering Quality Places

If Urban Design is 'the art of shaping the interaction between, people and places, environment and urban form, nature and built fabric, and influencing the processes which lead to successful villages, towns and cities' (Campbell and Cowan, 1999) this Compendium deals with the former aspects and the second Compendium addresses the processes which lead to successful villages, towns and cities. Urban Design Compendium 2: Delivering Quality Places therefore builds on the principles of this Compendium to provide guidance on how these principles can be effectively delivered in practice.

To do this the second Compendium considers the different processes that impact on project delivery; policy, design, investment and development economics, planning and technical approvals and governance, management and maintenance. It provides guidance on what needs to be done at each stage to ensure delivery of places which prove to be high quality in the long term.

As with this document, the second compendium draws on the experiences of those who have been involved in project delivery, from the Homes and Communities Agency and beyond. It is hoped that this guidance on why particular aspects of projects have been successful will provide an effective resource for all those involved in delivering new developments and regenerating existing areas.

The first edition of this Compendium noted that it was prepared against a shifting and evolving backcloth. In the seven years since it was published there have certainly been significant changes in public policy, technological development and environmental thinking which have significant implications for urban design. The second compendium looks to address some of these in more detail, particularly with regard to environmental issues and long term management of places.

UDC website – www.homesandcommunities.co.uk/udc

The Compendium does not purport to be the final word on best practice in urban design. Further information on urban design principles and case studies can be obtained from organisations such as Commission for Architecture and the Built Environment (CABE), the British Urban Regeneration Association, the Urban Design Group, the Civic Trust and the Resource for Urban Design Information (RUDI) website (www.rudi.net).

As a best practice guide such as this derives its value from the projects and partnerships it forms and stimulates. The Homes and Communities Agency wants the Compendium to continue to be used but we also desire feedback from the experience of its use. What needs to be changed? What is missing? What should not be there? What is difficult to understand? What is difficult to implement?

We will learn from this feedback and use it to develop both the web based guidance and our other best practice documents. We will also look to implement any suggestions for better, more effective ways of working in our future projects.

02 APPRECIATING THE CONTEXT

2.1 Community **2.2** Place **2.3** Natural resources **2.4** Connections **2.5** Feasiblity **2.6** Vision

London Aerial Photo Library

What is meant by context

Context is the character and setting of the area within which a projected scheme will sit. It is its natural as well as human history; the forms of the settlements, buildings and spaces; its ecology and archaeology; its location, and the routes that pass through it. Context also includes people, the individuals living in or near an area and how communities are organised so that citizens become real participants in the projected development. A thorough appreciation of the overall site context is the starting point for designing a distinct place.

Why context is important

Context is crucial. It is about understanding the position of development, and how to position a development. This involves a range of considerations and participants, directly or indirectly. High quality places will only emerge if the approach is cohesive and inclusive. Designers need to take account of the following priorities:

Strengthening local communities

To help ensure that proposed development reinforces, rather than undermines local communities and assists successful project delivery.

Creating places of distinction

Drawing inspiration from a neighbourhood's indigenous character strengthens local identity. Context-less design leads to 'anywhere places'.

Harnessing intrinsic site assets and resources

Harnessing the intrinsic resources of the site - the existing development form, soils and geology, drainage, landscape, solar and wind energy - to create more sustainable development.

Integrating with surroundings

Achieving careful integration with the landscape or surrounding built environment, using the right materials, forms and landscape elements for the locality; respecting footpaths, street and road linkages and relating to existing urban structures.

Ensuring feasibility

To ensure economic viability and deliverability.

Providing vision

A vision focusses community aspirations, sells a scheme to a developer and provides a long term aim for project participants. It embodies a strategy for the future that everyone can sign up to and work towards over a period of time.

2.1 COMMUNITY

The success or otherwise of a project is a product of understanding the human as well as the physical geography. Above all, places must be stimulating for people, and buildings and open spaces must be comfortable and safe. This requires an appreciation of the dynamics of the local community, including:

- local views and initiatives;
- local history and custom;
- the views of other stakeholder groups and individuals (such as developers, landowners, utility organisations);
- organisational or institutional arrangements;
- the policy context.

Design is an essential tool for negotiating trade-offs between different interest groups and securing mutually compatible solutions. The best way to gain the necessary understanding of the above factors, and the potential role of design in strengthening existing communities, is to adopt a public participation strategy that involves a wide spectrum of local interest groups and individuals.

Hosting an Action Planning Day during the initial phase of the Brixham Harbour Regeneration Project ensured design ideas were based on a thorough appreciation of the views of local people

Understand the social dynamics

A community-led review process will address a number of key questions. What are the perceived problems? What is the local image of the place? Can the development complement this existing identity, or does it need 're-imaging'? What behavioural characteristics are distinguishable on the site and its surrounds? Where are the main routes, popular uses and focuses of activity? In order to answer these questions, it is essential to include local people in the design and development process. It is also useful to delve into local historical archives to understand how the place has evolved over time.

Table 2.1 provides an inventory of considerations for undertaking a review of the existing community network and the policy context within which design aspirations are to be taken forward. Section 6 provides references on public participation in design.

The framework has helped deliver improvements to public realm in Bracknell Town Centre

Table 2.1 Community and Policy Appraisal Inventory	
Subject area	**Considerations**
Community profile	• Stakeholders
	• Local views, preferences and aspirations
	• Organisational structures
	• Census and other statistical data
	• Cultural characteristics
	• Safety and security
Local plan policies	• Design
	• Strategic views
	• Land uses
	• Transportation plans
	• Interim uses
	• Specific constraints (eg. airport protection zones)
Heritage and conservation	• Conservation areas
	• Listed buildings
	• Ancient monuments
	• Archeology
	• Sites of Special Scientific Interest
	• Local Nature Reserves and other designated ecological sites
	• Protected flora and fauna
	• Nature conservation, Countryside and Green Strategies
Other relevant policies and initiatives	• Supplementary planning guidance – Development frameworks – Design guides – Site development briefs • Other relevant local authority policies • Relevant policies and requirements of other bodies (eg. RDAs, Environment Agency) • Other local initiatives

Bracknell Town Centre Renewal: *Creating a consensus for improvement*	
Location:	Bracknell Town Centre
Design Team	URBED, Jon Rowland Urban Design
Local Authority	Bracknell Forest District Council
Project	Urban Design Framework and provision of Supplementary Planning Guidance
Details:	Bracknell Forest District Council, in the face of two major planning applications, required an urban design framework that would help set the design agenda for the renewal of the town centre and provide a basis for negotiations with the developers. A series of public workshops, which also included members, officers, and representatives from the developers, was held. These established the image and perception of the town centre and a set of design principles. The workshop groups also designed their own plans and aspirations for their town centre. A general consensus was apparent, and this formed the basis of the Urban Design Framework. The key principles on such aspects as access, mix of uses, and public realm were set out in the form of Supplementary Planning Guidance.

2.2 PLACE

Responding to local context – applying a palette of materials and architectural features unique to the North-East Region

Studies of local vernacular in and around Ashford

1919 **Today**

Devonport street grid

Part of the urban design lexicon is the "genius loci", the prevalent feeling of place. Perceptions of a place are made up of layers of understanding - the settlement in the landscape, its overall structure, the district, the street, the building. They arise from understanding the physical and human geography, the history and morphology of past uses, the natural landscape and buildings, both on a site and around it.

This analysis is essential for both regeneration and new build schemes to make them distinctive and to halt the production of endless, almost featureless, estates which look the same throughout the country.

Everywhere is somewhere

An assessment of the roles and relationships of the area or site to its strategic context, together with an appreciation of the individual characteristics of form and the way a place is used, will lay the foundations for a unique design response.

Table 2.2 provides an inventory of considerations in undertaking a character appraisal.

The key components are:

1 Regional identity

Start by identifying the common characteristics of the region or sub-region. This may relate to climate and physical geography (see Table 2.2), as well as to socio-economic profile (see Table 2.5).

2 Linkages to surroundings

How do connections define the settlement characteristics - is it a linear structure along a main route or part of a grid of streets?

3 Local character

Establish the elements of local distinctiveness, both the form of a place and the way it is used. How can these be built into a project? Are there particular local materials, building forms and features that can be used as a source of inspiration?

4 Morphology

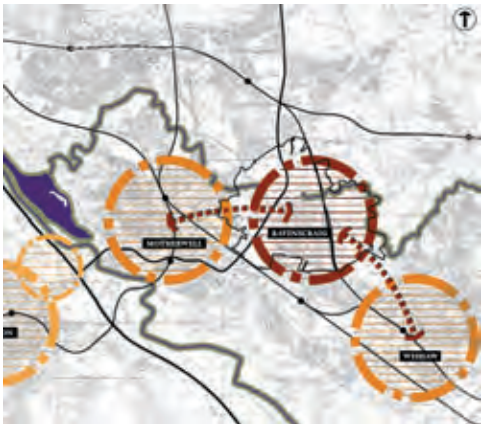
Define what gives shape to the local morphology (historic routes, block patterns, building heights and massing, local vernacular, for instance), and how this provides cues for appropriate design forms.

5 Natural features

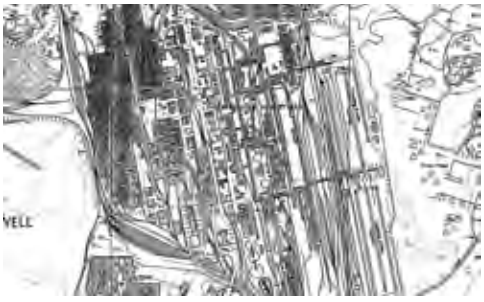
Are there particular ecological or geological characteristics, for instance, that give a place its essential character? (see Table 2.2)

6 Socio- economic profile

What are the demographics of an area and are there particular local traditions and events to draw influence from? (see Table 2.3 and 2.5)



Ravenscraig is located between Motherwell and Wishaw

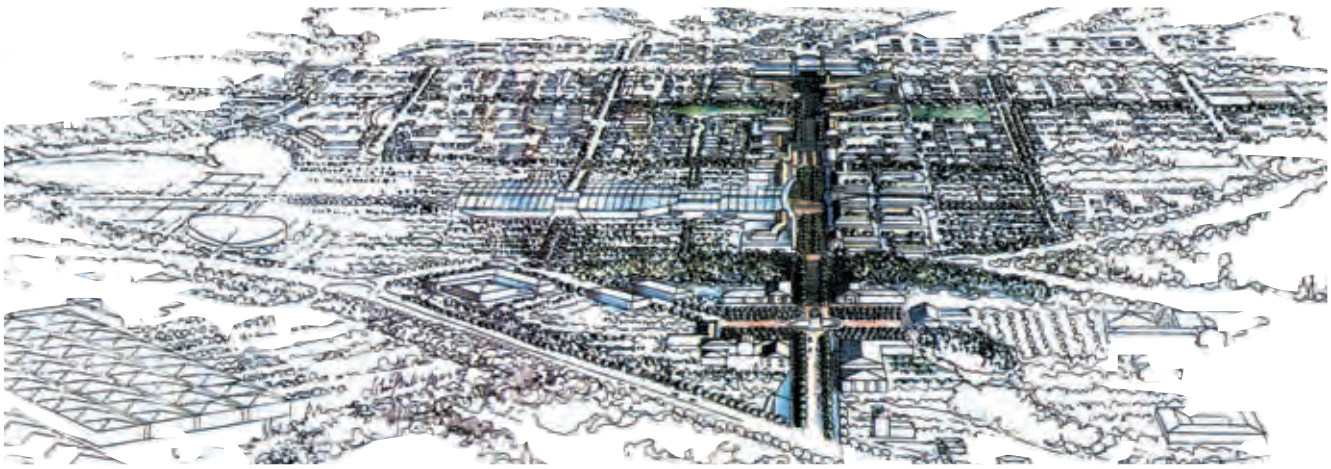


The legacy of the Ravenscraig steelworks (shown here in 1922) is a site largely constrained by sub-surface structures

The figure-ground plan shows how streets and blocks are proposed that take account of these constraints

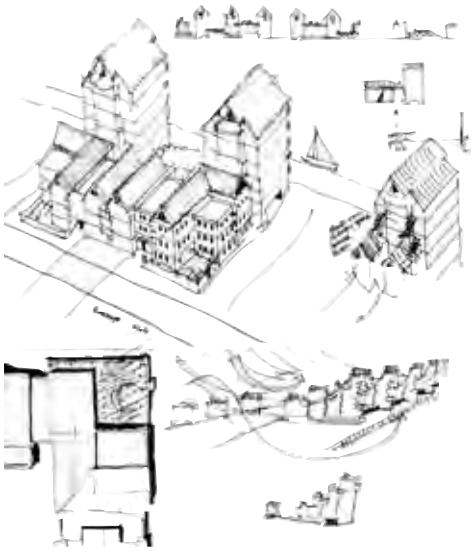
Ravenscraig Master Plan, North Lanarkshire, Scotland: *A new place based on old foundations*

Location	Between the towns of Motherwell and Wishaw and adjacent Craigneuk and Carfin in West Central Scotland, 15 miles from Glasgow.
Design Team	Master Planner: Llewelyn-Davies Property surveyor: Grimley Engineer: The Babtie Group
Developer	Lanarkshire Development Agency, North Lanarkshire Council and British Steel
Site Area	455 hectares
Project	The preparation of a Master Plan for the redevelopment of the former Ravenscraig Steelworks.
Details	The closure and subsequent demolition of Ravenscraig Steelworks left a huge physical hole in the Motherwell / Wishaw urban fabric, and a huge economic and social hole in the community. The North Lanarkshire area was traditionally very dependent on steel and allied industries, and since 1979 has lost some 40,000 jobs. Preparation of the Master Plan in 1997 required an appreciation of these wider issues and the physical design of buildings, streets and public spaces had to take account of the constraints posed by ground contamination, deep foundations, large drainage culverts (including the South Calder Water), high voltage cables and railway lines. The design response has been to propose an orthogonal grid (which takes a cue from Craig's New Town Plan of 1767 for Edinburgh) aligned with these sub-surface constraints. This provides a flexible framework that is capable of accommodating over 3000 new homes, a full range of community and leisure facilities, a variety of employment opportunities (from large single users to small workshops) and an efficient public transport network - all contained within an outstanding landscape setting.



The Ravenscraig vision is for a new settlement comprising more than 3,000 new homes

Michelin building, Fulham Road, London



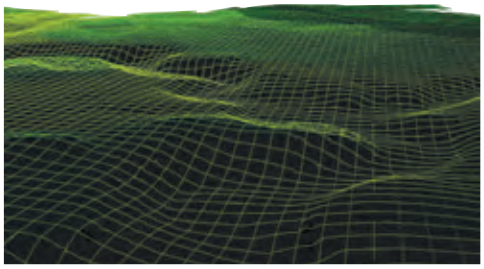
Sketching concepts to respond to place

Table 2.2 Character appraisal inventory

	Subject area	Considerations
Roles and relationships of the site/area to its strategic context	• Function • Linkages to wider area • Relationship to adjacent areas	• Current performance relative to similar areas • Identity
Contiguous areas	• Land uses • Views and skyline	
Character appraisal	• Historical development • Settlement pattern	• Building elements and fenestration
	• Archeology	• Rhythm and pattern
	(initial appraisal) • Cultural characteristics and heritage	• Details and richness • Local community aspirations
	• Local history • Colour and textures	• Local/regional building traditions and materials
	• Local vernacular	• Other local traditions
	• Facade treatments	• Events/festivals
	• Roofscape	• Place names
		• Natural environment/ ecology / local provenance (plants, trees etc.)
Streetscape and public realm analysis	• Visual clutter • Lighting • Barriers • Live edges	• Street furniture, public information and signing • Public art • Safety
Buildings, structures and spaces	• Layout and form of spaces • Public /private interface • Layout and form of buildings (including height, scale and massing) • Age and condition of buildings and structure • Relationship between built and unbuilt form	• Sense of enclosure • Types of buildings • Continuity of facades • Urban grain • Public and open spaces
Uses and activities	• Ground floors	• Arts and culture
	• Upper floors	• Amenities and facilities
	• Evening economy	• Education
	• Activity spines and nodes • Public and open spaces	• Leisure and recreation • Employment
		• Wildlife
Visual analysis	• Image and perception of the area • Gaps and enclosure	• Boundaries and barriers • Aesthetic quality • Legibility
	• Views (local and strategic), vistas and landmarks • Skylines	
	• Gateways and thresholds	

2.3 NATURAL RESOURCES

Urban design in the Nieuwland neighbourhood of Amersfoort, Holland, is centred on optimising solar potential



A terrain model can provide an invaluable tool for masterplanning sloping sites

Existing features can provide cues to inform design

A thorough investigation of a site's natural resources will lead to an overall design response that:

- integrates the various needs of the new development;
- identifies possibilities that the site offers; and recognises the site's limitations.

Work with the elements

The optimum approach involves the maximum use of the site's resources while placing minimum demands on the environment. This involves taking a long term view of the possible environmental impact and addressing how to:

- utilise the solar potential;
- make full use of rain water and drainage systems;
- use the potential of the ground for heating or cooling;
- harness wind energy;
- further reduce energy demands by, for instance, integrating a Combined Heat and Power (CHP) plant into the development (see 3.4.5) or harnessing biomass.

Table 2 .3 (taken from English Partnerships' *Best Practice Note 65*) provides an inventory of considerations to use as the basis for environmental and landscape appraisal. This may culminate in an environmental statement or environmental impact assessment, according to the project scale.

'If it ain't broke, don't fix it'

The critical questions to be asked include:

- should the site be developed at all?
- if it should, then what parts of the site?
- what mitigation measures can be taken to avoid, reduce and remedy negative environmental impacts?
- what types of development are appropriate and how can these integrate with the wider urban structure?
- which features can form the basis of the landscape structure?
- how can exploitation of the site's assets reinforce a unique sense of place?

As a general principle, it is important to focus on how to repair and re-use previously developed or damaged parts of the site, while retaining and respecting undamaged parts. This requires three key considerations:

1 Identify landscape assets to preserve

Many of the most valuable spaces, places and landscape assets are precisely thus because they have been left alone. Most ecological or landscape assets need respecting, rather than exploiting. The value of a landscape asset can easily be degraded.

2 Re-use and repair brownfield land

Many sites will be deficient in natural or semi-natural assets, such as topographical features, watercourses and planting. Furthermore, decontamination or remediation may cause further impacts on the existing landscape. On such sites consider ways of:

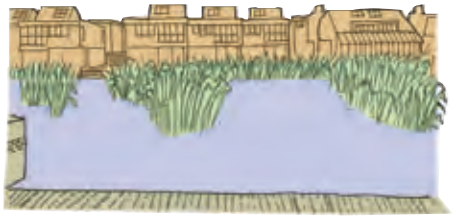
- introducing new landscape features and wildlife habitats;
- restoring damaged parts by, for instance, re-profiling a slope;
- integrating elements from the site's past life, such as routes, structures and buildings.

3 Strengthen the identity and structure of the landscape

Identify those landscape features for inclusion in a scheme which contribute towards the unique character of a site. Particularly on greenfield sites, every effort should be made to work with the 'grain' of the land and incorporate existing features of the landscape into a scheme. Reviving historic features provides opportunities to enrich outdoor space and can include natural and man-made elements, from watercourses and streams to ancient field boundaries.

The intrinsic landscape characteristics for evaluation include topography; orientation; aspect and prospect; current landscape assets (trees, water, habitat etc) and liabilities; contaminated, despoiled and poorly drained land, unsightly structures; overhead lines and utility facilities.

Ecolonia's layout is centred on a reed-fringed pond, with buildings orientated to maximise solar gain



Highest density homes are located in the central area and enjoy a direct relationship with the water

Ecolonia: *A model of low-energy housing*	
Location	Ecolonia, Alphen aan den Rijn, The Netherlands
Promoter	NOVEM - Dutch Government Trust for Energy and the Environment (now Agentschap NL)
Design Team	Urban Designer / Masterplanner: Atelier Lucien Kroll, Brussels
Details	The Masterplan provides the framework for nine different architects, each given a particular design priority: Energy 1 Bakker, Boots, Van Haaren, Van der Donk, Schagen (high insulation) 2 J.P. Moehrlein, Groningen (solar energy) 3 Hopman bv, Delft (low embodied energy and in use) Recycling 4 BEAR architects, Gouda (economy of water and materials) 5 Alberts & van Huut, Amsterdam (durable materials) 6 Lindeman c.s., Cuijik (flexibility and adaptability) Quality 7 Vakgroep FAGO, Technical University, Eindhoven (acoustic insulation) 8 Peter van Gerwen, Amersfoort (health and safety) 9 Archi Service, s'Hertogenbosch (bio-ecology)
Developer	Bouwfonds Woningbouw Housing Association
Project	101 housing units (constructed between 1991-93) in groups of 8 to 18 buildings to foster a sense of community, each with different environmental design priorities (see above). A reed-fringed pond with bisecting canals forms the focal point.
Details	Ecolonia is heralded as the most important EU-funded low-energy housing demonstration project to date. The project is organised to develop a wide range of new technologies and housing designs, each focussed on different ecological aspects. These include the • use of rainwater;- • use of passive and active solar energy; • energy saving strategies; • reduction in water consumption; • recyclability of building materials; • organic architecture; • durable materials; • flexible ground plans; • soundproofing; • healthy building materials. The performance of buildings is subject to on-going testing, evaluation and monitoring.

Table 2.3 Environmental Appraisal Inventory

Characteristics of the Proposed Development																									
	Operation														Construction										
Characteristics of the Existing Environment	Landscaping	Potential Emergencies (including hazards)	Transport Requirements	Traffic Movements	Production Outputs	Labour Requirements	Demand for Services	Waste Disposal	Water Demand	Storage/Stockpiling	Equipment Operation	Raw Material Inputs	Location of Buildings or Works		Landscaping	Potential Emergencies	Traffic Movements	Labour Requirements	Equipment Operation	Raw Material Inputs	Building Construction	Location of Buildings or Works	Drainage Construction	Land Clearing	
Physical Environment																									
Ground conditions and soils																									
Surface and groundwater resources																									
Topography and geology																									
Climate, microclimate, orientation, exposure																									
Air quality																									
Hydrology (inc. water quality and watersheds)																									
Land and Land-Use																									
Property (residential and commercial)																									
Leisure activities																									
Agriculture																									
Forestry resources																									
Access to the countryside																									
Ecology and Nature Conservation																									
Terrestrial & aquatic habitats & communities																									
Plant and animal species																									
Specially protected animals and plants																									
Heritage																									
Landscape setting, structure and type																									
Archeology																									
Historic sites and features																									
Cultural interests																									
People																									
Human health and welfare																									
Employment																									
Community and cultural cohesion																									
Views																									
Noise and vibration																									
Transport																									
Accessibility																									

2.4 CONNECTIONS

Minimising barriers to pedestrian movement helps create a walking-friendly environment (Amiens, France)

Sometimes facilities introduced in the name of 'pedestrian improvements' actually impede movement on foot and reinforce vehicular priority

Successful development depends on good access and connections. The connections between a site and its surroundings are important for even the smallest of developments. A site that comes up for redevelopment will have existing points of access, but they may not be of the right kind or in the right place. For instance, the entrance to a railway goods yard may be totally inappropriate when the site is made available for a mixed-use development.

The contextual analysis that will provide the basis of a movement framework will need to establish:

- how routes from the new site will knit in with the existing infrastructure;
- the provision made for all forms of movement, with positive discrimination in favour of walking, cycling and public transport;
- how the new development can benefit the area as a whole, for instance by the extension of a bus route, or a more direct footpath to the neighbourhood centre;
- how movement will be provided for at all stages in the development.

At project inception, it is a matter of establishing the principles of the movement framework. The structure will be designed later in relation to the overall development scheme.

Understand existing access and linkages

To integrate the site with its surroundings, it is first necessary to analyse existing points of access and linkage for both movement and infrastructure. Table 2.4 provides an inventory of considerations.

Observe the quality of movement

Watching how people move through an existing area reveals the various influences on movement at work. How people move, particularly on foot, is not just a matter of the simplest and most obvious route, but will be influenced by, for example: variety and interest; safety; light and shade; commercial activity; landscape; noise and pollution. Movement analysis will suggest how these considerations can be added to and improved. Remember, how we experience travel also differs according to the particular needs of women, children, the elderly, the disabled etc.

Table 2.4 Movement analysis inventory

Subject area	Considerations
Circulation	• Access and mobility • Walking
	• Cycling
	• Public transport
	• Private vehicles
	• Interchanges
	• Permeability
	• Barriers
	• Rights of way
Legibility	• Points of entry / gateways • Hierarchy of routes and spaces
Traffic generation	• Current levels • Future proposals and projects
Accommodating cars and services vehicles	• Parking • Servicing • Traffic management

Overlooked footpaths run through the site

Boundary treatments provide a sense of privacy and enclosure

Translates traditional characteristics into contemporary design

The Piggeries , Frome, Somerset: *New housing fully integrated into the existing town*	
Location	The site is located within the historic market town of Frome in Somerset which has a strong industrial history based on wool and cloth manufacture.
Designer	The Architecture and Planning Group
Developer	The Guinness Trust and Knightstone Housing Association
Local Authority	Mendip District Council
Site Area	1.25 hectares
Density	57 units per hectare (net)
Project	71 social housing units, including a mix of family housing and flats, warden-assisted sheltered housing and a foyer scheme, all set within the Frome Conservation Area. The completed scheme was handed over to the Housing Associations in February 1998.
Details	Some important lessons were learnt in terms of design: • the tenure of the scheme is not discernible from the architectural form and quality; • building height and massing vary from 2 to 4 storeys across the site in order to respect the surrounding built form, creating a strong sense of place and containment; • good use of boundary treatments, such as natural stone walling and railings, contribute to the sense of enclosure; • buildings are outward-looking, with minimal setbacks, creating active street frontages; • maintaining pedestrian access across the site has aided footfall to the nearby secondary retail area and peripheral streets, adding to the vitality and viability of the town centre; • the design respects and takes advantage of the need to move through and express the slope of the site; • the scheme successfully accommodates the car while minimising its impact; • A high quality, robust townscape is created by attending to the detail of meter covers, chimneys, walls, bin storage, lighting, cable TV and street surfaces; • sustainable solutions are the result of continuity within the core design team from both conception to implementation, and establishing links with the community early in the design process.

2.5 FEASIBILITY

Urban design studies for the Greenwich Peninsula have had to address a wide range of engineering constraints

The feasibility of a project, both in economic and practical terms, requires an assessment of:

- community need;
- market supply and demand;
- funding sources;
- site capacity;
- land ownership, assembly and tenure;
- integration with surrounding context;
- construction costs;
- engineering constraints;
- local planning policy context.

The proposals will need to relate to their location and context, and will vary with the type of project, whether infill, brownfield, urban extension or regeneration. Appropriateness is the key; a highly urban solution will not be appropriate on a suburban edge-of-town site, and vice versa.

An early assessment of the factors likely to affect a project's feasibility will form the basis for preliminary designs and testing. These will then require continual iteration and re-evaluation. Table 2.5 provides an inventory of considerations for undertaking an economic appraisal and feasibility review.

Sketches such as this can help evaluate urban capacity potential

Table 2.5 Feasibility appraisal inventory

Subject area	Considerations
Market	• Existing feasibility studies
	• Ownership and tenure
	• Current development pressures
	• Supply and demand (in relation to competition, socio-economic profile, regional context etc.)
	• Cost
	• Funding sources (public/private/partnership)
	• Grant regimes
Engineering	• Existing services and utilities
	• Existing obstructions (such as foundations and basements) • Major constraints (such as culverts or gas mains)
	• Ground conditions (such as contamination and subsidence) • Geology
	• Archeological investigation
	• Drainage
	• Man-made structures (such as bridges / roads)
	• Requirements of other bodies (such as utilities)

2.6 VISION

New 'visions' for proposed projects within Devonport Urban Village

St. James Road Urban Village, Gateshead: defining the vision for the future regeneration of a 50 hectare site

The vision is an amalgamation of hard physical and financial facts and a series of aspirations. The synergy between these is crucial – to say: this is what we want; this is how we will get there; this is who needs to be included and take responsibility; this is where the money comes from; this is who will champion the vision; and these are the mechanisms for delivery (see section 6).

The contextual analysis is a springboard for shaping a vision as to what can be achieved. It is easy to lose sight of the potential in facing up to the numerous constraints, but regeneration projects that have been successfully implemented provide sources of encouragement, and this Compendium contains many examples.

Value can be created

A poor physical fabric or social problems may have stigmatised an area, but history shows these attitudes can be changed. There are numerous examples of 'problem places' becoming 'opportunity places' through a quantum shift in their planning and marketing.

Constraints can be overcome

Creative proposals for brownfield land are often inhibited by the claim that there is no market for what is proposed. As the transformation of Hulme in Manchester has shown, with vision new markets and new futures can be created and value added (see p.49).

Context is dynamic

Designs that are inherently flexible will enable future changes to be accommodated - such as in household size and composition, lifestyles and movement patterns. It is vital to conceive a masterplan as a framework that will enable adaptation over time. The initial context appreciation stage has two key outputs:

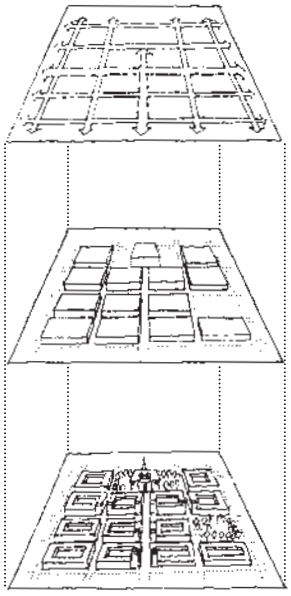
1 A SWOT analysis (Strengths, Weaknesses, Opportunities and Threats) that provides a composite of the various 'layers' of consideration by identifying existing strengths and weaknesses, opportunities for improvement and threats to the project's success (see 6.3).

2 Initial concept ideas and strategic options that sketch out the vision, and build in flexibility to the project as it unfolds by ensuring that the process is:
- participatory;
- capable of incremental implementation - balancing long-term aspirations with short-term improvement or pump-priming initiatives.

The use of computer modelling in the Granton Waterfront project has helped articulate the desired block structure and mix of uses

03 CREATING THE URBAN STRUCTURE

3.1 The movement framework **3.2** Density, facilities and form **3.3** Energy efficiency **3.4** Landscape
3.5 Landmarks, vistas and focal points **3.6** Mixing uses **3.7** Blocks **3.8** Parcels and plots



What is meant by urban structure?

The term urban structure refers to the pattern or arrangement of development blocks, streets, buildings, open space and landscape which make up urban areas. It is the interrelationship between all these elements, rather than their particular characteristics that bond together to make a place.

Urban structure does not imply any particular kind of urbanism: it applies equally to the centre and to the suburb, and everything in between; and of course it applies equally to the city, the town and the village.

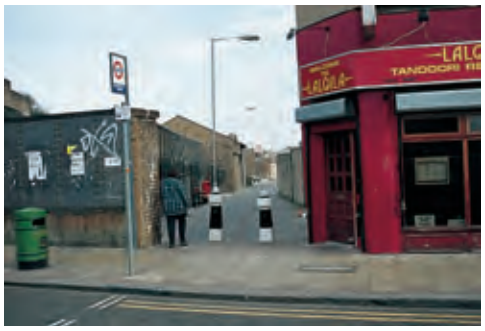
Why urban structure is important

The urban structure provides the foundations for detailed design of the constituent elements. It creates a coherent framework, which forms the basis of the design of individual developments - quite possibly by different actors - in order to achieve the following:

- **Integration**
  Connection and overlap with surrounding areas.
- **Functional efficiency**
  So that individual elements (buildings, streets, open space etc) work together as part of an efficient whole.
- **Environmental harmony**
  Creating development forms that are energy efficient and ecologically sensitive.
- **A sense of place**
  Creating somewhere that is recognisably distinct but simultaneously strengthens local identity.
- **Commercial viability**
  Responding to the realities of market influence on development mix and delivery.

3.1 THE MOVEMENT FRAMEWORK

High quality routes are over-looked, well lit and attractively landscaped.



We should focus our efforts on improving routes to bus stops, yet all too often these are unattractive and intimidating.

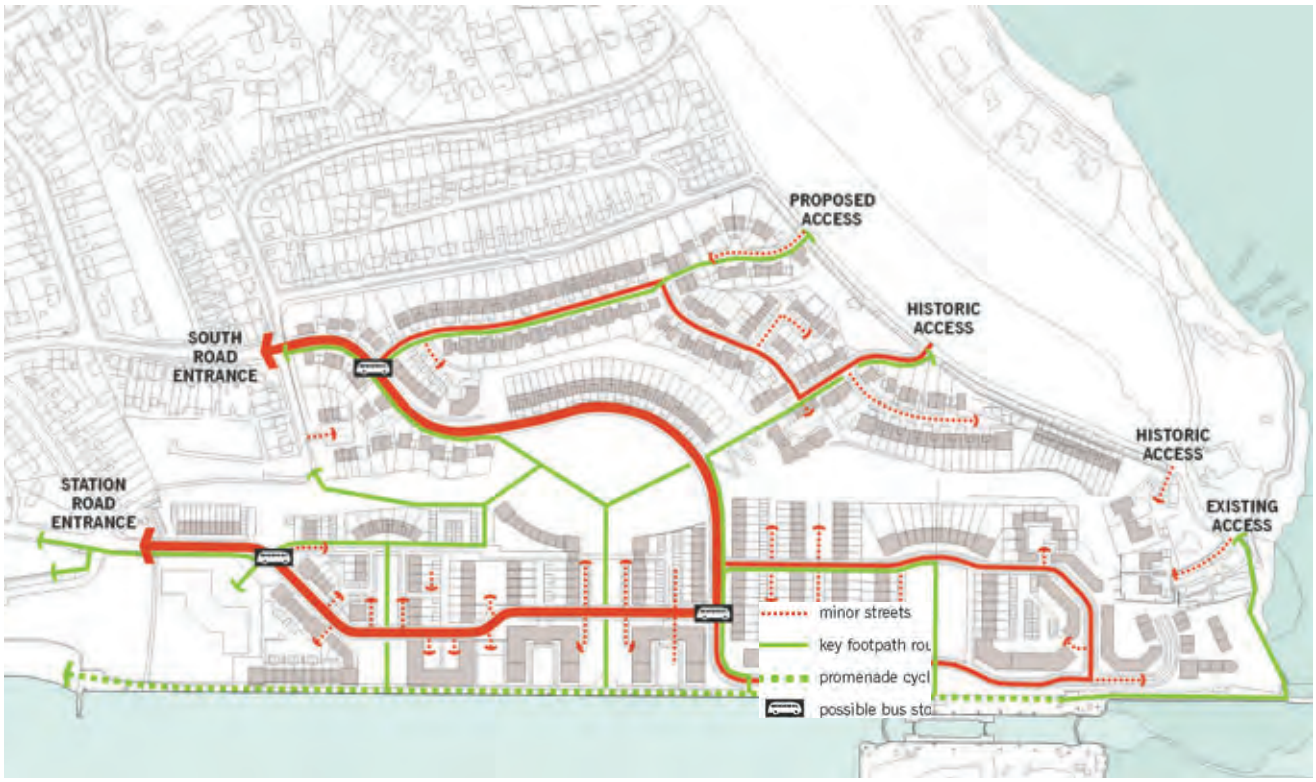
Getting the movement right affects uses and activities, density, security and the impact of the development on neighbouring places. The movement framework concerns the structural aspects of movement, focusing on the street and footpath networks. The individual activities and components of a movement structure (walking, cycling, public transport etc) are addressed in detail in Section 4.

A successful movement framework:

- provides the maximum choice for how people will make their journeys;
- takes full account of the kinds of movement a development will generate;
- makes clear connections to existing routes and facilities.

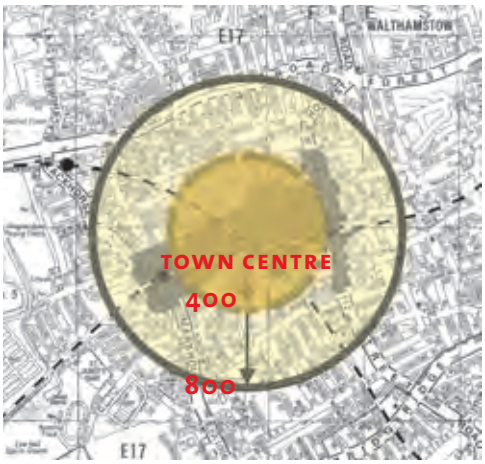
Because every site is different there can be no standard formula. What suits a large suburban site will be quite different from a pocket site in the inner city.

The movement framework should, wherever possible and practicable, make it as easy and attractive to walk, cycle or take the bus, as it is to travel by car. This means providing the right kinds of route to fit the journeys that people want to make. The reason why one route is better than another depends on countless factors, many of them quite intangible, hence route assessment can never be an exact science. Predicting vehicle movements is only one part of the exercise: how people experience their journey (especially people on foot) is just as important.

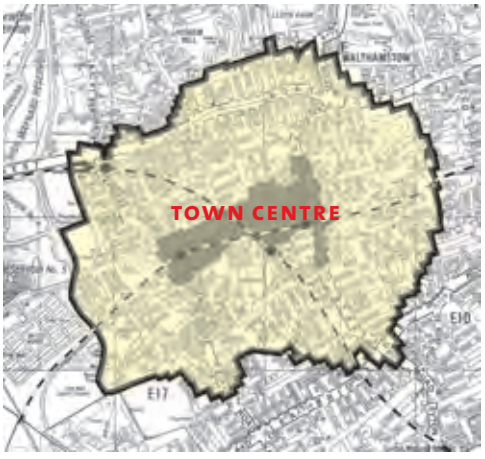


The movement framework clearly illustrates the route network for pedestrians, cyclists, public transport and other vehicles

A thorough movement assessment takes account of all modes of transport



The first step is to define the walkable catchment area to local facilities



This can then be refined to reflect more accurately existing routes and barriers to movement.

3.1.1 MOVEMENT ASSESSMENT

Undertake a movement assessment

This will form the basis for improving the existing network or creating a new street pattern. Some of the factors to consider in relation to the various modes of transportation (walking, cycling, bus, car, etc.) include:

- Safety
- Air quality
- Convenience of journey
- Speed
- Walking down and up kerbs
- Pedestrian crossings
- Pedestrian and cycle (Toucan) crossings
- Segregated path
- Quality of transport
- Overbridges
- Underpasses
- Severance
- Noise
- Pollution
- Visual amenity
- Variety in visual amenity
- Pavement congestion
- Road congestion
- Quality of pavements
- Quality of roads
- Cycle facilities

The quality of different routes can be rated to help decide which should be developed or where improvements are needed. Redevelopment of an existing site may provide opportunities to re-establish old routes that have been destroyed or downgraded, and to improve movement through an area, not just to and from the new site.

3.1.2 THE WALKABLE NEIGHBOURHOOD

Design for ease of walking

Local facilities bring residents together, reinforce community and discourage car use. So the first component of a movement framework should be the walking distances from facilities. The quality of the routes is important, especially where there are obstructions such as busy roads or railway lines. To give walking priority means putting the everyday experience of the street first on the agenda.

People should be able to walk in 2-3 minutes (250 metres) to the post box or telephone box: the newsagent's should be within 5 minutes (400 metres). There should be local shops, the bus stop, the health centre and perhaps a primary school within a walking distance of (say) 10 minutes (800 metres).

Consider how best the site can be connected with nearby main routes and public transport facilities

The typical cul-de-sac response creates an introverted layout, which fails to integrate with the surroundings

A more pedestrian-friendly aproach that integrates with the surrounding community links existing and proposed streets, and provides direct links to bus stops

This street pattern then forms the basis for perimeter blocks, which ensure that buildings contribute positively to the public realm

Key

Principal routes
Bus stop
Internal streets

3.1.3 STREET NETWORK

Connect with the existing network

Direct, attractive connections between key facilities, avoiding dead ends, help to create more convenient and comfortable places. An assessment of how best the site can plug into the wider movement networks should aim to provide the maximum number of direct connections to main streets carrying through traffic. The more direct the links between main streets, the greater the potential for mixed use (the links do not have to be vehicular). Decide which links are most important to extend into the scheme, to provide the basis for the internal movement structure.

Make or break boundaries

The linear elements that define the boundaries of a place - the edges - may be used to define the limits of a development site or regeneration area. Rivers, canals, parklands, busy roads or viaducts, may provide the definition that contributes to a sense of place.

But sometimes punching through or spanning these edges will create an enhanced spatial dynamic, by forging links with surrounding areas and reducing severance.

The Calls and Riverside, Leeds
Before: The river severs north and south parts of the city

After: A new footbridge provides a direct route to the city centre

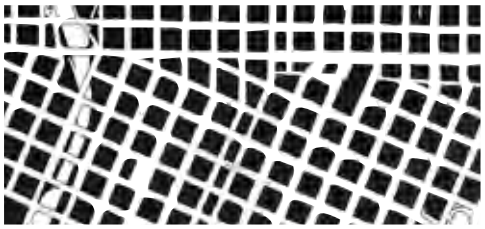
A new link has been punched through the railway viaduct – helping to stitch together the city centre and riverfront

The planning framework articulates a three-dimensional vision for improvement of the area

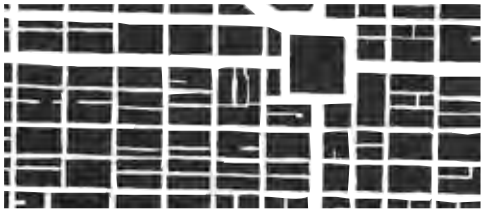
Converted warehouses front onto the River Aire

High quality architecture has raised design standards in the area

The Calls and Riverside Planning Framework, Leeds: *Breaking the barriers*	
Location	Both sides of the River Aire immediately South East of Leeds' central shopping area.
Master Plan Client	Leeds Development Corporation
Design Team	Master planner: Llewelyn-Davies
Project	Planning framework for the regeneration of an area of redundant Victorian warehousing adjacent to, but cut off from, Leeds City Centre.
Details	One of the central aims of the planning framework was to break through the barrier imposed by the railway viaduct and station, which served to bisect the riverside to the south and the City Centre to the north. A new physical link to the City Centre is now open and well used. This connects the Corn Exchange building (now a specialist shopping centre) to the riverside via a route punched through a railway arch and a new pedestrian river crossing. A lively urban quarter has developed, including shops, a hotel, flats and offices.



Portland, USA



Philadelphia, USA

London, West End

With part of the road lowered and a wide pedestrian crossing provided, an area once severed now binds together seamlessly

3.1.4 TYPES OF GRID

The grid provides choice

The time-honoured way of achieving efficient connections is to create a grid, which provides a simple structure, allowing access throughout the area. The form may be orthogonal or more irregular; but its virtues are the same. The grid also offers opportunities for traffic management, allowing restriction of car access in some streets.

Grid spacing of 80-100m provides an optimum network for pedestrian and vehicular needs in most circumstances. The size of resulting development blocks has to be checked against proposed uses and building types, and adjusted to suit (see 3.7.2 on block size). In central areas with intensive pedestrian activity, grid spacing of 50-70m provides an optimum circulation network.

However the movement grid of this scale may not be appropriate for structuring the overall urban form. For example, major urban blocks may be over 200 metres or more in any dimension with minor cross streets and footpaths through the blocks. Similarly, parallel street forms may be appropriate, with minor cross routes. Issues of topography, orientation, neighbouring uses and so on are all part of defining the appropriate grid structure for a given development.

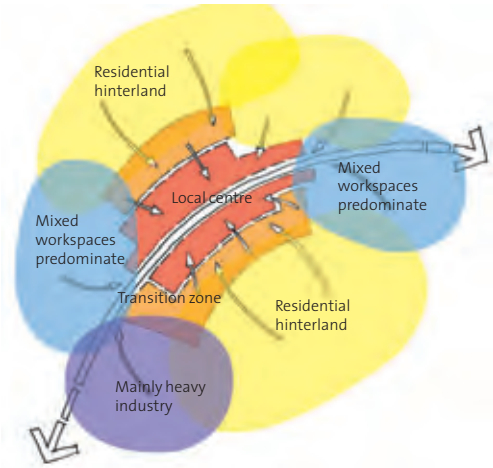
Birmingham Inner Ring Road: *Loosening the collar*

Project	The Birmingham Inner Ring Road was completed in 1971, and was regarded at that time as a classic improvement of its kind. The aim was to remove trunk road traffic from the city core by building a 3.5 mile road around the centre, punctuated by roundabouts at seven junctions. In traffic management terms something of the original aim has been fulfilled, but at the expense of severing the urban fabric at its most vulnerable points. The concrete collar which it has created has broken the traditional links between the City Centre and neighbouring areas. In particular, for people on foot it presents a hostile or impenetrable barrier. The pedestrian subways at the roundabouts are intimidating and humiliating, and have blighted life and activity in the areas around the road.
Detail	Since 1988 Birmingham City Council has adopted a policy of remodelling the ring road, in order to: • link the City Centre to neighbouring areas. • enable City Centre activity to spread into those areas. • create an improved pedestrian environment across the city. In the way traffic is handled the emphasis has shifted to the city's middle ring road. The most notable aspects of the scheme achieved so far are: • lower Paradise Circus to create a new pedestrian link to Centenary Square and the International Convention Centre; • re-create the Old Square as a pedestrian space on the route from the City Centre to the Law Courts area; • remodel Smallbrook Queensway, including the removal of subways, to create a much improved pedestrian link to the Chinese quarter of the city.

3.2 MIXING USES

In designing new places, what role is the centre to have when all the potential 'mixed use elements' are sucked to the edge?

Uses are still being zoned and roads designed as strategic routes at the expense of the creation of more local relationships based on walking and cycling.



A more vibrant and sustainable form results from blurring the distinction between uses and designing places that make walking to the local centre, and bus stop or railway station, as convenient and comfortable as possible

Successful communities require a full range of local services and facilities, including commercial, educational, health, spiritual and civic uses. These need to be conveniently sited and connected to residential areas by safe and comfortable routes.

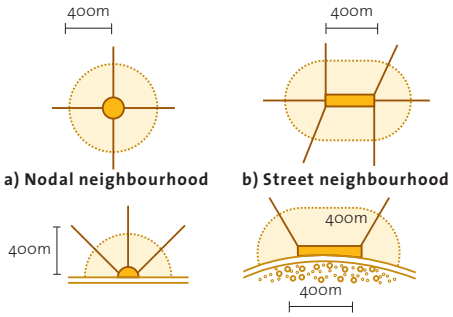
Traditionally, towns have developed around crossroads, centres of activity or stopping places, with the incremental growth of housing, retail, community and employment uses around the original core. Yet despite the virtues of mixed development (see Table 3.1), in modern development it often remains the exception, rather than the rule.

Table 3.1 The benefits of mixed development

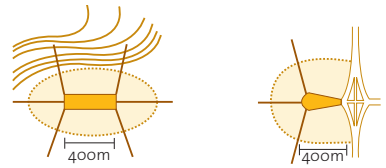
- More convenient access to facilities
- Travel-to-work congestion is minimised
- Greater opportunities for social interaction
- Socially diverse communities
- Visual stimulation and delight of different buildings within close proximity
- A greater feeling of safety, with 'eyes on streets'
- Greater energy efficiency and more efficient use of space and buildings
- More consumer choice of lifestyle, location and building type
- Urban vitality and street life
- Increased viability of urban facilities and support for small business (such as corner shops)

A successful and sustainable local neighbourhood is a product of the distances people have to walk to access daily facilities, the presence of a sufficient range of such facilities to support their needs, and places and spaces where a variety of activities can take place.

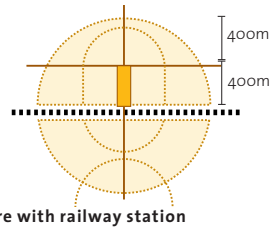
These are exemplified by the traditional Victorian and Edwardian suburbs which were built on the assumption that most movement would be pedestrian. Other travel needs were serviced by a suburban rail line - the station providing the focus of retail, commercial and civic activity. Such spatial and use patterns are often difficult to replicate in modern development due to current transport planning regimes, the dispersal of movement patterns facilitated by the car and the trend towards ever-larger retail, educational or healthcare buildings in order to achieve efficiencies of scale.



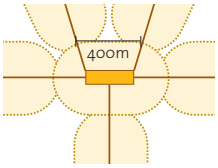
a) Nodal neighbourhood
b) Street neighbourhood
c) Neighbourhood adjacent to main road
d) Waterfront neighbourhood



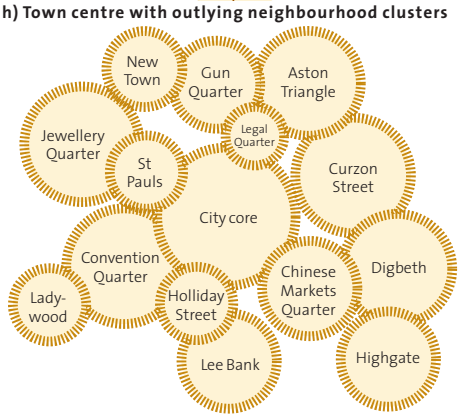
f) Neighbourhood across a slope
e) Neighbourhood at a motorway



g) Town centre with railway station surrounded by neighbourhood clusters



h) Town centre with outlying neighbourhood clusters



Birmingham urban design strategy: neighbourhood identities

The heritage of the Jewellery Quarter is being used to underpin proposals to enhance this urban village (source: EDAW)

Often the planning system does not help. To illustrate, if we take a typical large site, land uses may include housing, a primary school, shops, offices and some industry. Planning generally zones these uses and gives them relatively fixed boundaries before any serious design work is undertaken. On occasion, sites are carved into development parcels around a rudimentary road system without a clear urban design structure in place. At this stage, it is not unknown for densities to be decided upon, as well as other fixed requirements - open space provision, for example. This approach frequently involves routing the main road round the site rather than across it and locating the traffic generating uses such as retail and employment areas close to entrance junctions and along the main road. The road is used as a boundary to segregate uses. Such attempts to create a sense of place around a focal point often fail because the very uses that generate activity are on the edge of the site or beyond, in a nearby business park or out-of-town centre, and tend to be internalised in 'big boxes'.

This tendency can be reversed by promoting diversity in terms of:

- Development forms;
- Land use;
- Density;
- Tenure;
- Market segments.

3.2.1 THE NEIGHBOURHOOD UNIT

Build walkable neighbourhoods

Mixed use development can best be promoted by using the distance most people will walk to daily facilities, the corner shop or the bus stop as a starting point.

The neighbourhood unit can provide a useful organising device - but only when it is overlaid on an integrated movement framework and conceived as a piece of town or city whose activities and forms overlap. This is to move away from large-scale projects envisaged or described as neighbourhoods, but designed as disconnected enclaves. It is also to move away from estates and layouts - terms which in themselves serve to emphasise single use and segregation.

A widely used benchmark is for mixed development neighbourhoods to cover a 400m radius, equating to about five minutes walk. This translates into 50 hectares.

3.2.2 CHARACTER AREAS

A patchwork of different activities

In many towns and cities, there is scope for strengthening existing neighbourhoods where identity is based on a particular activity or mix, (a market place or college campus for example), or devising new areas of special character. Such 'character areas' can reinforce local identity and serve as a marketing tool to raise the profile of a particular place, as in the case of Birmingham's Jewellery Quarter. These may relate to predominant uses, focal buildings, historic associations or ethnic composition, such as a Chinatown.

Gloucester Green in Oxford provides a lively and attractive mix of flats above shops and restaurants

Identify whether the project relates to a particular character area. If so, consider the implications for use mix, building form and design of open spaces. Can new themes be added or particular existing attributes strengthened further?

3.2.3 COMPATIBLE USES

Maximise synergy, minimise conflict

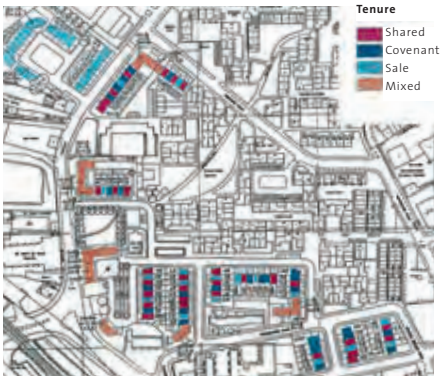
Diversity inevitably brings some conflict. Existing places demonstrate that most activities can live harmoniously side-by-side, with this conflict designed out at the detailed level. Indeed, it is a positive virtue of many well-established places, where a whole mêlée of sights, sounds and smells gives uniqueness and character. But different uses have different needs - not all mixes are appropriate - no-one wants a car breaker's yard backing onto a park - and some uses are better located in single use blocks.

In considering the widest possible mix of uses that can be introduced to add vitality an economic feasibility study should be undertaken to check viability. This should be undertaken in conjunction with an evaluation of the relative compatibility between the proposed uses and their existing neighbours, and then each use positioned to promote compatibility and avoid conflict. High traffic-generators such as distribution warehousing complexes, for instance, are best located close to motorway junctions and railheads.

Combine primary activities

Combining the primary activities of living and working supports a greater variety of secondary facilities (whether commercial, entertainment, leisure or community-based). Grouping the main elements of the palette of uses to be accommodated will help to make a place.

Within core areas, lessons can be learnt from the design of shopping centres, where uses are positioned to concentrate pedestrian flows by spacing anchor stores a maximum of about 250m apart.



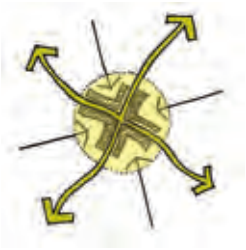
'Pepper–potting' tenures in the redevelopment of the Trowbridge Estate, Hackney (PRP Architects)

3.2.4 MIXED FORMS, USES AND USERS

Sprinkle housing types and tenures

Both the scale of the centre and the mix of uses it contains will depend on where the scheme sits in relation to the urban hierarchy. This of course varies from place to place, but many sites will have a layering – centre, transition zone and outer edge. Mixing tenures promotes social diversity and it is therefore important to spread different building types and tenures across this range. 'Pepper-potting' different tenures throughout an area ensures that a variety of housing types and ownership patterns are sprinkled, rather than clustered into exclusive enclaves. As projects such as Coin Street on London's South Bank have demonstrated, financial planning mechanisms need to be considered at an early stage, based on authoratative advice. Physical planning and financial planning should proceed hand in hand.

Positioning local centres away from main routes deprives them of life and passing trade



The answer is to create pedestrian and public transport–orientated centres at key focal points

Public transport orientated development ensures that a mixed use community has a railway station or bus stop within walking distance at its heart

A variety of active uses line the ground floor

A footbridge links to the adjacent multi-storey car park

The existing superstructure has been retained

An atrium brings light to the interior

Urban Splash

3.2.5 CENTRES

Focus centres on public transport nodes

Highest concentrations of activity (particularly the retail core) emerge naturally along principal routes or points of convergence - along high streets, at crossroads and so on. These centres vary in size depending on location, the nature of the street network, overall densities and size of catchment.

Mixed-use centres are best located at crossroads and along main movement routes, within walking distance of homes. This strengthens their identity, provides passing trade and enables bus stops and/or railway stations to be fully integrated. For small sites, bear in mind how the site is connected to existing local centres.

Inject housing into the mix

Centres that have been a victim of postwar zoning demonstrate how vitality and viability are lost where housing is not part of the mix. Injecting housing into the mix wherever possible enables activity to be stretched beyond daytime office and shopping hours.

The ability to introduce non-residential uses into housing areas varies tremendously between the centre and edge of a settlement. To create a strong community focus, a shop, bus stop and primary school will usually be considered a bare minimum. In large housing schemes that cannot be expected to attract many non-residential uses, consider the 'centre' as the core residential area within which the local shops, commercial use and amenities will sit.

Emphasise the civic

Public services and amenities support residents and workers, and provide focal elements of an urban structure that help to encourage a strong sense of community and identity. Nurseries, libraries, community centres, police and fire stations and government offices are best placed at central points in highly visible locations. Public squares can be used to emphasise their civic status.

Smithfield Buildings, Manchester: *Mixing it up*	
Location	Tib Street in the Northern Quarter of the City Centre
Designer	Stephenson Bell Architects
Developer	Urban Splash (Developments) Ltd
Local Authority	Manchester City Council
Floor Area	13,424 m^2 former department store
Project	The creation of 81 loft apartments, 21 ground floor shops and a basement gym
Details	Until its decline in the 1950s, Smithfield Buildings housed one of the city's most famous department stores - Affleck and Brown, the "Harrods of the North". Throughout the 1980s the building stood empty, but was located within an area targeted for regeneration by the City Council. With design ingenuity and flair it has now been redeveloped into award-winning, highly desirable, loft apartments with shops, cafes and a nightclub below. In design terms this has been achieved by retaining the atrium to provide daylight into the centre of the block, and skirting this with internal access galleries. The dramatic loft layouts harness to great effect the potential for new forms of urban living.

3.2.6 EDGES

Absorb the 'big-box' into the mix

Sustainable development requires that:

- out-of-town development, often mono-functional in nature, such as industrial, office and retail parks, is curtailed;
- these elements are brought back into urban centres, to become part of the urban mix.

This has fundamental implications in terms of form, density and parking, particularly how to accommodate 'big-boxes' (whether multiplexes, superstores or retail warehouses) - as developers will often be reluctant to change their standard approaches.

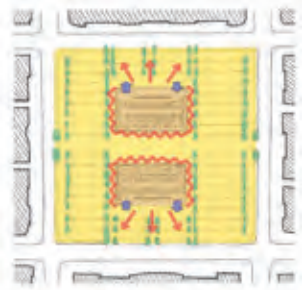
It is important to establish that the provision of such facilities must be appropriate to the needs of the locality, and must not impose socio-economic costs on the community in terms of traffic generation, visual blight and undermining established centres. A preferred approach is to:

- absorb 'big-boxes' into the transition area on the edge of the retail core. The presence of larger development blocks in these locations can provide sufficient land to wrap the main perimeter of the box with a skin of smaller buildings - concealing its bulk and creating active frontage (see 5.2.1). Siting within the walkable catchment from a public transport node (see 3.1.2) also encourages more sustainable customer transport patterns;
- select 'cul-de-sac locations' where at least one site edge requires no frontage (such as adjacent to a railway line). This lessens the amount of exposed blank walls and servicing.

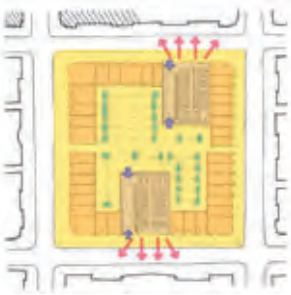
Wrap and cap the 'big-box'

Large stores and other large 'big-box' units that are often stand-alone, with exposed 'dead' frontages, create particular problems for active and attractive streets (see 5.2.1). However, such building types can be modified to become compatible with fine-grained urban settings by mixing horizontally and/or vertically with other uses, which may involve:

- wrapping the perimeter on the street faces with smaller units (such as Sainsbury's supermarket, Clapham High Street);
- building other uses on the air space above the box (Tesco's supermarkets, Sheffield and Earls Court);
- incorporating a well designed upper façade for roof top parking (such as Waitrose (formerly Safeway's) supermarket in Fulham);
- externalising more active uses (such as cafés and boutiques) and increasing their 'transparency' to the street.



Big box sheds surrounded by parking: potential active frontage is projected into the car park, rear elevations exposed and the streetscape undermined



By turning the sales floor 90° and inserting the building into a perimeter block, access is provided from both sides but active street frontage is ensured

Wrap big boxes with smaller units to create active frontage

Ocean Village cinema, Southampton

Furniture showroom, Newbury (Architect: Sutton Griffin & Morgan)

Bring dead edges to life

Mono-functional commercial developments (industrial, business, retail, leisure, office or science parks), are clusters of low-density facilities that in recent years have formed drive-in estates cut-off from their surroundings. They remain one of the most problematic challenges for urban designers concerned with creating integrated mixed developments.

Clustering low density facilities in marginal locations is only justifiable where noise or pollution emissions prevent closer integration with residential areas and low grade urban land (such as adjacent to a railway) can be utilised.

The preferred approach is to locate such employment and commercial uses in such a way that they link to nearby centres with access to public transport, are accessible off main routes and are also in walking distance of as much housing as possible. If 'big-boxes' or 'sheds' are unavoidable, then ensure they are accommodated within a perimeter block structure, with a public frontage and high quality landscaping. Allow for future retrofitting and densification, especially of their often excessive parking areas (see 3.3.4).

The development of Broughton Atterbury in Milton Keynes is intended to become a model high quality urban extension

Broughton Atterbury, Milton Keynes: *Extending the City*	
Location	North eastern Milton Keynes
Promoter	English Partnerships (now the Homes and Communities Agency)
Design Team	Facilitators: English Partnerships, The Prince's Foundation Master Planners: EDAW Development Briefing: English Partnerships
Site Area	55 hectares
Density	750 dwellings @ 34 dwellings per hectare average. 27,525 m^2 commercial @ 40% site cover
Project	Framework plan for a development located at the edge of the new city of Milton Keynes which is being promoted as an urban village and includes the existing hamlet of Broughton. The development area includes landfill on former sand pits and will comprise: • 750 dwellings, including home working • 27,500m^2 commercial/employment/workshops • First School • Linear Park • Recreation and social facilities
Details	Broughton Atterbury was selected to explore the potential for the development of a new urban village in Milton Keynes. The Prince's Foundation assisted English Partnerships in pulling together stakeholders including local residents, community representatives and officials, business people, police and special interest groups. A Planning for Real weekend attended by 120 people resulted in a vision and brief for consultants to prepare a master plan based on urban village principles of mixed uses, quality urban design and sustainability. The master plan formed advanced infrastructure works and the preparation of individual site development briefs which incorporated pioneering requirements on sustainability and energy conservation. The first commercial and residential developers have been selected by assessment panels - including English Partnerships, Milton Keynes Council, the Prince's Foundation, National Energy Foundation, local residents, and the Building Research Establishment (BRE) - and meet the exacting design, sustainability and financial criteria set. In addition, the proposals will assist the BRE in establishing Building Research Establishment Environmental Assessment Method (BREEAM) Estates, a new standard for assessing the sustainability of site development.

Brighton's North Laines provide a mixture of shops, workspaces, residential development, cafes and theatres.

3.2.7 TRANSITION ZONES

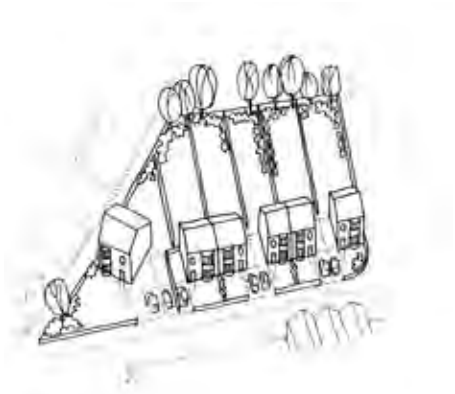
A rich mix in transition

The transition zone between centre and edge is fertile land for mixing to occur, and can vary enormously in character. These are the hotch-potch areas that bridge the commercial core and the residential hinterland. It is within these zones that the most dynamic mix occurs, with shops, workspaces, storage yards, and houses existing side-by-side. Land values enable some of these lower density uses to thrive and provide the most scope for encouraging live-work, speciality retailing, artist and cultural quarters, for instance. In large schemes, transition zones can be used to buffer homes and other noise-sensitive uses from activity sources. However, night-time uses (pubs, clubs and restaurants) can also work well here. If positioned away from predominantly residential areas they can also feed off one another when they are clustered.

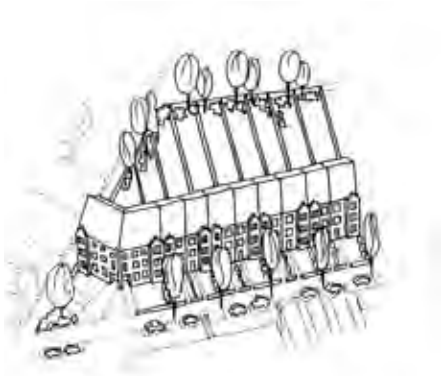
Schools are also often best located in the transition zone between the higher density residential areas and local centres, where they are as close as possible to the majority of children, and where they can be introduced without cutting off pedestrian access to the centre.

Laganside Masterplan, Belfast: *Reconnecting the centre and riverfront*	
Location	On the side of the River Lagan to the east of the city.
Design Team	Architects: Birds Portchmouth Russum Transport Engineer: Ove Arup and Partners Property Consultant: James W. Burgess Cost Management Consultant: Gardiner & Theobold
Client	Laganside Corporation
Project	To create a new mixed-use city block, extending beneath the Cross Harbour Bridges and linking the city centre with the banks of the River Lagan.
Details	The Masterplan provided the basis for the creation of three new major public spaces linked by a riverside walk and flanked with a mix of activities. Implementation of this concept is now well advanced, with Corporation Square enlarged and reconfigured to play a more civic role, with an historic ship planned to be berthed in dry dock at its centre. Custom House and Laganbank squares also address the river, together with new buildings containing YMCA/student housing, small businesses, retail units, cafes, bars, nightclubs and hotels to add further life and vitality. Seven new apartment blocks are proposed to provide a built edge to the riverfront, together with a café, crèche and sports/recreation facilities. Workshops, showrooms, retail units and a multi-storey car park are to be accommodated beneath the bridges.

3.3 DENSITY, FACILITIES AND FORM



What current set-back and parking standards can give you: low density, suburban house types out of place with their setting and forecourts dominated by parking



Applying standards with more flexibility and parking on-street increases site potential and creates strong street frontage

Car free urbanism (perhaps with only some on-street parking) with strong links to nearby public transport facilities can provide high quality city living without town cramming

Recent moves towards the creation of more sustainable towns and cities that offer a high quality of life whilst minimising resource consumption (such as energy, land and water), have reawakened interest in the concept of density. The benefits of seeking higher density levels in overall terms are well-recognised (see Table 3.2) - especially in the context of delivering mixed use development where a minimum housing density is required to sustain non-residential uses.

Some people continue to equate higher densities with poor urban quality, such as overcrowding and reduced space standards. This misses a fundamental point. Density is only a measure. It is a product of design, not a determinant of it. The aim should therefore be not to achieve a given residential density, but to generate a critical mass of people able to support urban services such as public transport, local shops and schools.

Research has shown that there is no correlation between urban quality and density (DETR, 1998). Developments driven by average densities and shaped by blanket standards (relating to privacy, open space, parking and highway geometry, for example) stultify design and tend to produce lowest-common-denominator blandness.

The recommended approach is design-led, concentrating on sustainable urban quality. Market considerations influence many of the housing forms and this, together with the design-led approach, makes density a measure of the product, not a determinant of it.

Table 3.2 The benefits of higher densities
Social
• Social proximity encourages positive interaction and diversity
• Improves viability of and access to community services
• Enables more and better integrated social housing
Economic
• Enhances economic viability of development
• Provides economies of infrastructure
Transport
• Supports public transport
• Reduces car travel and parking demand
• Makes undercroft or basement parking economically viable
Environmental
• Increases energy efficiency
• Decreases resource consumption
• Creates less pollution
• Preserves and helps fund maintenance of public open space
• Reduces overall demand for development land – avoiding sprawl

3.3.1 DENSITY AND FACILITIES

Focus on activity centres

Higher densities focussed on urban centres ensure that they remain lively, with local facilities close at hand. Giving people the choice to use public transport, by siting bus/tram stops or railway stations within walking distance also helps underpin viability by significantly increasing potential custom. This not only applies to residential uses, but to industry, commerce and shopping. The better served and connected a site or development is, the stronger the case for considering higher densities and lower car parking provision.

Clanricarde Gardens, Kensington & Chelsea
1067 Habitable Rooms per Hectare (HRH) (834 gross)

Tredegar Square, Tower Hamlets 412 HRH (225 gross)

Wakehurst Road, Wandsworth 400 HRH (267 gross)

Woodgrange Estate, Newham 307 HRH

Urban density ranges

Research suggests net densities of 100 persons per hectare (pph) are necessary to sustain a good bus service (LGMB, 1995). Taking the 800m (10 minute) walking distance as a starting point (generating a walkable neighbourhood of 97.5 ha - see 3.1), this equates to 45 dph if the average UK household size of 2.2 persons is applied. In more central locations, 240 persons/ha (or 60dph) will sustain a tram service.

Suburbs are not in themselves 'bad'

Modern suburbs, the peripheral edges of our towns and cities, are often equated with car-oriented sprawl. Yet there are many historical precedents that illustrate that this need not be the case. Many of the classic Garden City suburbs exemplify this, such as Hampstead or Letchworth. They were built at about 30 dph. Where local context requires more suburban forms, the basic tenets of good urbanism still apply.

3.3.2 DENSITY AND FORM

Vary the density profile

Within the higher density levels which sustain urban life, variations in the net density of built form profiles will occur naturally. This can be enhanced by building up the mass around centres, public transport access points, parks and riverfronts, for example. Shape the mass of built form to frame positive public spaces (see 5.1).

In contrast, much recent development, which may have exactly the same population density of its traditional counterpart, is characterised by flat, featureless density profiles. This is the product of building down to imposed standards or density levels, such as 25-30 dwellings or 150 - 200 habitable rooms per hectare. Built form is distributed and density bumps ironed out.

Planning and highway design standards are partly responsible. Many are mandatory measures rather than performance criteria. Generally, the panoply of standards leads to developments that are designed to comply and thus win approval. The resultant development forms generally fail to have a distinctive identity, are wasteful of land and infrastructure and lead to car dependency.

Urban density does not mean town cramming

Density is a measure. How comfortable a place feels is a matter of the design and its social characteristics. The average density of many well-loved Georgian, Victorian and Edwardian terraces exceed by considerable margins the density limits in many local plans and would generally not obtain planning permission today. High density is often equated with high rise. However, the tower blocks of the 1960s were built to low densities in ill-defined and poorly used space. The challenge to the designer is to:

- ensure buildings, streets and places are of a human scale;
- moderate the mass of a building or group of buildings so that it steps up or down to its neighbours;
- use high quality landscaping to soften perceptions of a place.

Cater for a range of lifestyles

Table 3.3 provides a ready reckoner for different densities. Two key messages underpin this; the need to relate densities to context and the need to provide a mix of densities within large developments. Each reflects differences in lifestyle and the trade-offs that different social groups make. The amount of space we desire around our homes and proximity to central areas is, for example, balanced against property price and commuting time considerations.

The creation of socially mixed communities with varied lifestyles requires a choice of building types and settings. In general, it is possible to achieve this by not grouping too many of the 'lower' density units together and by creating a fine-grained pattern of development plots.

Blend the best parts of towns

In many urban situations, medium rise, high-density buildings (of about 3 – 4 storeys) in general provide an optimum form that maximises density whilst minimising perceived intensity or overcrowding. They can also be designed to be attractive, energy efficient and mixed use, whilst:

- reducing costs of land acquisition and site infrastructure;
- avoiding costs of lifts and other services;
- providing a robust form that allows for changes in use over time;
- forming terraces or low-rise flats, the most cost-effective building form in housing;
- increasing energy efficiency and the ability to be orientated for passive solar gain;
- providing lifetime homes that can be readily adapted for the elderly or disabled.

Thus well defined residential development can also provide the typical visual and environmental attributes of a suburban estate - namely private entrances at ground level, adequate garden sizes, convenient car parking, significant public space and a pleasant aspect for windows.

		Option 1	Option 2	Option 3
Car Parking Provision		**High** 2-1.5 spaces per unit	**Moderate** 1.5-1 space per unit	**Low** less than 1 space per unit
Redominant Housing Type		**Detached & linked houses**	**Terraced houses & flats**	**Mostly flats**
Location	**Setting**			
Site within Town Centre 'Ped-Shed' (Accessibility index 6 – 4)	**Central**			240-1100 hr / ha 240-435 u / ha Ave. 2.7 hr / u
	Urban		200-450 hr / ha 55-175 u / ha Ave. 3.1 hr / u	450-700 hr / ha 165-275 u / ha Ave. 2.7 hr / u
	Suburban		240-250 hr / ha 35-60 u / ha Ave. 4.2 hr / u	250-350 hr / ha 80-120 u / ha Ave. 3.0 hr / u
Sites along Transport Corridors & Sites close to a Town Centre 'Ped-Shed' (3 – 2)	**Urban**		200-300 hr / ha 50-110 u / ha Ave. 3.7 hr / u	300-450 hr / ha 100-150 u / ha Ave. 3.0 hr / u
	Suburban	150-200 hr / ha 30-50 u / ha Ave. 4.6 hr / u	200-250 hr / ha 50-80 u / ha Ave. 3.8 hr / u	
Currently Remote Sites (2 – 1)	**Suburban**	150-200 hr / ha 30-65 u / ha Ave. 4.4 hr / u		

Table 3.3 Density matrix
Average densities are based on case studies analysed as part of the *Sustainable Residential Quality: Exploring the housing potential of large sites* research (LPAC, DETR, GOL, LT and HC, 2000)

In early phases of development a full perimeter block may not be possible

Phasing building close to the street with parking to the rear enables future intensification to take place

The intensity pyramid

On large schemes, it often proves useful to articulate different housing forms in particular around a 'density pyramid'. This requires the positioning of lower density forms at the edges of the project and the higher density forms around and in the local centre, with a gradation of types and sizes in between. Within this general approach, smaller 'hot spots' of intensity can be created, for example a higher apartment block on a corner or at a gateway.

3.3.3 DENSITY AND INTERIOR SPACE

Enable people to trade space for place

There is no reason why high densities cannot also mean lots of living space, as the highly valued mansion blocks of Kensington, grand apartments of Paris or lofts of Manhattan all prove. The approach should ensure that high-density proposals use adequate floorplate standards and thus avoid cramped living conditions.

3.3.4 DENSITY AND TIME

Take a long term view

Overall urban form aspirations are not always possible immediately. However, thoughtful positioning of buildings will enable early developments to set the context for the future and provide the framework to enable further intensification as the project builds out.

This requires that buildings be positioned close to the street, with parking in interior courts - establishing a positive relationship between public and private realms. Although there may be insufficient buildings to generate a perimeter block immediately (see 3.7.1), if considered from the outset this approach can enable the level of development to increase as the project matures.

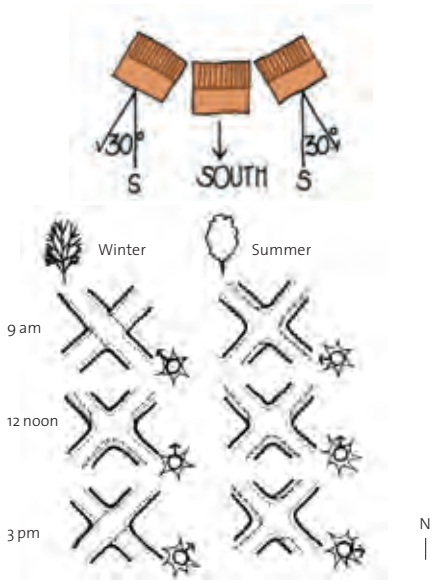
Homes provide good surveillance of internal courtyard

Wide decks promote use as a social space

Homes for Change, Hulme, Manchester:
A striking new form borne of community involvement

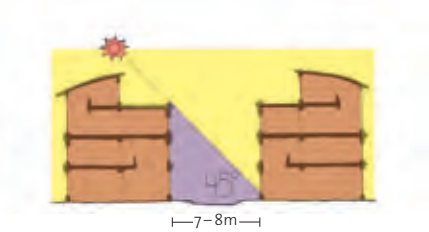
Location	The Hulme area of central Manchester, previously a notorious inner city 1960s system built housing estate.
Designers	Mills Beaumont Leavey Channon Architects (Phase I) Harris Ince Architects (Phase II)
Developer	Guinness Trust and Homes for Change Co-op
Local Authority	Manchester City Council
Site Area	0.63 hectares
Density	79 units per hectare
Project	A mixed use perimeter block of 50 flats and maisonettes, of which there are 28 different types, over 1500m^2 of multi-functional spaces including a theatre, shop units, workshop, studios, darkroom and recording studio.
Details	The award winning Phase I scheme takes on board all that was good about the 1960s 'crescent blocks' identified by the former residents of 'the Crescents', who came to found a housing co-operative to oversee its development. The dramatic architecture resulting from a process of the local community driving the scheme forward is a striking rebuttal to assertions that public participation in the design process generates blandness. The forms are highly unconventional, high density and mixed-use, with environmental performance given high priority. Perhaps most surprising of all is the retention of the deck access concept that characterised the block's 1960s predecessor, though their modern counterparts are wider and visually more permeable. These were requested by the residents for their tendency to promote positive social interaction, and together with the terraces, help provide overlooking to an internal courtyard used for informal social gatherings and safe children's play.

3.4 ENERGY AND RESOURCE EFFICIENCY

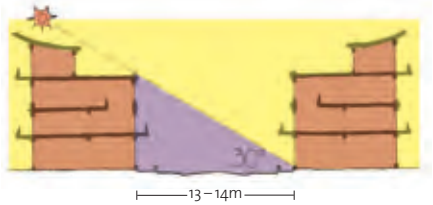


Make sure that overshadowing doesn't unduly undermine solar access and vary building scale and positioning accordingly

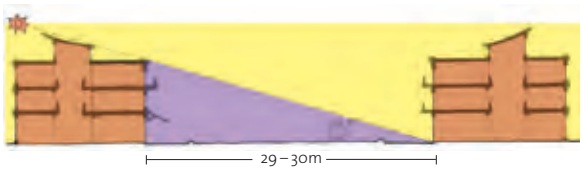
Strict adherence to solar access and privacy concerns can serve to space buildings further and further apart – lowering densities and weakening street enclosure.



***Mews*: 60 – 70% loss of total annual solar radiation**



***Street*: 30 – 40% loss of total annual solar radiation**



***Square or high street*: 5% loss of total annual solar radiation**

With careful design, sufficient solar access can be provided to all floors in tighter settings and solar energy systems installed on roofs. Lower solar access on the ground floor can be compensated for by, say, larger windows.

Depending on the site, in many cases there is a hierarchy of considerations as to how to use renewable energy resources. Often, the order of consideration is:

- sun;
- rainwater;
- ground;
- wind.

Whilst maximising the contribution of these resources, it is important to minimise environmental demands and ensure the efficient conversion or disposal of waste.

3.4.1 SOLAR DESIGN

Turn towards the sun

There are four main ways of using the sun in buildings: daylight; passive solar gain; photovoltaic (PV) modules; and active solar panels.

Daylighting reduces the need for artificial lighting and passive solar gain reduces the need for space heating. Photovoltaic modules convert solar radiation directly into electricity and are a rapidly developing technology. Active solar panels for heating water have been available for some time and have long term potential in the UK.

The key to optimising the solar potential of the site is to orientate buildings broadly to the south. This tends to result in an East -West street pattern. It is possible to move up to 30° away from due south and yet have 90-95% of the maximum output of a PV module or a solar collector. A common goal is to stay within 15-20° of due south.

Let the light in

As a general rule, the more sun the better (potential problems of overheating and glare can be dealt with during the building design stage). Contrary to some attitudes and guidelines, it is possible to achieve high levels of natural light penetration with tight urban form. But a balance needs to be struck between new development and the constraints imposed by the local setting, particularly in relation to the land use and street pattern of adjacent areas and the height and roofscape of adjacent buildings.

Creative rainwater management using spiral ponds in Luxembourg

The drilling rig at the BRE environment building, used to drive a 70m deep borehole into a chalk acquifer

3.4.2 WATER

Collect, store and recycle rainwater

Retaining surface water reduces the need for drainage infrastructure and energy for pumping, with their extensive capital and maintenance costs. Streams, rivers, canals, ponds and lakes can be incorporated into surface water retention systems, whilst simultaneously providing attractive visual landscape features and valuable ecological habitats. They can also be linked to the recycling of grey water (run-off from roofs and other hard surfaces) for the irrigation of plants (refer to 3.4.5 for waste water recycling). Maintenance and management requirements must be carefully considered at the outset, and particular care needs to be taken where contamination is present.

3.4.3 EARTH

Use the potential of the ground

Consider the potential of underground energy sources for environmentally friendly heating and cooling systems. This has two aspects:

1 Temperature difference

The temperature at a depth of 10m is about 14 °C. It is possible to use heat pumps that take advantage of the temperature difference between the ground and the air for both heating and cooling but the heat transfer fluid needs to be checked as suitable for the environment.

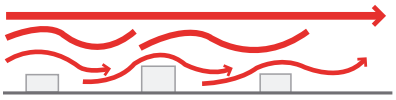
2 Aquifers

Buildings that produce a great deal of heat internally can be cooled using borehole water from aquifers, found in much of the country. The most common way of doing this is by sinking two boreholes into the aquifer, one for a supply of cool water and the other as a discharge point.

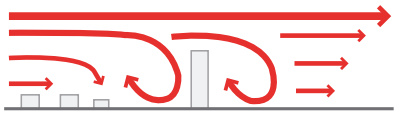
Streets, blocks and buildings are orientated for solar gain (Photographer: Jan van Ijken)

Nieuwland, Amersfoort, Netherlands: *Solar design on a grand scale*	
Location	An urban extension to Amersfoort, The Netherlands
Project team	N.V. Regionale Energiemaatschappij Utrecht (REMU) Ecofys, ENEL SpA
Details	REMU, the Regional Energy Distribution Company of Utrecht, has initiated the construction of approximately 500 houses, a crèche, a sports hall and nine school dwellings fitted with solar cells, or 'photovoltaic modules'. This is taking place in Nieuwland, the City of Amersfoot's new housing area (30km east of Amsterdam) and has the capacity of generate 1 megawatt of electricity.

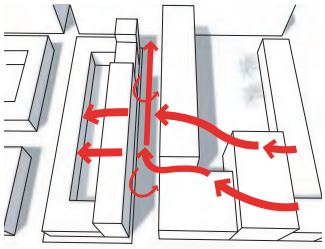
A highly integrated street pattern encourages high levels of air movement. Winds are 'smoothed' over low, densely built areas.



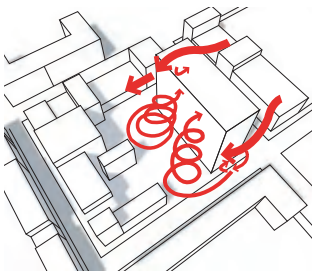
With greater spacing winds are forced down to make open spaces potentially uncomfortable



This is intensified by tall freestanding buildings, creating eddies that also result in building heat loss (adapted from Gehl, 1987)



Building form can also affect the quality of public space by channelling wind along streets . . .



. . . or creating vortexes in plazas in front of tall buildings (from Lang, 1994)

3.4.4 WIND

Work with the wind

Wind is both a friend and foe. In the summer mild breezes ventilate buildings and improve comfort whereas in the winter winds increase heat loss. Harness the potential of the wind for natural ventilation and as a possible energy source. Design and position buildings to minimise funnelling and the creation of uncomfortable microclimates. Landscape also has a role to play in influencing wind patterns (see 3.5.6).

Throughout the year at suitable sites wind energy can even provide a source of electricity. Normally such sites will be in more exposed areas. Surprising as it may seem, it may be possible to use the wind even in urban situations, as indicated by the audacious roof top wind turbine in Dublin.

3.4.5 WASTE

Do more with less

How to do more with less is the basic issue. Either through design or by the way we live. But less what? Here we're interested in less land (see 3.3), less energy, less water and fewer materials so that we can minimise demands on the environment. Designs can be made more energy and resource efficient by:

1 **Landscape –** minimising the use of water or fertiliser.
2 **Infrastructure –** reducing the demand on site lessens the amount of infrastructure needed. Reducing the building energy demands can reduce gas main sizes and using rainwater on site minimises surface water drainage pipes.
3 **The buildings –** minimising demands on resources in terms of:

- space and water heating (eg. insulation, double-glazing);
- electricity / fuel;
- water;
- construction materials.

Consider reed beds

If there is sufficient land available, consider reducing the load on the sewage infrastructure by using reed bed filtration systems, which treat grey water run-off. These can form attractive landscape features. For housing, the approximate land requirement is 1-2 m^2 per resident.

Waste not, want not

Waste may be considered simply as what we have not found a use for. Look at ways of reusing resources within the site. This can range from composting organic materials through to re-using building materials and recycling rainwater. Re-use of excavated material on site avoids the costs and resource consumption of transporting off site. Use of prefabricated elements can reduce site construction waste. Recycling facilities should be provided for materials that need centralised processing, such as paper, glass and metals.

Think CHP

It may be possible to add new infrastructures to reduce energy demands. For example, in compact areas where the patterns of electricity and heat demand are right, it may be cost effective to use a CHP (Combined Heat and Power) plant or District Heating System. These are electricity generators run on gas or other fuels. The 'waste' heat they give off is used to heat water for space and domestic hot water heating.

3.5 LANDSCAPE

Parc de Bercy, Paris: Social housing of great quality where high quality modern buildings are complemented by parkland and allotments

Articulating the landscape strategy

A quality landscape and a sense of urbanism can, and should, go hand in hand. The landscape, development block, and movement framework are the three main design elements of an urban project of any scale. By landscape, we mean many things; it is the open spaces, water, movement corridors and way-leaves; it is parks, squares, and streets; it is the street furniture; it is hard and it is soft.

In design terms, there are distinct task areas, for example:

- the intrinsic landscape characteristics, for good or ill, of the site and its setting;
- open space planning, the typology hierarchy, function and frequency of existing and desirable facilities (see Tables 3.4 and 3.5);
- creating a landscape structure for the site as a whole; and then
- the detailed treatment of individual schemes and elements.

Landscape analysis and design skills are of key importance from the beginning of any project. At an early stage, it is also important to begin to consider the responsibilities for care and maintenance.

A key design principle is to treat everything as landscape; buildings define the edge of space; landscape occupies the space, whether it is a park, a street, a fence or a pavement. This means designing the landscape structure before the traffic engineer becomes involved and avoiding SLOAP (Space Left Over After Planning).

Landscaping and landscape go together

A basic tenet is to work with and value what is already there. Opportunities occur to use the intrinsic landscape positively in the design of new places. A fine tree can provide instant maturity in a new square. A copse of good trees or a fine old garden can provide the basis of a local park. Hedgerow trees and lanes can be used to line a new parallel road, and if there is an old lane, use this for access or a footpath. Visual links between say a hill, a fine building or historic feature beyond the site can be used to create 'view corridors', in which open space uses, pedestrian uses, or a new avenue can run. And conversely, certain areas of sites, skylines or overlooked areas for example, may be best left undeveloped. Think about the playing fields, parklands, schools and so on in these locations.

A scheme of a significant scale will involve the incorporation of open space facilities, for which there are likely to be planning standards in terms of type of facility, its extent and their catchment areas. But achieving safe and usable open space and maximising the benefit of looking onto it from adjacent buildings, for instance, should be more important than simply meeting prescriptive standards for provision. The urban design challenge is to design the scheme so that there is a cohesive landscape structure, within which these standards can be met while making a positive contribution to the sense of place, in both overall and local terms.

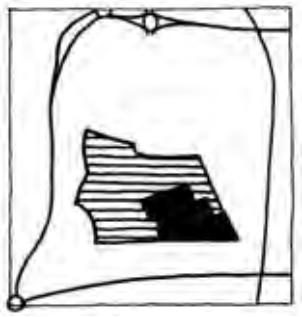
In creating the plan, adjust and iterate between considerations of this kind, together with the movement structure and development block forms, until it all begins to settle down, and to look and feel right.

At this stage, the scheme will require the production of a landscape strategy, as one of the main organising elements of the development.

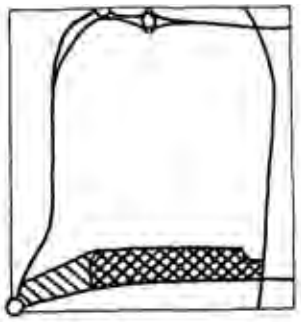
3.5.1 OPEN SPACE AND LANDSCAPE DESIGN

Provide a variety of open space types

It is necessary to assess the quality of existing provision in the wider context (particularly for a large site or area), and use this as the basis for deciding on the elements of a proposed open space hierarchy. Table 3.4 provides a reference point for considering possible open space types (other than streets and footpaths dealt with in 4.4.1) classified according to location.



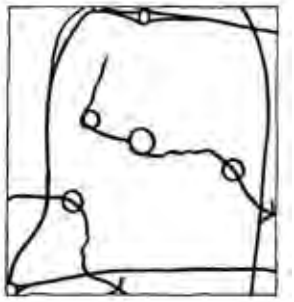
Identify areas of ecological importance to be preserved



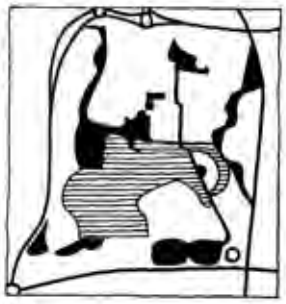
Add proposed greenbelt

This provides the potential development area

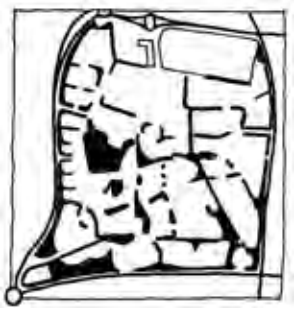
Take account of topography and watercourses



Consider potential water features



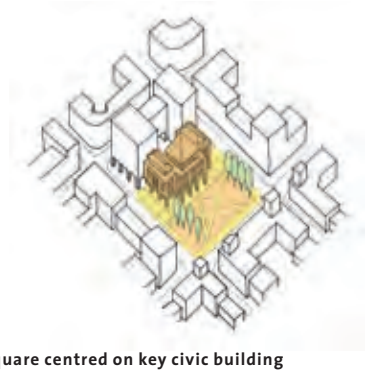
Identify hedgerows, woodland and recreational areas



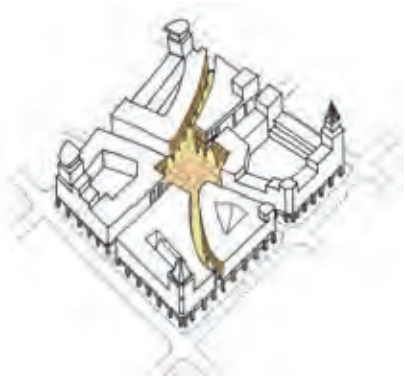
Establish a planting framework

The result is a landscape structure that stitches together all these elements (source: Cramlington South West Development Plan, Llewelyn-Davies, 1991)

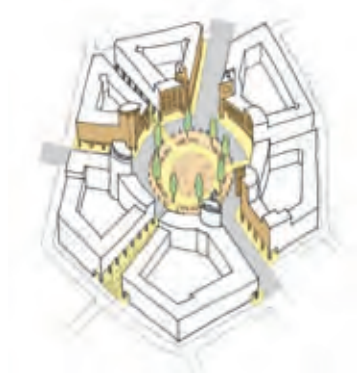
This is not a numbers game involving the developer providing a certain percentage of open space. Our best-loved urban parks and gardens are often intimate in scale and well cared for. There needs to be adequate green and open spaces to take a pleasant stroll, have a kick-about and provide habitats for wildlife to thrive, but it is the quality, rather than the quantity. Landscape is not just vandal-proof planting, unmown grass, and a maintenance headache. It is a route to civic pride.



Square centred on key civic building



Court located in block interior



Circus at street intersection

Plaza as extended forecourt space

Table 3.4 A typology of open spaces

Principle open space types	Character and function
Greenway	A network of spaces encompassing cycle and footpath routes, but also acting as 'wildlife corridors' – enabling wildlife to travel through urban areas. Typically these follow streams or disused railways, for example, with green fingers penetrating from the countryside, through the town/city edge and into the urban core.
Water way	Includes lakes, ponds, rivers, canals and streams, which provide rich wildlife habitats, offer recreational value and can be used as movement corridors.
Meadow	A public space for informal recreation, located on the edge of a neighbourhood. Often part of a flood plain comprising natural grasses and wildflowers.
Woodland / Nature Reserves	A wood or coppice of trees left in the natural state, interlaced with internal footpaths, sometimes designated as a nature reserve, with restricted access to areas rich in wildlife.
Playing field	Open spaces formally laid out for active recreation, such as football or rugby- including golf courses. Management / ownership can be shared between schools, clubs and the wider community to ensure facilities are well used.
Churchyard, cemetery	Located adjacent to a church and often providing a green oasis at the heart of a community.
Allotments	A semi-public agglomeration of gardening plots rented to individuals by the local authority.
Park	See Table 3.5 for park types.
Green	An informal grassed public space associated with the focal point of village life, that sometimes incorporates a football or cricket pitch.
Square	A formal public space, no larger than a block and located at focal points of civic importance fronted by key buildings, usually hard paved and providing passive recreation.
Plaza	A public space associated with the extended forecourt of commercial (office / retail) buildings, with formal landscaping.
Communal garden	A semi-private space not accessible to the general public, usually located within the interior of a perimeter block, providing a centrally managed green space for residents.
Private garden	A private space located within the plot of an adjacent building.
Playground	A small area dedicated for child's play, that is fenced and located within close walking distance to nearby houses, overlooked by residents.
Courtyard	A private open space often for vehicular servicing/parking
Atrium	A glass covered semi-public or private space serving as a thoroughfare, seating area and sun trap for building occupants or visitors.

Crystal Palace Park, London – a valued community resource

Ouse Bridge, Bedford (Architect: Chris Wilkinson)

The King's Cross Estate action initiative has created safer, more direct routes between streets and parks (designer: Tibbalds Monro)

Childrens play ground, Cockle Bay, Sydney

Create park life

A variety of parkland distributed within the urban area ensures a range of recreational needs within close proximity to homes and workplaces. Table 3.5 provides a hierarchy of parks classified according to scale, function and locational suitability. This includes rules of thumb for appropriate size and distance from home. Surround parks with different types of land uses to help spread activity and ensure they are well used at different periods of the day.

Table 3.5 Types of parks

Type and main function	Approx. size and distance from home	Characteristics
Regional parks and open spaces		
(linked Metropolitan Open Land and Green Belt Corridors) Weekend and occasional visits by car or public transport	400 hectares 3.2-8 km	Large areas and corridors of natural heathland, downland, commons, woodlands and parkland also including areas not publicly accessible but which contribute to the overall environmental amenity. Primarily providing for informal recreation with some non-intensive active recreation uses. Car parking at key locations.
Metropolitan parks		
Weekend and occasional visits by car or public transport	60 hectares 3.2 km or more where the park is appreciably larger	Either (i) natural heathland, downland, commons, woodland etc. or (ii) formal parks providing for both active and passive recreation. May contain playing fields, but at least 40 hectares for other pursuits. Adequate car parking.
District parks		
Weekend and occasional visits by foot, cycle, car and short bus trips	20 hectares 1.2 km	Landscape setting with a variety of natural features providing for a wide range of activities, including outdoor sports facilities and playing fields, children's play for different age groups, and informal recreation pursuits. Should provide some car parking.
Local parks		
For pedestrian visitors	2 hectares 0.4 km	Providing for court games, children's play, sitting-out areas, nature conservation, landscaped environment; and playing fields if the parks are large enough.
Small local parks and open spaces		
Pedestrian visits, especially by old people and children, particularly valuable in high-density areas.	up to 2 hectares up to 0.4 km	Gardens, sitting-out areas, children's playgrounds or other areas of a specialist nature, including nature conservation areas.
Linear open space		
Pedestrian visits	Variable wherever feasible	Canal towpaths, paths, disused railways and other routes which provide opportunities for informal recreation, and areas that are not fully accessible to the public but contribute to the enjoyment of the space.

Comparisons between the theoretical five minute walk radius and the actual walkable catchment from park entrances helps identify lines of severance and poor crossings that require attention

Larger open spaces are linked to form a network of greenways

Fronting buildings onto public spaces provides overlooking and attractive aspects

Greenways balance human and wildlife access

3.5.2 PUBLIC ACCESS TO OPEN SPACE

Parks within walking distance

It is important that space for children's play, nature conservation and sports are provided within walking distance. Local parks are ideally placed within 3-5 minutes walk (250 - 400m) of the majority of homes.

The best starting point for determining provision is to assess the actual walking distances achievable and the positioning of play facilities within parks in relation to houses (by applying the walkable neighbourhood principle - see 3.1.2). Note the positioning of entrances, lines of severance (such as railway lines or busy roads) and steep gradients that inhibit the elderly and disabled - particularly wheelchair users. This analysis can also be used as the basis for extending an existing park catchment by, for example, creating more entrance points or pedestrian crossings.

3.5.3 OPEN SPACE NETWORKS

Connect spaces

Open space networks are often more useful for visual amenity, recreational use and wildlife corridors than isolated and unrelated landscape elements. They not only serve to organise larger projects but also create linkages to existing urban areas, other sites and the wider landscape.

Networks may join up linear parks, road reserves, playing fields, parks, allotments, private gardens, buffer planting and surface drainage corridors. Greenways can be created to run through or alongside linear elements such as natural streams, wooded belts or canals and connect with parks and footpaths in nearby neighbourhoods. These can plug into neighbourhood streets that have cycle routes, reduced car levels and mature tree planting - creating a network of what the city of Vancouver calls 'Green Ways - Public Ways.'

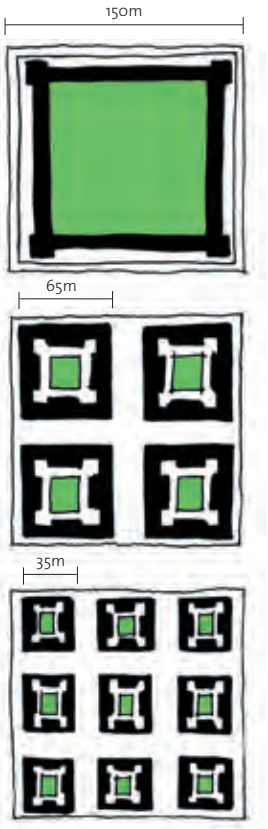
The 400m walkable catchment radii focussed on neighbourhood focal points forms the starting principle for network design. Aim for major open spaces to adjoin at least one quadrant of the circle, but never more than two. This avoids isolation between developments and allows linear networks to be provided that are no more than 1.2 km (15 minutes walk) away from the majority of people.

3.5.4 WILDLIFE AND ECOLOGY

Balance human access and wildlife shelter

In creating a network of open spaces, there is an inherent conflict between human beings and other animals. We need to make it easier to live apart, whilst being close together. This means identifying some spaces within the network with limited access that provide rich habitats for wildlife. Railway embankments, for instance, act as good wildlife corridors as they are undisturbed by people and many animals are unaffected by train movement.

For public parkland, a balance needs to be struck between public access and biodiversity. A model open space network would form a necklace of different open space types. These could include private gardens, which are most valuable ecologically when configured in long strips that are usually well tended for the first 10m, leaving 'more messy', richer habitats at their ends.



There is a trade-off to be struck beteen block size and biodiversity

'Pocket parks' of (say) 20 x 20m can be absorbed within the block structure to provide ecologically rich habitats and popular spots for relaxation

Orientate according to site contours

In Sausalito, San Francisco, buildings blend harmoniously with the landscape

All sites are habitats

Each site is an eco-system that is linked to other eco-systems beyond the site. Remnants of ancient and traditional landscapes are important relics that give meaning to a place. As such, woods, river valleys, heaths and commons, pastures, hedgerows, ponds and ditches should all be considered for retention. But similarly cemeteries, vacant sites, industrial areas and private gardens can provide man-made habitats of great ecological importance. Hedges, mature trees and grasses foster most wildlife in urban areas.

Consider all sites, both natural and man-made, as part of a district-wide web of habitats. Identify areas within a site that are of the highest ecological importance to be preserved, such as mature trees, hedgerows or streams, to be used as the basis for creating a landscape structure. This begins to define the land left over that is potentially developable.

Trade-off block size and biodiversity

Block size can effect biodiversity, as shown in the illustration opposite. Smaller blocks can limit the amount of green space available to support wildlife. Blocks of about 90m x 90m which include private or communal gardens provide a good trade-off between biodiversity and other considerations such as variety of uses that can be accommodated and ease of movement (see 3.7.2).

Designing for biodiversity can cut maintenance costs

We are not the only species who use out-door space. Plants and animals can be encouraged to thrive and the use of plants of many sorts, from grasses and flowers to shrubs and trees, provides opportunities for attracting a range of insects, birds and animals. Hedgerows encourage nesting and hunting opportunities for birds and small mammals alike and should be encouraged.

Large grassed areas that provide visual amenity can be given a much richer functional and ecological value, at lower cost, simply by changing the maintenance regime. Georgen Park in Hanover, for instance, is mown only at certain times of the year and for the rest of the time is left as meadow. This not only provides a valuable habitat, but also reduces maintenance to one or two mowings a year, while creating a more varied and interesting place.

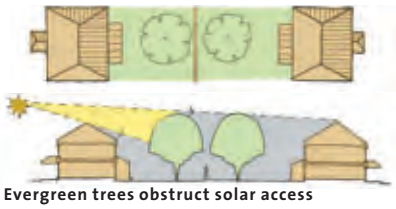
3.5.5 TOPOGRAPHY

Work with the earth

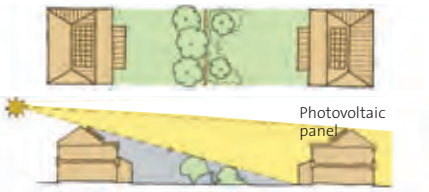
Working with the grain of the landscape, in topographical as well as climatic, hydrological and ecological terms, can have economic benefits as well as reinforcing the sense of place.

Wherever possible align building footprints, streets, sewers and other watercourses to follow slope contours. This allows building profiles to grow out of the ground, minimises cut and fill and enables natural gravity-flow drainage to be utilised.

South-facing sunny seating adds value to a place



Evergreen trees obstruct solar access



Smaller deciduous trees enable greater solar gain

Planting to maximise solar gain should not need radical changes. Indeed, planting in a typical 19th century block can be easily adapted to optimise solar potential.

Housing is focussed on a central open space and works with the existing landscape

3.5.6 MICROCLIMATE

Consider the influence of the elements

Design creates microclimate - affecting temperature, sunlight and wind movement. Careful landscape design can considerably enhance comfort on exposed sites and aid passive solar design of buildings (see 3.4.1). Taking account of existing local microclimate also ensures that problems such as frost-pockets are avoided.

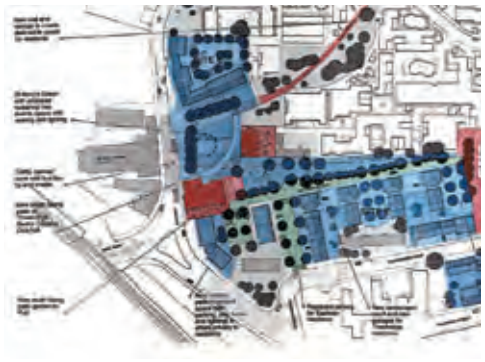
An assessment of the local microclimate should be followed by landscape proposals that:

- Use deciduous trees to provide shade in summer and allow for sunlight to filter through in winter;
- Avoid excessive overshadowing of buildings, whether by earthworks, vegetation or walls, by placing trees away from southerly elevations in particular;
- Provide shelter from uncomfortable cold draughts that also contribute to building heat loss, particularly cold northerly winds and strong prevailing winds from the west and south-west, by incorporating hedges and trees as windbreaks.

Plant with the sun in mind

When selecting trees, consider their full mature height. Check that trees close to buildings will not grow to block out sunlight or overshadow solar panels (or indeed cause problems to foundations).

Brandon Groves, South Ockenden, Essex: *Landscaping to create place*	
Location	Former hospital site on the edge of the town adjacent to the green belt.
Developer	Countryside Properties
Site Area	24.1 Hectares (11.62 ha net)
Density	59.4 units per ha (net)
Project	The redevelopment of a former hospital site providing 690 units including mixed housing, community hall and school
Details	Brandon Groves is an example of how design quality can raise values. By situating the new development within the mature landscape, market perceptions of this area located adjacent to low grade "estate" housing, have been completely turned around. From the outset the developers took advantage of the assets the place had to offer. The key lesson to be learnt is a strategic one. The site is adjacent to the greenbelt, but the area reserved as greenbelt land was of lesser landscape and ecological value than other areas within the site not designated for conservation. Following constructive negotiations with the local authority it was therefore agreed to absorb the landscape open space component into the centre of the scheme, whilst allowing some development of the greenbelt. By engaging in this 'greenbelt swap' a more cohesive urban edge has resulted, with high qualtiy landscaping at the heart of the scheme. A trust run by the local community was set up to ensure high standards of maintenance.



Each open space should be designed with future management in mind (Tibbalds Monro)

3.5.7 MANAGEMENT

Establish future management regime

In many instances, local authorities can no longer cope with the management and maintenance burden of public realm landscaping. It is critical that high quality levels can be sustained - and this has a bearing on both the plants and materials selected. This means designing to reduce the maintenance burden and allowing for ongoing costs. It also presupposes that management regimes are set up to take on future maintenance responsibilities, which can take the form of a Development Trust or a Management Company.

Change over time

Considerations of the impact of time are central to good landscape design, which is uniquely able to plan for the unfolding of the years, the changing seasons and the passing of the hours. This applies not just to soft landscape but even to the condition of materials under weathering. Changing weather patterns can affect behaviour patterns as well.

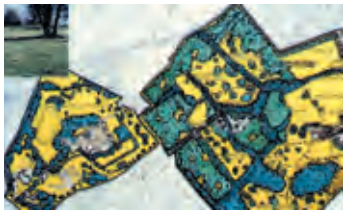
The key is to design landscape to grow old gracefully, so that places become more attractive, more interesting and more comfortable as trees, shrubs and other plants mature. It also means ensuring that places remain sheltered and sunny for most of the day, and ideally most of the year, so that they are well used. Attractive spaces that are well lit and overlooked will be comfortable and safe by night as by day.

3.5.8 URBAN FORESTRY

Assess the potential for urban forestry

Forestry belts can be incorporated into urban areas as part of the landscape structure or as a temporary use for sites awaiting longer-term development. They can provide recreational and wildlife corridors, affordable shelter and visual screening which are quick to establish and can sometimes be justified on economic grounds as commercial sources of timber or pulp. An urban forest could take the form of a co-ordinated strategy of community involvement, creating a network of small-medium sized sites.

The local communities helps to foster a sense of shared ownership



Craigmillar Urban Forest Project, Edinburgh: *Greening the city*	
Location	Throughout Craigmillar - a large predominantly council housing estate to the south east of Edinburgh city centre.
Designer	Craigmillar Urban Forest Project
Developer	City of Edinburgh Council and The Craigmillar Initiative
Sites	20 key planting sites and a series of smaller scale planting.
Project	The project aims to create, in conjunction with local residents, a series of community woodlands in and around Craigmillar. All to be linked by a network of woodland corridors, communal open spaces and gardens.
Details	Craigmillar was built as a large public housing estate in the 1960s and for a number of years has been undergoing a major process of regeneration. Part of this process is the Urban Forest Project, which aims to ensure environmental, social and economic benefits for the community. This scheme has attracted funding from a number of sources and is part of the Millennium Forest for Scotland Project. Its major aims include: enhancing local neighbourhoods; providing recreation space; attracting wildlife; providing jobs, training and an attractive location for businesses to locate; reducing pollution; providing shelter and screening; enhancing educational opportunities; and providing a model for urban forest initiatives elsewhere.

3.6 LANDMARKS, VISTAS AND FOCAL POINTS

Landmarks can be used to emphasis key routes and hierarchy

The design of streets, the concentration of commercial, community and civic uses in centres and the use of distinctive landscaping and building forms will all help create a place that is easy to read. This is crucial if users are to orientate themselves within a place and between different places.

3.6.1 LANDMARKS

Make it easy to find your way around

People find it easier to orientate themselves and recognise where they are when new development safeguards important views between places or creates new ones, whilst respecting or adding new local landmarks . To ensure that a particular place reads, assess the relationship between existing elements and, in consulting local people, determine how proposals contribute to a linked series of spaces and markers that make it easy to get from A to B and on to C.

Emphasise the hierarchy of a place

Landmarks such as distinctive buildings, particularly those of civic status, towers or statues help to provide reference points and emphasise the hierarchy of a place. These are best created at main centres of activity, where they are the focus of converging major streets. Offsetting the angle of streets whose axes focus on landmark buildings helps to increase their sense of surprise, as opposed to more symmetrical alignments.

Show the way

High-rise buildings can be used to emphasise key locations - rising above areas with a more uniform profile - though their potential benefits have to be weighed against possible negative impacts (see 5.3.1 on building height). In strong market conditions, cluster tall buildings in central locations, rather than allowing their siting to be decided by arbitrary market decisions. The best tall buildings attend to the human scale at the bottom, and locate the most visible compositional elements at the top.

London Eye has added a new landmark to the London skyline

Create a skyline
The skyline created by the roofs of buildings not only adds visual interest, but also conveys particular activities (churches or civic centres for instance) and concentrations of uses (such as clusters of office buildings indicating the business centre). Sloping land offers special opportunities for the roofscape to emphasise natural forms and make a place of real distinction.

Tamworth town centre skyline, Staffs.

Emphasising the route between railway station and the seafront in Hove, East Sussex

3.6.2 VISTAS

Point and line
A clear network of routes or paths allows an easily useable series of connections between places, creating a favourable image in the memory. Views and vistas aligned with key buildings are particularly useful to the visitor. The most memorable routes are often those with a varied sequence of long and short views, terminated with landmarks. Street cross-sections designed to reflect the relative importance and use of routes will help users to move around with confidence (see 4.4.1).

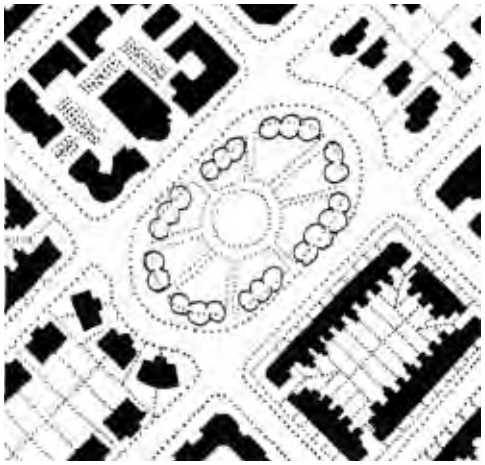
3.6.3 FOCAL POINTS

Welcome people with an entrance
The most important transport interchanges or nodes serve as gateways to a town or city centre. Main junctions, roundabouts, footpaths, car parks, rail and bus stations are all arrival points. Emphasising their prominence is important to clarify where the centre begins (usually marked by a change of use and by building height) and prevent the indistinguishable blurring of centre and edge.

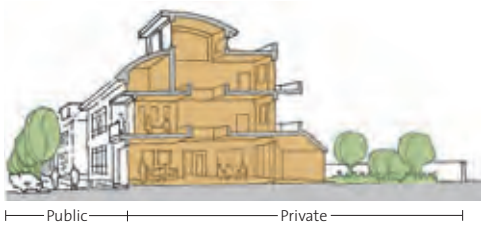
Create rhythms in the urban structure, with thematic quieter areas giving way to occasional focal points. This can be done by marking key focal points and gateways with landmarks, squares or other distinctive landscaping or by pulling back the building line (see 5.3.3).

Birmingham Urban Design Strategy (BUDS): *The basis for a new beginning*	
Location	A study looking at the whole of the City Centre.
Designer	Tibbalds, Colbourne, Karski, Williams
Client	City of Birmingham
Project	An urban design study of Birmingham City Centre addressing the failings of the city in urban design terms.
Details	BUDS sought to make the city easier to read, to enhance the streets and open spaces and to reinforce the areas of character. To achieve this it advocated enhancing gateways and landmarks, downgrading the inner ring road, increasing activities at street level, improving the public realm, and building on the assets of existing core areas. This study provided the foundation for a host of initiatives that have been developed in the city in the 1990s. These include the Convention Quarter with Brindley Place, the Jewellery Quarter and the Gun Quarter which have now been or are in the process of being developed. Although now eight years old, this document is still considered when development control decisions are being made. It has been suggested that this study is now in need of updating in order to take account of recent projects and studies.

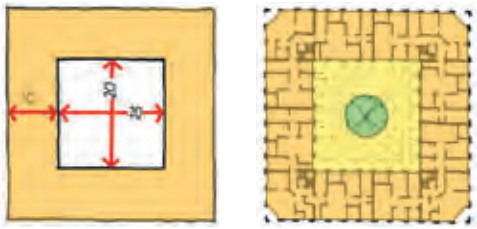
3.7 BLOCKS



Perimeter blocks can accommodate a range of building types and densities



A clear definition between public and private space is a fundamental tenet of good urbanism



A 10m block depth is able to accommodate double aspect buildings with good daylighting to the internal space (Block 1 IBA-Kothener Strasse 35-37, Berlin)

Maintaining a consistent building line ensures a strong street frontage

The development block is the land area defined by the grid. It can vary considerably in shape and size according to the configuration of streets, preferred orientation and topography, for instance, as well as the nature of plot sub-divisions and building types that are to be accommodated.

3.7.1 PERIMETER BLOCKS

Face the street

The most fundamental requirement in structuring built form within development blocks is to make a clear distinction between public fronts and private backs. Buildings which front streets, squares and parks present their public face to the outside world and give life to it. Public fronts and private backs are made distinct when primary access is from the street, the principal frontage. Where this principle is not followed, stand-alone pavilion buildings often expose blank sides, car parking and rear servicing to the street.

Respect people's privacy

The distance between backs of properties needs to be considered in terms of privacy. This has a strong bearing on land-take and thus density. Many Local Plans stipulate a minimum of 21 metres, which can be traced back to the old byelaw principle of 70 feet / 22 yards between property backs. A privacy distance of 20 metres (ie. back-to-back 10 metre rear gardens or service courts) provides an approximate rule of thumb, but need not be applied too rigidly. Closer distances may well be appropriate in certain contexts, such as a mews. The use of single-aspect buildings can be introduced to reduce distances further, but care needs to be taken not to undermine neighbours' right to light.

Line the perimeter

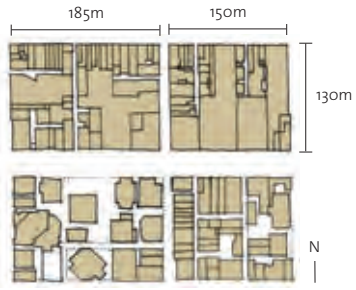
Lining the edges of blocks with a perimeter of buildings is the best way to accommodate a diversity of building types and uses at medium-high densities, while ensuring that buildings relate positively to the public realm.

A perimeter block of a depth of 10m for fine-grained mixed-use or housing and 20m for retail / commercial development provides a useful structuring device in master planning exercises and can be later refined to more accurately reflect preferred building types.

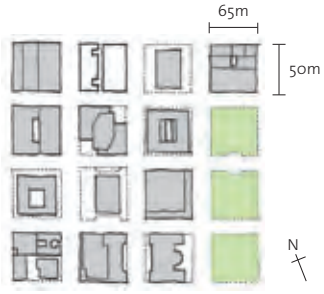
Encourage continuity of street frontage

Continuous building lines along a block edge are more successful at providing good enclosure to a street or square and generating 'active frontage', with frequent doors and windows animating the public realm. In centres, a direct frontage to pavement relationship assists commercial viability and street vitality.

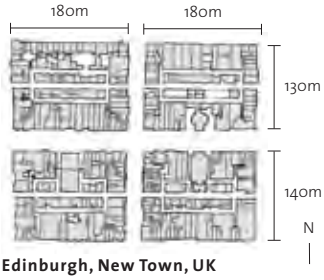
Use continuous frontages as far as possible, by adhering to a common building line. Where a looser framework of buildings is required, these are best absorbed into the perimeter block, positioned near to the street with walls, gates and other landscape features used to close the gaps. Projections and set-backs from the building line can be used to add emphasis, but the function of resulting spaces must be clearly defined.



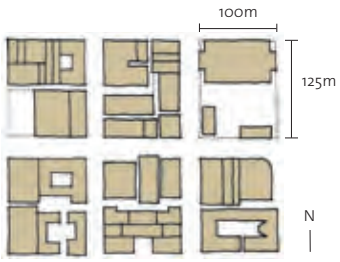
Adelaide, Australia



Portland, USA



Edinburgh, New Town, UK



Chicago, USA

The proposed Ashton Green urban extension in Leicester comprises an irregular or deformed block structure

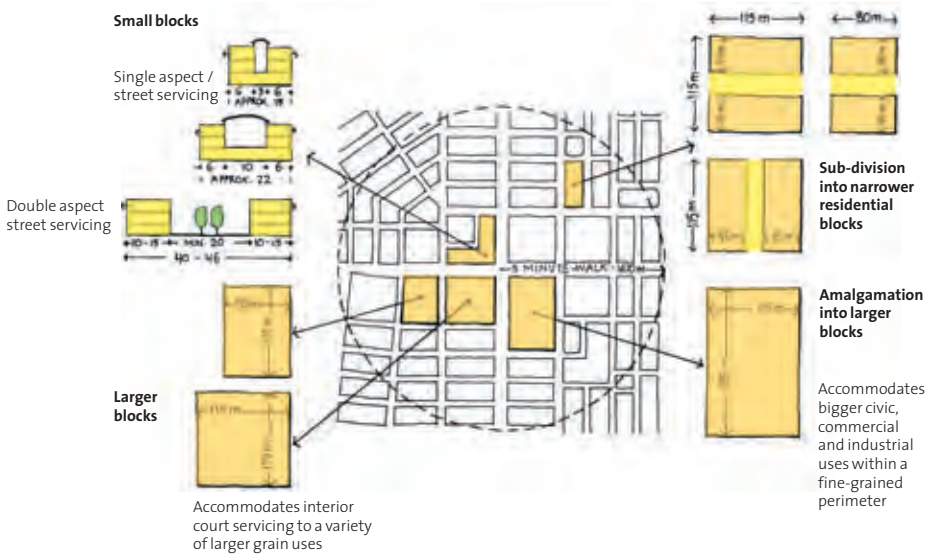
3.7.2 BLOCK SIZE

Small is beautiful

In considering the optimum size of development blocks, a trade-off has to be struck between:

- Ease of access (see 3.1.4 on grid size);
- The ability to sustain a variety of building types and uses;
- The ability to change and adapt over time.

A useful rule of thumb is that block widths of 80-90m enable this trade-off to be achieved in a variety of different urban locations and circumstances, reducing to 60-80m in town/city centres.



Mixed use neighbourhoods should contain a range of block sizes to promote variety (adapted from Baulch, 1993)

3.7.3 BLOCK SHAPE

Shape for change

Square blocks are generally thought to offer the most flexible basis for accommodating a range of commercial and residential buildings and more options for internal treatment (see 3.7.4).

Rectangular blocks with depths of (say) 110m are more comfortably able to accommodate larger buildings, such as factories and warehouses, without exposing rear / side walls. These may therefore be more appropriate in certain circumstances, such as on the fringes (or 'transition zones') of town/city centres.

Rectangular blocks of (say) 100m x 200m orientated with their short side onto the main street can also be beneficial in increasing connectivity with the surroundings and providing more crossings and junctions, which serve to slow traffic, making it easier for pedestrians and cyclists. Residential buildings can then line the quieter sides of the block.

Irregular blocks can be moulded to respond to topography and the creation of focal points such as greens or squares with building frontages that need not be parallel.

The flexibility of grid / perimeter block development

3.7.4 BLOCK INTERIORS

Design for internal flexibility

The perimeter block structure enables a variety of treatments to the interior to be provided, including:

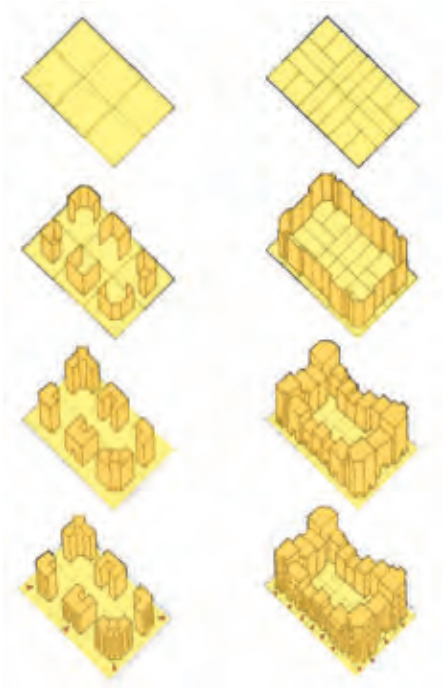
- car parks or service yards;
- private / communal gardens with children's play spaces;
- mews houses, offices, workshops or live-work units; or indeed
- a park or civic square to occupy part / whole of the block.

Well-configured perimeter blocks facilitate a range of uses of the interior that can change over time. These should be defined and overlooked by buildings and have restricted access to promote security.

Crown Street Regeneration, The Gorbals, Glasgow:
The shaping of a new place with a traditional block pattern

Location	Located in the south east of the city this development is of a gap site centred on Crown Street.
Design Team	Master planner: CZWG Architects
Developer	Crown Street Regeneration Project
Site Area	16 hectares
Project	Mixed use scheme comprising of, by the year 2000, 1050 owner occupied homes; 325 socially rented homes; 12 local shops and a supermarket; 100 bed budget hotel; 80 student flats; local park; and, 5000m² office accommodation.
Details	This project is centred on the site of Hutchesontown "E" which was the fifth phase of the post war comprehensive redevelopment of the Gorbals. It was a major part of the city's massive programme to sweep away everything associated with the past and replace it with a city geared towards the car with swathes of green space speckled with high rise towers. It was built in 1968, was centred on Crown Street, and consisted of 12 linked deck access blocks. The blocks suffered from incurable penetration dampness, within nine years of completion the first families were being moved out and by 1982 the blocks were completely empty. In 1987 after major campaigning by the local community the blocks were finally demolished. This left a 16 ha gap site in the heart of the Gorbals. The Crown Street Regeneration Project was set up in 1990 to facilitate the comprehensive redevelopment of this area. This scheme sees the area returning to a mass and scale of the traditional Glasgow tenement streets with buildings once again addressing the street. The housing is largely comprised of 3/4 storey modern tenements. This mixed use, mixed tenure development has attracted a number of architects and developers who have subsequently won awards for their housing designs. The objectives of the original masterplan were to bring benefits not only to areas contained within its bounds but to the wider Gorbals area.

3.8 PARCELS & PLOTS



Smaller parcel and plot sub-divisions facilitate a greater diversity of forms and uses, and a more active street frontage

Development parcels are tracts of land, usually under a single ownership, and are the basis of most new developments, especially those driven by volume housebuilders. Plots, on the other hand, are usually much smaller increments or land holdings that form the basis for much of our built heritage - giving established centres their variety and fine urban grain.

3.8.1 PARCEL SIZE

Keep the grain fine

In masterplanning large areas there is sometimes the opportunity to sub-divide development parcels and apportion them to different developers. Enabling a range of developers to participate is usually desirable to generate a richer mix of building types, tenures and uses. As a guide, parcels of 1 to 2 hectares avoid a 'monoculture' in any area. This grain should be made finer towards the centre.

3.8.2 PLOT SIZE

Keep plots small and narrow

Sub-dividing development parcels into plots, which are as small and narrow as is practical, encourages a diversity of forms, uses and tenures and allows a rich variety of buildings to emerge. This also:

- generates more active frontage;
- encourages a 'human scale' and fine pedestrian grain;
- enables higher densities to be achieved (larger plots often generate stand-alone pavilion buildings flanked by parking);
- provides a flexible basis for amalgamation if necessary and enables future incremental growth to take place;
- minimises costly and wasteful leftover space.

Small, regularly shaped and narrow sub-divisions of, say 5m x 20m accommodate a range of buildings and make the most efficient use of land.

Wrap larger plots

Larger plots are often required for commercial, industrial or civic buildings. Sub-divisions of 15-20m wide and 30-40m deep provide flexible land increments for central areas. Wrapping these with smaller plots ensures that rear elevations and servicing is not exposed to the street.

Use the back of the plot, not the street, for boundaries. Parcel or use sub-divisions along the rear of plots help ensure that compatible uses and building styles face each other.

3.8.3 PLOT AND PARCEL SUB-DIVISIONS

Divide along the back of plot, not the street

Backs of properties form a natural buffer between uses. Using streets as dividers between developers and/or uses can undermine the harmony of townscape and formation of integrated mixed-use places. Running boundaries between developers or land use types along the back of parcels or plots is generally better than the road or street. Definition of the public realm and management regime is also a key determinant of parcellation and the form of development in terms of establishing what open spaces are maintained publicly, privately or by a community trust.

04 MAKING THE CONNECTIONS

4.1 Walking **4.2** Cycling **4.3** Public transport **4.4** Streets and traffic **4.5** Parking and servicing
4.6 Utilities infrastructure

What is meant by the Connections

Towns exist for interaction. They depend upon movement systems - roads, streets, footpaths and public transport routes; also the service utilities (water, gas, electricity, etc.) which make urban life possible. These connections allow towns to work and link to the wider world.

None of these movement systems exist in isolation. As well as being the means by which we get around and buildings are serviced, they are a crucial component of urban character. Just as much as architecture or landscape they help determine whether places are good or bad. So whatever their function, connections need to be thought of as an integral part of the urban fabric.

Why the Connections are Important

The success of a town or new development depends on how well the connections work. The measure of their success is not just their functional performance, but how they contribute to the quality and character of the urban area:

Linking up

New developments need to be clearly linked to existing routes. The more direct links there are, the more successful will be the integration of new and old.

Movement choices

Connections should give people the maximum choice in how to make their journeys, with a presumption in favour of walking, cycling and public transport.

A sense of place

Making connections is an essential part of creating a sense of place. This means that roads, streets and the routes for utilities should be designed in response to the local context.

Safe routes for all

Maximising choice in how people move around means creating routes all of which are felt to be safe. Segregated routes for people on foot and cycles are not always the best solution.

The parking problem

poor parking strategy can wreck a scheme.

Better traffic management

Design the layout of buildings and spaces to help control the flow and density of traffic. Signs and add-on traffic calming features should only be relied on as additional measures.

This section considers accessibility within the urban area – how easy it is for people to travel and the choice they have about how they travel. The concern here is how to design developments that offer people travel choices that are widely accessible and meet the needs of everyone.

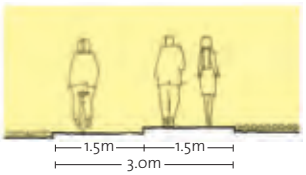
Layout is a major influence on how people choose to travel. Over the last 50 years or more the planning of development has been dictated primarily by the geometry of road design, and this has had the effect of encouraging car use, even for journeys which would be much better made by walking or cycling.

To reverse this tendency means designing with all forms of movement in mind, not just the geometry of road layouts. What matters is that, wherever possible, movement on foot, by bicycle or by public transport should be as easy and convenient as using the car. This doesn't mean excluding the car: what is needed is an appropriate balance between traffic and other uses to create attractive, lively, safe and interesting places.

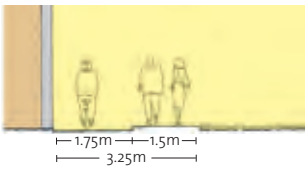
Bede Island North, Leicester: *Connecting a new neighbourhood*	
Location	Former derelict railway land to the west of Leicester city centre, near to the De Montfort University campus.
Design team	Leicester City Council's Urban Design Group
Client	Leicester City Challenge Ltd / Leicester City Council
Site area	13.7 hectares
Project	A mixed-use development including housing (housing association, privately rented and student accommodation), a business park, shops, and a pub in a converted pumping station. The heart of the development is a new 1.9 hectare park. The movement framework has three main aspects: • main pedestrian link through the square and park provides excellent route from the university and city centre to adjoining housing areas. • site also relates to the Great Central Way, a main cycleway/footpath through the city. • because of proximity to city centre and public transport, residential parking is restricted to one bay per house, parking for the business park is three spaces per 100m², lower than the provision at first demand.

4.1 WALKING

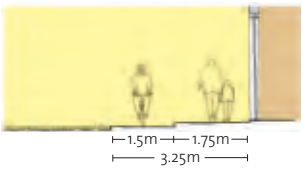
A wide, well lit underpass in Grant Park, USA



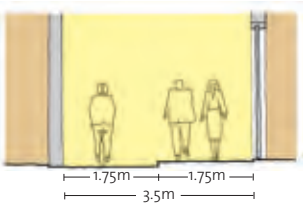
Kerb segregated facility open on both sides



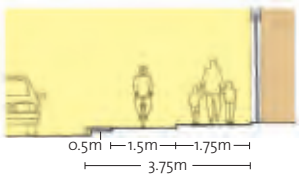
Kerb segregated facility bounded on cycle track side



Kerb segregated facility bounded on footpath side



Kerb segregated facility bounded on both sides



Kerb segregated facility bounded on footpath side with verge between cycle track and adjacent carriageway

Minimum dimensions for shared cyclist / pedestrian routes, segregated by a change in level

The needs of people on foot require careful analysis, and should be paramount in development layouts.

4.1.1 THE PEDESTRIAN ENVIRONMENT

Pedestrians and cycle-friendly streets

It is a useful approach to design the pedestrian environment using the 'Five C' principles:

- **Connections**
  Do good pedestrian routes connect the places where people want to go?
- **Convenience**
  Are routes direct, and are crossings easy to use? Do pedestrians have to wait more than 10 seconds to cross roads?
- **Convivial**
  Are routes attractive, well lit and safe, and is there variety along the street?
- **Comfortable**
  What is the quality and width of the footway, and what obstructions are there?
- **Conspicuousness**
  How easy is it to find and follow a route? Are there surface treatments and signs to guide pedestrians?

If the street is designed for low speeds, pedestrians, cyclists and vehicles can mix safely. Generally speaking conventional streets provide the most convenient, direct routes to places which cyclists and pedestrians, like everyone else, want to get to.

Cyclists, pedestrians and cars can learn to live together. Freiburg, Germany

A bridge giving access to the town centre over the railway is for trams, cycles and pedestrians only. Freiburg, Germany.

It's good to walk

A safe, attractive and well cared for public realm will encourage people to walk. The key considerations are:

- people prefer to walk along streets where they can be seen by drivers, residents and other pedestrians;
- if segregated footpaths are provided, they need to be well-connected and overlooked by houses and other buildings;
- all measures that slow traffic help pedestrians feel safer. At junctions, the use of raised surfaces and tight radii make it easier for pedestrians to cross;
- well designed shared surfaces avoid conflicts of movement yet encourage other activities to take place. To achieve this, subtle variations of material or bold changes of detail are appropriate, depending upon the location;
- footpaths should lead where people want to go, rather than follow a preconceived geometry;
- footpaths in new developments should be positive, direct and barrier-free.

A linear park of exceptional quality runs along the top of the viaduct.

The Bastille Viaduct, Paris: *Landscaped walkways to raise the spirit*

Location	The viaduct is located in the centre of Paris close to the Gare de Lyon.
Design Team	Architect: Patrick Berger
	Landscape Architect: P. Mathien, M. Vergely
Developer	City of Paris
Details	This development is on a disused urban railway viaduct built in the mid-1800s and unused since 1969. There are two elements to the scheme - a park along the length of the viaduct and below in the arches, shop units have been created taking advantage of the area's tradition for arts and crafts. The park comprises a promenade formed along its length with planting, water features and pergolas providing interest and shade on sunny days. Linked and adjacent to the viaduct promenade are the Hector Malot Park and Gardens, laid out on the roof of a multi-storey car park. These developments take advantage of rare spaces in the urban fabric to provide beautifully landscaped open spaces offering tranquillity above the bustle of the city below.

4.2 CYCLING

On busy roads, separate cycle facilities should be provided. Here, an escalator and wheelchair lift provides access to underground trams.

Cologne, Germany (above and below)

Converting car parking spaces nearest the station to cycle racks encourages cycle and ride. Dortmund, Germany

We cycle less in Britain than in many other European countries, not so much because of topography and climate as because cycling appears to be unsafe and inconvenient. Like walking, many of the measures to encourage cycling are low key and simple. Cycling can be made more popular by providing direct and convenient traffic-calmed routes, with a safe place for people to leave their bikes at their destination.

4.2.1 THE CYCLIST ENVIRONMENT

Design for convenient cycling

Cyclists need clear, direct routes which take them to the shops, school or station without stopping short at awkward junctions or obstacles:

- on low-speed streets (below 30 kph: 20 mph) cyclists can mix with vehicles;
- on busy streets, where there may be higher traffic speeds (30-50 kph: 20-30 mph) there should be clearly defined cycle lanes;
- separate cycle tracks are a major incentive for people to cycle, and should be introduced where space allows.

Passing parked cars

Parked cars can be a particular hazard to cyclists. Effective parking enforcement and the clear designation of parking bays along the street help make cycling more safe.

4.2.2 CYCLE LANES

Streets that are safe for cyclists

Traffic-calmed streets are ideal for cycling, especially where the speed reducing features have been designed as part of the overall layout rather than treated as later additions.

On busy streets, or where it is difficult to reduce traffic speed, separate cycle lanes should be provided, with special provision at junctions. These routes should be clear and coherent: disjointed sections of cycle route are ineffective.

On wide pavements, pedestrians and cyclists can share the same space, but an arrangement with a raised kerb or clear markings is helpful to segregate cyclists from pedestrians. This arrangement also has distinct advantages for blind and partially sighted people.

4.2.3 CYCLE SECURITY

Design-in cycle parking from the outset

There are numerous designs for cycle parking. They should always be considered with other street users in mind, and as an integral part of the overall street layout. Cycle racks added as an afterthought are generally inconvenient and under used.

Make cycle storage for new homes second nature

Where people park their bicycles when at home is all too often forgotten. Bicycles take up a lot of room if parked in the hallway of a typical house or urban flat. Communal indoor cycle storage can make owning and using a bike easier and more attractive, especially in high density areas.

4.3 PUBLIC TRANSPORT

Dedicated busway, Leeds

This automatic bus gate, Cambridge, ensures bus priority

Bus-underground interchange, Canning Town, London

When it's too far to walk or cycle the best alternative to the car within an urban area is generally the bus. The movement framework for new development should provide for a direct bus route, or failing that easy access to an existing route. Discussions with potential operators will identify what kind of service can be provided and the type of bus to be used.

4.3.1 PUBLIC TRANSPORT CATCHMENTS

The people on the bus

A bus route will be viable if there are enough people within a 400m radius (5 minutes walk) of each stop. If bus stops are at 200-300m intervals, a density of around 80 persons per hectare will provide a catchment of 2,000 people per stop: 100 people per hectare provides up to 2,500 people per stop. Densities much below 80 people per hectare may not be attractive to bus operators. Bus routes also need to be direct, rather than forming a contorted series of loops and dead ends. Table 4.1 shows the ideal catchment per stop for different kinds of public transport. There are few schemes that will justify a light rail system or tram, and even fewer that will merit a new railway station. But where these already exist, links to these facilities should be strengthened. Disused railway routes should not be built over to retain the future possibility of retrofitting.

Table 4.1 Catchment areas for public transport

	Minibus	Bus	Guided bus	Light rail	Rail
Stop interval	200m	200m	300m	600m	1,000m+
Corridor width / area served	800m	800m	800m	1,000m	2,000m+
Catchment per stop	320 – 640	480 – 1,760	1,680 – 3,120	4,800 – 9,000	24,000 – 24,000

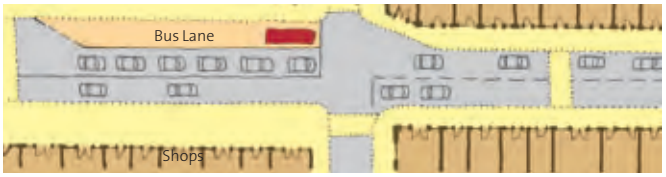
4.3.2 BUS PROVISION

Make it convenient to catch the bus

Even if there are potentially enough people in an area to make a service viable it still needs to be made attractive. What matters most are:

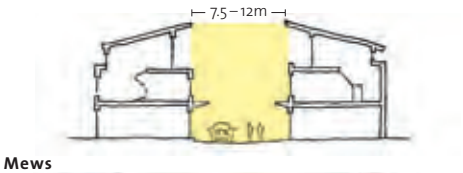
- clear, direct routes to the bus stop, including well-placed crossings on major roads;
- locating bus stops where activity takes place, near shops or a road junction. Ideally a stop should be close to the centre of a place;
- provision of effectively policed bus lanes and bus priority at junctions.

Before: Congestion involving buses is concentrated in one area

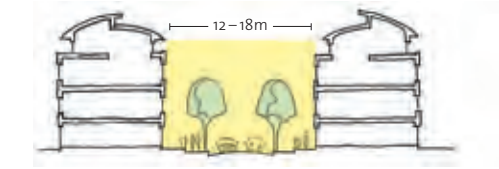


After: Reducing the number of lanes and dedicating some of the road-space as a bus lane and a widened footway enlivens the western end of the street and ensures pedestrian and public transport priority.

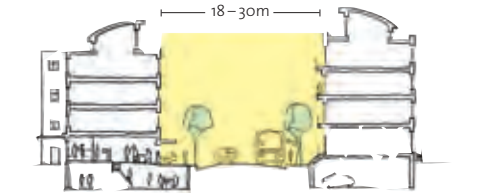
4.4 STREETS AND TRAFFIC



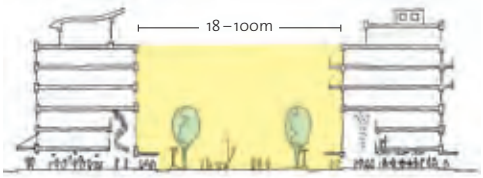
Mews



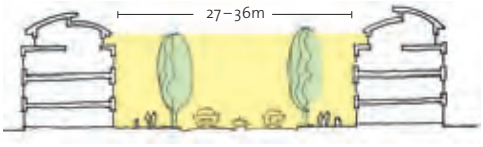
Residential street



High street



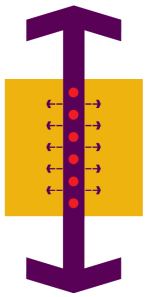
Square



Boulevard

Make the route go through

But traffic priority will sever the community



Priority to pedestrians and cyclists ensures that the centre is stitched together

High traffic levels may require the creation of additional alternative routes

As well as providing access to buildings and the services to them, streets are our most important public spaces. Streets serve many functions, not only the circulation of traffic, but walking, cycling, play and meeting people. The spaces defined by buildings frame the street.

Streets are multi-functional spaces and there is always the risk of conflict between uses. The key is to design for all the uses and users.

4.4.1 STREET TYPES

Define street types by capacity and character

The types of street to be included in a scheme are the key to its overall character. The conventional engineering-led approach to street classification is based solely on vehicular capacity. This regards streets as traffic conduits and ignores their multi-functional role. A new terminology is required to describe all the roles that streets can play in making successful places.

The classification of street types in Table 4.2 considers the street in terms of:

- **Capacity**: how movement of every kind can be accommodated safely.
- **Character**: the role of the street in the urban realm and the types of building and landscape that line it (which is also influenced by enclosure – see 5.1.3).

Table 4.2 Street types that combine capacity and character

Conventional capacity-based terminology	Streets that combine capacity and character
Primary distributor	**Main road** Routes providing connections across the city
District distributor	**Avenue or Boulevard** Formal, generous landscaping
Local distributor	**High Street** Mixed uses, active frontages
Access road	**Street or Square** Mainly residential, building lines encouraging traffic calming
Cul-de-sac	**Mews / Courtyard** Shared space for parking and other uses

4.4.2 MAIN ROUTES

Make the route go through

Through routes give life - they are the city's arteries. Determine the main route through the scheme, its relationship to the centre, and its links into the grid.

Pedestrian and vehicular through-movement are an opportunity to create lively, viable mixed-use, rather than a problem to be re-routed. Only where traffic levels threaten environmental quality (noise, fumes etc.) is remedial action necessary.

Pedestrian-friendly street, Hove

4.4.3 STREETS AS SOCIAL PLACES

Streets for everyone

In any development the design of streets should start by asking "what will happen on this street?". The street should be designed to suit the activities that we would like to see carried out on it. For example, if the street is lined with shops it should be designed to enable people to get to the shops, cross the road, have a chat and linger in front of shop windows, or have a beer in the sun.

The re-integration of traffic and other activities is best done by creating a network of spaces rather than a hierarchy of roads. The arrangement of spaces will take full account of the movement framework for the area, including the analysis of vehicle movements. Inevitably there will be some main roads, either within the development or nearby. These are the main routes for vehicle movement, but should be designed:

- to minimise their negative effects on the area through which they pass;
- to allow their safe, pleasant and convenient use by pedestrians and cyclists.

Places not roads

Adherence to the rigid geometry of road layouts and highway authority adoption standards produces bland, uniform developments. In designing streets, give priority to analysis of the local context, and on that basis design an appropriate network of spaces - such as streets, squares and courtyards. The principle of tracking, described here, and the careful design of junctions, will allow a level of movement to suit those spaces. In already developed areas, the designation of home zones helps produce low traffic speeds (below 30 kph: 20mph) and reinforces the sense of place.

4.4.4 TRACKING

Put the urban space first

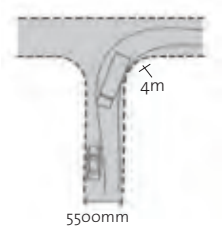
The principle of tracking allows the roadway to flow through the middle of the space created by the arrangement of buildings without dominating it. Instead of giving priority to highway engineering requirements, its starting-point is the arrangement of buildings and enclosure. Footways are laid out in front of buildings to reinforce that arrangement. The carriageway width is then checked by plotting the vehicle tracking paths, using the minimum required widths. The kerb of the footway need not follow the line of the vehicle tracking, but sight lines and on-street parking should be taken into account.

A street designed on the principle of tracking will normally be traffic-calmed because of its layout, without the need for add-on measures. The arrangement of building frontages, and the sight lines created, induce drivers to go slowly.

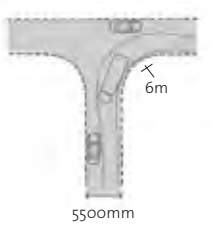
Arrange buildings to form street enclosure

Design footways to reinforce this

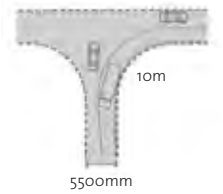
Plot vehicle tracking path, to check carriageway width is sufficient



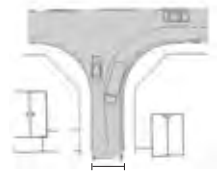
4m radius – refuse vehicle turning blocks movement for other vehicles on priority road and non-priority road



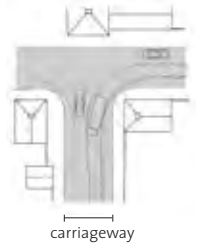
6m radius – refuse vehicle turning allows movement on priority road but blocks movement on non-priority road



10m radius – refuse vehicle turning does not block movement for other vehicles



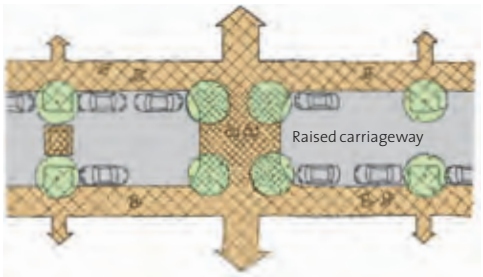
If footway edge follows the wide swept path of refuse vehicles and buildings are set back to maximise sight lines, a vehicle - oriented layout will result



Tighter kerb radii can be used with a wider carriageway. The refuse vehicle turning requirement is still accommodated, yet vehicles do not dominate

By applying the concept of tracking, tighter kerb radii can be used with a wider carriageway to ensure that highway geometry does not undermine the quality of space and traffic calming is designed-in from the outset

Wide pedestrian crossing put people first



The creation of a 20mph zone establishes pedestrian priority

4.4.5 JUNCTIONS

Keep it tight

As with the street, so with junctions: it is the buildings and footway that should define the space at a junction, not the rigid requirements of the vehicle movement. A wide carriageway plus tight, enclosed corners, makes a better junction than cutback corners with a sweeping curve.

The arrangement of a junction will always depend on the local context, and the amount of pedestrian and vehicle traffic that roads are expected to carry. Tight corners with restricted sight lines have a major traffic calming effect.

4.4.6 TRAFFIC CALMING AND PEDESTRIAN CROSSINGS

How much traffic can the street take?

Be aware of the limits to mixing activity. The higher the volume of traffic, the more difficult it becomes to mix activities.

Streets with up to 500 vehicles per hour (two-way) offer pedestrians easy opportunities to cross the road. Streets with between 500 and 1,000 vehicles per hour (two-way) require specific crossing opportunities to be incorporated into the street design to allow pedestrians to cross. Flows of over 1,000 vehicles per hour mean that pedestrians will have to wait to cross the road.

Wide Crossings on Main Roads

A frequent difficulty is where major traffic routes cross major pedestrian routes. The answer here is frequently wide, well landscaped crossings, with the floorscape, lights, and other devices used to define the crossing area. We should seek to rid our towns of the barriers, the uncrossable central divides, for example, by changing main routes to urban avenues, which people walk along and cross regularly in safety and convenience.

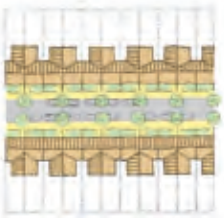
Slow traffic down

For streets to work as social places the traffic must be slowed. The best way to do this is to design streets that encourage drivers to drive with caution. The arrangement of buildings, spaces and activities can act as a natural traffic calmer and has the double advantage of being visually less intrusive and far more pleasant for pedestrians and cyclists.

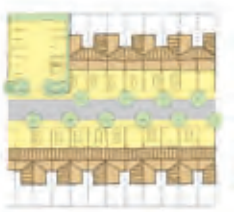
But there are many cases where a development inherits an existing street layout that cannot be traffic-calmed except through add-on measures. When that is so, two points to bear in mind are:

- The measures should be designed with pedestrians, cyclists, public transport, service and emergency vehicles in mind e.g. raised junctions make it easier for pedestrians to cross and chicanes can be used to create informal spaces in the street.
- Traffic calming measures should be designed to suit the local context, avoiding the use of standard solutions. This is the job of the urban designer and landscape architect, not just the traffic engineer.

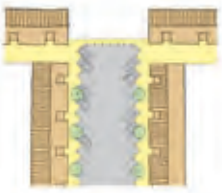
4.5 PARKING AND SERVICING



The traditional terrace comfortably accommodates parking on street



Planning policies and standards can create a car-dominated streetscape



The standards-based approach creates standards-based spaces

Traditional courtyards provide attractive spaces within which the car is accommodated

Cars are stationary for most of the time. Where and how they are parked can be a major factor in the quality of a development. Having decided what level of parking provision to make, the main consideration is how to incorporate parking in a development without allowing it to dominate everything around.

Cycle parking is as important, but often overlooked. As well as designated parking near to popular destinations thought should be given to where people will leave their bike when they get home.

4.5.1 PARKING STANDARDS

Keep parking levels down

As a guide in master planning a development, try to keep parking levels (especially off-street) down to no more than a 100% ratio - that is one space per dwelling, with visitor parking accommodated on-street. Special needs housing or housing close to public transport nodes may sometimes be provided with less parking, such as 25% for sheltered accommodation for the elderly.

In considering parking levels, analyse the parking provision and use in the area around. If it can be shown that existing parking levels are lower than the minimum required it will be easier to justify the proposed provision. Look at the possibility of communal parking spaces. For instance, as people leave work at the end of the day their spaces can be taken by people coming to the shopping centre, swimming pool or cinema.

In residential areas, with terrace houses, flats and maisonettes for example, the scheme can be designed on the basis of communal, rather than designated owner parking.

The lack of forecourt parking ensures building thresholds are not dominated by cars

Parking areas are well overlooked

Wick Village, Hackney, London: *Limiting the impact of the car*	
Location	In London Borough of Hackney, between A102 East Cross Route and the Hackney Cut Navigation.
Design team	Levitt Bernstein Associates
Client	Wick Village Tenant Management Co-operative and London Borough of Hackney.
Site area	1.6 hectares
Project	The replacement of three towers of a 1960s estate by a new development of 123 houses, arranged in a sequence of courts and squares.
Details	Provision for parking at Wick Village has been designed with two priorities in mind: • To avoid large clusters of parked cars. These are generally no more than ten spaces in any one area. • To ensure that parking areas are always overlooked by neighbouring houses. Routes through the area give priority to pedestrians through the provision of frequent raised crossing places. The frontage to the Hackney Cut Navigation is a traffic-free walkway.

Sensitive on-street parking at Chingford Hall, Waltham Forest

Sensitively located on-street car parking can aid traffic calming

Well designed car port, Devon

Traffic calming is designed in from the outset

Interior parking courts are designed as attractive spaces, overlooked by adjoining buildings

4.5.2 POSITIONING PARKING

Put parking behind, under, above or to the side of the building

The manner in which car parking is arranged has a fundamental effect on the quality of place. Vehicles should not be allowed to dominate the space, or to inconvenience pedestrians and cyclists. What to avoid is parking within the front curtilage. This breaks up the frontage, restricts informal surveillance and is generally ugly.

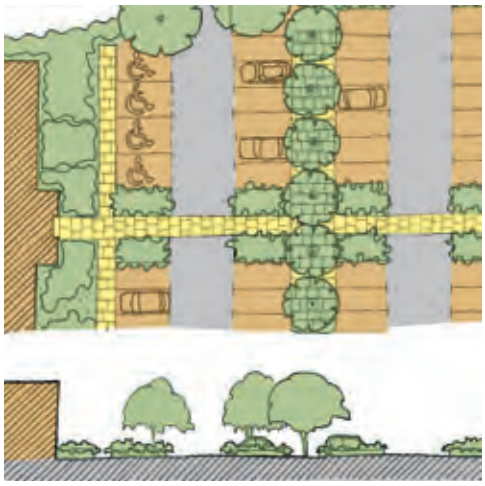
Keep cars in view

In residential areas, a very careful balance has to be struck between the expectations of car owners, in particular the desire to park as near to their houses as possible, and the need to maintain the character of the overall setting. Where cars are parked in courts or squares, the design should ensure that they are overlooked by adjoining buildings. To avoid parked cars dominating the surroundings there should generally be no more than 10 - 15 spaces in a courtyard.

Parking next to the house

When parking is provided within the building curtilage, cars should be parked at the side of the house rather than the front, or can be enclosed by short lengths of wall which continue the building edge (see 5.1.2). Parking spaces can be provided to the rear of properties within the garden behind the front building line.

Poundbury, Dorset: *An integrated approach to traffic calming*	
Location	A mixed-use development on the outskirts of Dorchester.
Design team	Masterplanner: Leon Krier Lead consultants: Alan Baxter + Associates
Client	The Duchy of Cornwall
Site area	71.5 hectares
Project	The first phase, including 135 houses, has been completed. By 2018 there will be 2,189 houses, plus workspaces, shops and other facilities.
Details	The development makes full provision for car ownership, but has been designed to encourage travel on foot, by bicycle and by bus. There is clear evidence that those who already live and work there are less car dependent than people in comparable communities elsewhere. Each phase of the development has been designed around a network of spaces to create a series of distinctive neighbourhoods. Streets and squares are formed by the arrangement of buildings, with the carriageway designed on the tracking principle. Traffic calming is designed into the overall layout, rather than treated as a later addition. Parking provision is mainly in squares and courtyards, where the parking spaces are overlooked by adjoining houses and buildings.



Landscaping of car parks should screen vehicles and establish direct footways connecting with nearby buildings

4.5.3 CAR PARKS

Divide up the commercial car park

In commercial developments the best way to alleviate the effect of large parking areas is to ensure that they are designed as an integral part of the landscape treatment and managed communally. This also ensures that pedestrian movement is not determined and restricted by vehicular movement requirements. Parking layouts should be obvious and logical and avoid the creation of leftover space.

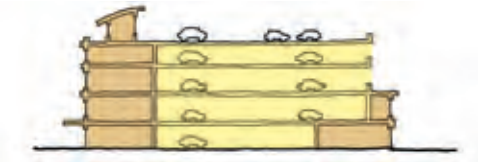
Make car 'parks' just that

Shared surface treatments can be effective although it is important to ensure that pedestrian routes are clearly defined - particularly in teaching children about road safety and maintenance of the pavement as a 'safe' area. Adequate space should be allowed for tree planting to all parking areas. This can be one of the most successful devices for integrating parking in to the urban landscape.

Parking can enliven the street

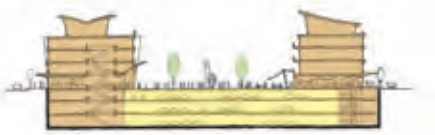
On the street, a certain amount of parking has a beneficial traffic calming effect, but the layout should be designed to accommodate it. Parking can be incorporated within a widened carriageway that also allows room for street trees and gives pedestrians greater freedom of movement.

The Waitrose car park in Witney, Oxon, has been well-designed around existing mature trees



A shielded multi storey parking structure

An undercroft parking space



A basement parking space

Basements and multi-storeys: soften and screen

The benefit of underground parking is that it allows the street frontage of buildings to be maintained. It may be possible to service ground storey shops and businesses from the underground area. Parking spaces demand a rigid geometry - a 16m wide space accommodates two rows of parking bays, but this geometry should not necessarily dictate the design of the above ground building.

Multi-storey car parks should generally only be considered when they can be designed to incorporate ground level activities such as shops or offices, and then need to be carefully designed to contribute to the street scene. Sensitively designed, multi-storeys integrate with the surrounding urban fabric when they are 'wrapped' by single aspect buildings for other uses.

Multi-storey car parks can be disguised by wrapping single-aspect housing around the perimeter . . .

. . . but do it in a subtle way!

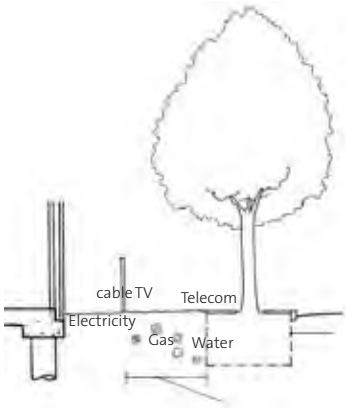
4.5.4 SERVICING

Service from the street

The ideal form of delivery is from the street directly to the building in the traditional way. Where a delivery/storage yard is required, place it at the rear and frame it with buildings to avoid the invariably unsightly yards and building edge. In largely urban situations basement servicing may be possible and encouraged. Time management regimes can be a very useful device especially where there is not a means of reaching a satisfactory design solution.

Disturbance caused by reversing lorries should be avoided in designs (here in the otherwise impressive Brook Green flats-over-superstore development in Hammersmith, London)

4.6 UTILITIES INFRASTRUCTURE



Grouped service strips help minimise maintenance disruption and avoid features such as trees

The services infrastructure is an essential part of a development, but it can be a source of clutter and a major irritant when services have to be renewed.

4.6.1 SERVICES ROUTING

Make services subservient to layout

The standard arrangement of service corridors beneath the pavement can have a detrimental effect on the layout of new developments. The routing of services should be designed to suit the kind of place that is being created.

There are two variations on the standard services corridor design:

- routing the services away from the main street, for instance down a back street or through rear courtyards. This may be more direct and economic, and make life easier for those living in the area when the services have to be dug up;
- fitting the services into the landscape, for instance by bunching them to avoid features such as trees.

Services to individual houses and buildings do not always have to be provided from the road frontage: with the agreement of the utilities they can be routed from the rear of communal areas.

Co-ordinate design development with service providers

Today's extensive site services often require extra space, which can be particularly disruptive to the floorscape during the early periods of development. The key is good planning and liaison with the service providers. They need involving early in the design process. This consultation should cover routes, requirements and programming. Care should be taken to coordinate routing and access covers with paving design.

Put services underground in shared strips

Services conventionally follow the routes taken by roads and footpaths, and the standard arrangement of a 2m wide corridor beneath the pavement has a major influence, sometimes detrimental, on the layout of new developments. One main reason for the use of this arrangement is that utility companies have a statutory right to install apparatus in the highway. However, subject to the agreement of the utilities, services can be routed away from the adopted carriageway. Multiple services can be accommodated in shared service strips.

4.6.2 EQUIPMENT BOXES

Hide the boxes

With the proliferation of service providers (particularly the number of cable TV companies) the number of equipment boxes in the street multiplies. Junction boxes for telecommunications and cable TV are needed at frequent intervals (about one per eight houses for cable TV) but are relatively unobtrusive. Having said that, care should be taken over where they are placed in the footway. Larger equipment boxes, access points and traffic light control boxes are much more obtrusive. They should not be allowed to obstruct the footway but should be sited elsewhere, for instance set into boundary walls or masked by shrubbery. Equally, the unsightly clutter of satellite dishes on houses can be avoided by the provision of communal equipment.

1960s tower blocks have been replaced with a mix of low rise flats and housing

Waltham Forest Housing Action Trust, North-East London: *Focusing on the infrastructure*

Location	Three sites in North East London.
Design team	Masterplan: Hunt Thompson Associates Alan Baxter & Associates
Client	Waltham Forest Housing Action Trust
Architect	Hunt Thompson Associates
Project	Partial demolition and phased redevelopment of three 1960s East London high-rise housing estates. Involves relocating 3000 residents into 1400 new housing units consisting of terraced housing and low-rise flats.
Details	In creating the masterplan for the redevelopment of the estates, a key issue was the services infrastructure. Important points were: • The integration of new infrastructure into the existing. • A coordinated approach to infrastructure, covering all facilities including roads and services. • Identifying the location of existing services despite inaccurate existing information. • Taking into account major existing services and accommodating them within the overall framework. • Allowing for future access and ease of maintenance by sensibly locating new services and buildings and by using common trenches. The existing infrastructure necessitated particular solutions: • In one instance there were an EHV (Extremely High Voltage) mains and a 4ft gas mains running across the site. It would have been prohibitively expensive to relocate these, with the result that the site layout was adapted so that these mains would run beneath roads. • By contrast, in another case the proposed street plan necessitated the diversion of a culverted river. It was found to be the most economical solution. The culvert was relocated along the periphery of the site and runs for most of its length beneath one of the new streets. • A major sewer ran beneath the proposed site of a new housing block. After initially rejecting the idea of building over, it was decided to construct the block so as to straddle the existing sewer using piled foundations on either side.

05 DETAILING THE PLACE

5.1 Positive outdoor space **5.2** Animating the edge **5.3** Building size and scale
5.4 Building for change **5.5** A thriving public realm

What is meant by 'detail'

What is meant here is the design of the buildings and public realm, and most particularly, the interface between them. The building elements include elevations, corner treatments, roof lines, doors and windows, materials, floorscapes of colour and texture, for example. The public realm elements concern the street, the pavement and the square and include planting, street furniture, lighting and public art. The interfaces are the steps, the fences, front gardens, hedges, walls, windows and doors - the hinge between the horizontal and vertical planes.

Why detail is important

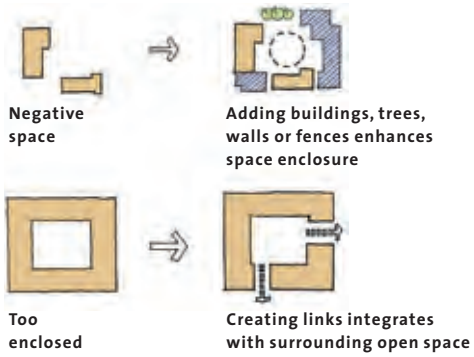
Detailed design is where the identity and quality of a place is finally won or lost. We all have a subliminal understanding of the quality of places from our experience, and are highly aware of whether they hinder our actions or do not work properly. But good design does not necessarily shout for attention. Often the detailing of buildings, streets or squares is quiet and unobtrusive. Successful places have a feeling of serendipity; the happy yet almost accidental mixture of many good things brought together.

It is essential to be highly aware of the quality of detailing for it can:

- make or break a place;
- stimulate the commitment of the developer, the community and the authorities involved to the maintenance of high standards;
- allow all the users of a place to enjoy it, in a balanced and efficient way;
- create and retain value; and above all
- ensure distinctiveness, whether a central square or great avenue, a quiet street or mews.

The keys are good design, good materials and the commitment of all those in an area to its successful long-term maintenance.

5.1 POSITIVE OUTDOOR SPACE



The Comyn Ching triangle off Seven Dials presents a striking corner, with an interior court opened up as public space (Terry Farrell & Partners)

One of the most important tenets of good urbanism is for buildings to give positive definition to the shape and function of outdoor space, and for this outdoor space to be designed to encourage a range of activities to take place. Buildings contribute to the public domain - encouraging people to meet, talk and linger.

The detailed design of urban space means attending to the building line and three-dimensional mass that helps create the character of streets and squares, later brought to life with planting, street furniture, public art and the whole host of other ingredients that give these spaces their warmth and vitality (see 5.5).

Much of our built heritage shows how this was part of the evolution of our towns and cities. In medieval times, buildings grew around the established paths and routes. The Georgian Square, street or circus or the great avenues and boulevards were laid out before the buildings. The space came first. This approach continued through into the earlier years of this century. Often places we love have a quite chaotic historical jumble of buildings, but they have come to define the space.

This tradition has got rather lost, and for a number of reasons. British architectural education has tended to concentrate on buildings and rather ignored the fact that buildings define spaces; and it is the quality of the public realm above all that we either enjoy or suffer. The social responsibility of buildings to contribute positively to civic life has often been neglected. Accommodating the motor vehicle has also produced a whole range of qualitative difficulties, as discussed in Chapter 4 - manifest in highway design standards, parking requirements, signage or safety measures. Planning standards for transport, privacy, or zoning purposes, for example, have added to the panoply of 'compliance' measures that the designer is obliged to fulfil. There is thus a tendency to finish up dealing with space 'left-over' after planning, highway and building considerations have been dealt with.

The approach advocated here is a return to the pre-eminence of the quality of the urban space - whether the avenue, street, square, mews or local park.

Go to places

Go through spaces

Go past spaces

5.1.1 POSITIVE AND NEGATIVE SPACE

Define the space, its function and character

Open space should be designed positively, with clear definition and enclosure. There should be no ambiguity or left over space. This can be done by giving each outdoor space a clear function, character and shape, and clarifying boundaries through the positioning of adjacent buildings, walls, fences, trees and hedges. The best check as to whether outdoor space is positive is to prepare a figure-ground drawing, with buildings as figure and outdoor space as ground.

The appropriate primary function of the space will depend on the facilities it contains in relation to demand, the characteristics of surrounding uses, users and circulation patterns. Streets, squares and parks can be conceived as a linked variety of 'outdoor rooms', whose character varies according to whether they:

- go to places, or destinations for staying, eating, meeting or events;
- go through or past spaces, such as favoured streets or squares;
- stop in places, to sit and watch the world go by; or indeed
- a combination of all these things - providing multi-functional spaces where people live, work and are entertained.

Every town has a variety and hierarchy of spaces. It is important to be clear about how each development contributes to this hierarchy, varying treatment according to the type of space (whether a path, street or market-place), the character (whether it is to be used for informal recreation or is to have a formal civic status, for instance) and size.

Urban Splash

By investing in the public realm, this once derelict site has been transformed into an attractive new destination

Concert Square, Liverpool: *Adding value with new public space*	
Location	In the heart of the city centre close to central station and Duke Street/Bold Street which have themselves been undergoing improvement.
Developer	Urban Splash
Site Area	0.2 ha
Project	The regeneration of a redundant inner urban industrial area by removing a building to create a new square and developing the buildings around it for a mix of uses.
Details	The development was carried out in conjunction with the City Council. It took an empty chemical factory and derelict back street and by sacrificing development space created an urban square with a mix of new and vibrant uses. This transformed a former derelict area into a city centre place where people want to live work and spend their leisure time. The development saw the creation of a piazza providing open air concert and exhibition space, a mix of bars, restaurants, night clubs, photo gallery, offices and 18 loft style apartments. It is estimated that this development has created some 180 jobs. This scheme has received a number of awards including from the British Urban Regeneration Association, the Royal Institute of British Architects and the Merseyside Civic Society.

A busy road is addressed positively in Poundbury, Dorset, with boulevard planting and a strong building frontage

Garages should be recessed behind the main building line

5.1.2 BUILDING LINES AND SET-BACKS

Be direct

A common building line creates continuity of frontage and provides definition and enclosure to the public realm. It can also help ensure new development is properly integrated into an existing street. Minimising set-back distances increases the ability of a building to interact with the public realm. Where buildings are permitted to step back from the building line, care needs to be taken to ensure resulting spaces are useable and attractive.

Table 5.1 provides rules-of-thumb for building line set-back distances, indicating how these vary according to locational setting. A note of caution: garages or parking provision which is in front of the building line will undermine the relationship between building and street. In suburban situations garages should be to the side of principal buildings, recessed behind the main building line.

Table 5.1 Indicative set-back distances according to locational setting

Location	Set-back	Purpose
Core commercial areas	Adjacent to pavement edge	Direct commercial frontage
Inner urban areas	1.5 m to 3m semi-private strip between residential or commercial building fronts and public pavement	• Amenity space for a small garden, bicycle stand or seating • Functional space for residential rubbish-collection or meter-reading • 'Spill-out area' for pavement cafes or shops
Outer urban areas	'Tolerance zone' of about 5m	Adjacent to busier arterials, providing a more substantial buffer for houses. Avoid car hard-standings, which create a divisive barrier between building and street

Face up

Streets, parks and waterways which are not overlooked can sometimes feel unsafe, especially at night. Park fences can also create a negative visual impact. These public spaces are intrinsic assets to be enjoyed, yet often neighbouring buildings ignore this. Buildings facing onto public open spaces create an identity and a sense of ownership and care. Facing the park or water also tends to command higher values, which off-sets the cost of creating single-loaded streets (with buildings on only one side). Thus buildings should front the public realm, running accessways or footpaths along boundaries so that this face is used as the front door.

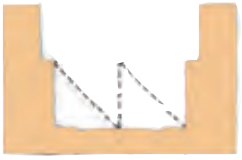
Mews 1:1 ratio

Generally effective 1:3 ratio

Maximum squares (+very wide streets) 1:6 ratio

Spatial definition by tree canopy

Spatial definition by building height



Spatial definition by recess line

5.1.3 ENCLOSURE

Create enclosure and definition

It is the three dimensional mass of each building which defines the public realm. Building elevations and the cross-sections of public spaces should therefore be scaled to foster a sense of urbanism so that streets, squares and parks are defined by appropriately scaled buildings and/or trees fronting onto them. The following height to width enclosure ratios serve as a guide, and need to be checked to ensure that they enable sufficient daylight (see 3.4.1):

Table 5.2 Height to width ratios

	Maximum	Minimum
Mews	1:1.5	1:1
Streets	1:3	1:1.5
Squares	1:5	1:4

5.2 ANIMATING THE EDGE

Places that are beautifully detailed to stimulate and delight have one thing in common: buildings and open spaces go hand in glove. There are many exemplary places that demonstrate the ingredients to success. Yet debates about the detail of places, particularly building architecture, are often preoccupied by 'style'. We live in an age of both rapid technological change and amazing ecleticism over design theory and style issues; Neo Classical, Vernacular, Modernism, Postmodernism, Deconstructivism and so on. And whatever the 'ism', the product varies from the excellent to the awful.
Our interest is in 'urban architecture' - that is, buildings and open space considered as a totality. Viewed from this perspective, the success of a building is determined by its ability to make a positive contribution to the public realm - to face the street, animate it and make sure that all adjacent open space is positively used. It is this interaction between buildings and the public domain - this edge - that determines the relationship between inside and outside, built and open, public and private, individual and community.

5.2.1 ACTIVE FRONTAGE

Get the rhythm right

Making frontages 'active' adds interest, life and vitality to the public realm. This means:

- frequent doors and windows, with few blank walls;
- narrow frontage buildings, giving vertical rhythm to the street scene;
- articulation of facades, with projections such as bays and porches incorporated, providing a welcoming feeling; and, on occasion,
- lively internal uses visible from the outside, or spilling onto the street.

Table 5.3 provides a scale to judge the performance of designs according to the amount of active frontage. The challenge is to attain 'Grade A frontage' wherever possible. These are most likely to be in core retail areas, though even housing frontages can be enlivened with attention to detail.

A
B
C
D
E

Quincy Market, Boston, USA: A 100% active location

Poundbury, Dorset: Frequent doors and windows onto the street

Exposing blank walls to the public realm should be avoided

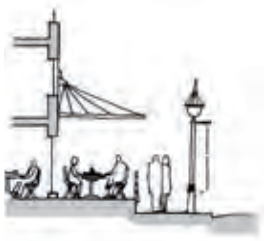
Table 5.3 Active frontage guidelines	
Grade A frontage	
• More than 15 premises every 100m	• No blind facades and few passive ones
• More than 25 doors and windows every 100m	• Much depth and relief in the building surface
• A large range of functions	• High quality materials and refined details
Grade B frontage	
• 10 to 15 premises every 100m	• A few blind or passive facades
• More than 15 doors and windows every 100m	• Some depth and modelling in the building surface
• A moderate range of functions	• Good quality materials and refined details
Grade C frontage	
• 6 to 10 premises every 100m	• Very little depth and modelling in the building surface
• Some range of functions	• Standard materials and few details
• Less than half blind or passive facades	
Grade D frontage	
• 3 to 5 premises every 100m	• Flat building surfaces
• Little or no range of functions	• Few or no details
• Predominantly blind or passive facades	
Grade E frontage	
• 1 or 2 premises every 100m	• Flat building surfaces
• No range of functions	• No details and nothing to look at
• Predominantly blind or passive facades	
Adapted from Gehl, 1994	

Maximising windows and doors encourages active frontage

Balconies, canopies and bay windows can further enliven the frontage

Transparent windows enable communication between inside and outside

Level changes can promote surveillance while retaining privacy



'Spill out' space adds vitality to the public realm

Reach out to the street

Devices can be incorporated into a façade so that a building reaches out to the street. Views into a building provide interest to passers-by and make its function apparent, while views out put 'eyes on streets', and contribute to safety. At the very least, windows can imply the presence of others. Adding visual interest and animation to façades means:

- the more windows and doors onto the public realm the better.
- using transparent glass for windows, where privacy allows, rather than mirrored or frosted glass that only allows occupants to benefit from views out;
- enlivening edges with balconies, bays, porches, awnings, colonnades or other projections that provide a more comfortable threshold in inclement weather, prolonging activities and enabling uses to overlap into the street;
- considering level changes between the ground building level and pavement, with steps up to house front doors or raised terraces for pubs or restaurants, for example. A change of up to 450mm is often desirable to give a sense of privacy and surveillance, but take care not to constrain access – particularly for the disabled (see 5.4.2).

'Capturing' road – side space can create opportunities for informal activities to add vitality to a place. Streets can be attractively colonised by enabling restaurants, cafes and pubs to 'spill out'.

Make buildings give

Urban design doesn't stop at the front door. Lively interior activities that are more public can enliven outdoor spaces, improve both the aspect and prospect, and often boost the profile of commercial uses. This requires that the more active uses of the building's accommodation schedule - (say) an employee canteen, a theatre's ticket booth or an office's reception area - are first identified and then orientated towards focal outdoor spaces, rather than buried in the building's interior.

Where opportunities are limited, such as with 'big-boxes' that have a building envelope only able to provide about 25% active frontage (such as main entrance, café or checkouts), make sure that blank sides and rear service areas are concealed (see 3.2.6).

A modern perimeter block in Antwerp, Belgium, that responds to the scale and rhythms of adjacent buildings

Museum of Scotland, Edinburgh: Fresh modern design using traditional materials (Architects: Benson and Forsythe)

Buildings should be designed to provide a stimulating composition from near and afar

5.2.2 RICHNESS AND BEAUTY

Be a good neighbour

The need to respect neighbouring buildings and respond positively to them is not a call for pastiche. Sometimes how a building 'fits in' to the townscape is the principal concern, sometimes it is stark contrast that makes a place. To borrow from Cole Porter, "it ain't what you do, it's the way that you do it." Good buildings enrich the surrounding fabric, both visually and physically, while the exceptional adds the magic of contrast, drama and innovation. Respect for context requires adhering to:

- continuity of building line;
- a street's vertical and horizontal rhythms (the building widths, the proportion and scale of windows and doors);
- the local morphology (the pattern of streets, blocks and building types);
- adjacent building heights, roof and cornice lines;
- local building materials;
- first-rate architecture.

Strengthen local identity

Distinctive places have their own character and atmosphere. Remarkable buildings provide a unique sense of cultural and community identity. Variety in architectural expression will transcend mere fashion and create richness and diversity. Local identity can be assisted by:

- a diversity produced by many design 'signatures'. This principle needs to drive the approach to land parcellation and plot sub-division from the outset (refer back to 3.8.1 and 3.8.2);
- drawing on local traditions of built form, materials and craftsmanship, such as masonry, ironwork or stained glass;
- developing a materials strategy that responds to the locale - selecting materials that look good, whether dry or wet.

Keep it rich - from near and afar

The number and composition of elements on the building's façade, and the contrasting relationships between them - as viewed from near and afar - determine visual quality and interest. Great urban architecture requires that at every scale, from a range of viewing distances, a building's surface appears rich in detail. The key is to emphasise vertical rhythm in particular and avoid exposing blank walls.

Cladding systems tend to pose difficulties in evoking a human scale. If their use is unavoidable, then emphasise doors and windows and surface textures on the lower floors and in the immediate landscape.

Hundertwasser Haus and Kunsthaus, Vienna: *Housing with a difference*	
Location	The sites are located within the dense inner core of the City, half a kilometre outside the central area's Ringstrasse.
Design Team	Artist: Hundertwasser
	Architect: Peter Pelican
Developer	Vienna City Council
Project	A variety of sizes of apartments on a corner site facing both the street sides and an inner courtyard; and an arts centre
Details	The work is full of humour, colour, interest and touches the child in us all. It has created a new identity of place and a new tourist destination. There is nothing else quite like Hundertwasser's work. It challenges all the norms of planning and architecture, the projects are financially and economically successful and, by and large, people love them. Although some regard the work as 'kitsch', there is no doubt it is fun. The key elements are: • Sense of place The projects have a highly distinct sense of place; and a strong character.
	• Partnership The projects result from a partnership venture of the developer (the local authority) and the artist.
	• Creative flair The unusual can produce exceptional development.
	• Public art Putting art into architecture and place making in a way that reaches out into the public as well as private realm.
	• Humanity The schemes have a human scale, a very warm welcoming character and embodies many of the other guidelines identified in this Compendium-addressing the street, using environmentally-friendly construction technology, and being highly accessible in community terms.

5.3 BUILDING SIZE AND SCALE

Ground floor uses enable tall buildings to interact with users at street level

Active enclosed public space created with medium rise mixed-use buildings

The size and configuration of a building, and especially its scale in relation to the surrounding context, has a bearing on its:

- sustainability (in terms of energy consumption and space ability to change use, for example);
- relationship with the surrounding urban structure (such as the impact on legibility);
- contribution to neighbouring public space (notably whether it aids or undermines street vitality).

5.3.1 BUILDING HEIGHT

The big picture

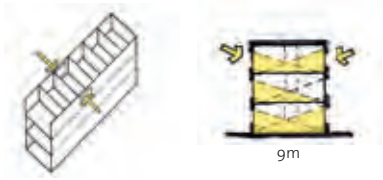
Tall buildings have a positive role to play in signifying locations of civic commercial or visual importance, or focal points of urban activity such as town centres or transport junctions (see 3.6.1 to 3.6.3). However, this has to be weighed against the possible negative impacts on microclimate (such as wind funnels or too much shade - see 3.4.1 and 3.4.4), environmental performance of nearby buildings and amount of active frontage (the risk of fewer entrances and a distanced relationship between occupants and the street).

For many urban situations, medium-rise buildings provide an optimum form (see 3.3.2), because of their ability to accommodate a range of uses, (which generally decreases beyond four storeys), the potential for medium-high densities, as well as generally lower energy demands and construction costs. In more suburban situations, where two or three storeys are the norm, it is desirable to place higher buildings in key locations such as on corners, along principal routes, the end of vistas or around parks. Decisions about building height should also be made in relation to creating street-building height ratios creating good enclosure (see 5.1.3).

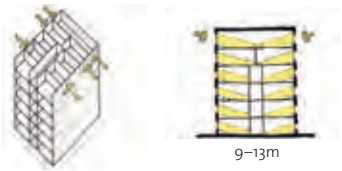
Wrap up and step down

Problems of different scale juxtapositions can be resolved by:

- 'wrapping' large spaces with small buildings (see 3.2.6 and 5.3.2);
- 'stepping' a large mass down to its neighbours;
- ensuring that the ground level most relevant to pedestrian experience is as active and interesting as possible (see 5.2.1).

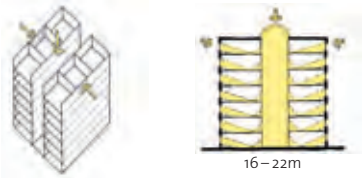


Shallow plan/single aspect: Residential and office use



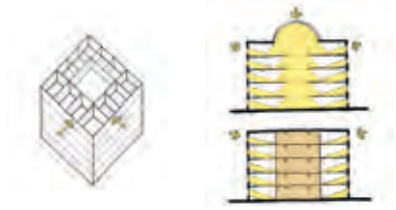
Cellular plan daylit (sidelit): Accommodates maximum variety of uses

Unlit internal space created



Double aspect deep plan can be naturally lit by introducing atrium

Open plan multi-storey 'big box' requires most intensive artificial lighting and suits only certain uses



'Big-boxes' can be redesigned as daylit malls/arcades or be wrapped with single-aspect daylit rooms

5.3.2 BUILDING DEPTH

Plan shallow

Building depth has a critical impact on the need for artificial lighting and ventilation. This affects the variety of uses that can be accommodated. Table 5.4 provides a guide for assessing the impact of building depth on natural ventilation and lighting, and hence robustness.

Table 5.4 The Implications of building depth

Building depth	Implications
< 9m	Too shallow for a central corridor and limited flexibility in internal planning
9-13 m	Provides naturally lit and ventilated space = OPTIMUM ROBUSTNESS
14-15 m	Sub-division is still facilitated, but some artificial ventilation and more artificial lighting is required
16-22m plus	More energy intensive, though a double-aspect cellular form is possible with the insertion of an atrium/light well, giving a block width of up to 40 m.

Orientate for flexibility

Sometimes it is preferable to orientate a building so that its long side faces onto the street. Making the plan shallow in this way can create a more versatile form for designing continuous frontages.

5.3.3 CORNERS

Turn the corner

Corner sites are visually prominent, have two frontages and can potentially offer more entrances to different parts of the building. They therefore provide special opportunities for mixing uses. Houses on corners need to face two ways; many standard building types used by housing developers are rarely able to do this. More tailored designs will be required or new types devised. Corners are best emphasised by incorporating prominent entrances and/or windows at the apex, expressing the height by, for instance, using a 'mansion block' of apartments, or incorporating a special use into the mix.

Corners heightened to emphasise node

Set-backs and increased building heights create a sense of formality

Rotating the building line to create a square on the diagonal as in Barcelona

Corners projected forward

Asymmetrical building line emphasises particular direction

5.3.4 BUILDING WIDTH

Trim and slim

Building width has an impact on overall flexibility of use and the ability to personalise spaces, as well as on the vertical rhythms and amount of active frontage when seen in elevation.

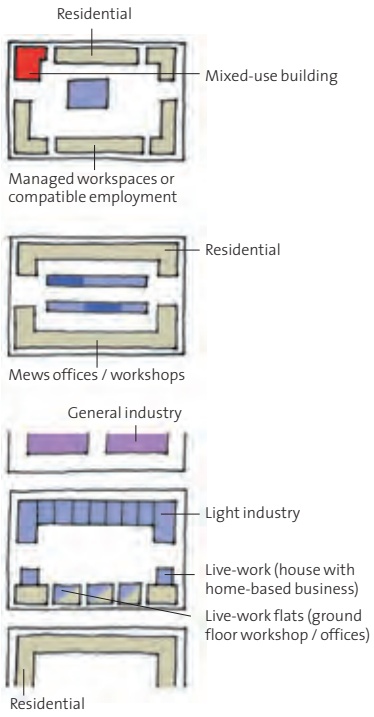
Buildings comprising 5-7m wide daylit 'cells' or 'modules' provide an extremely flexible form. Each cell can be combined as desired and relates to a small shop or terraced house, for instance. Below about 5.5m it will be more difficult to add rear extensions without blocking light and ventilation.

Verticality, rhythm and colour: Dublin

Homes for the Future, Glasgow: *An exciting new vision of city living*	
Location	Located on the edge of Glasgow Green, adjacent to St. Andrew's Square to the east of the City Centre.
Design Team	Masterplanner: Page and Park Architects: Elder and Cannon; Rick Mather Architects; Ian Ritchie Architects; Ushida Findlay; Mc Keown Alexander; Wren Rutherford; RMJM
Project	300 new homes, comprising ten residential blocks designed by a number of prominent architects.
Details	Homes for the Future is an exciting demonstration project that shows how a variety of modern forms and styles can be designed as a coherent whole when perimeter blocks are used as a structuring device and a certain homogeneity of materials is applied. This was achieved by adhering to a development and design brief that clearly specified building types, the hierarchy of spaces and the urban design principles.

5.4 BUILDING FOR CHANGE

Flats over a garage: where there's a will, there's a way



Mixing uses within perimeter blocks can take various forms

Here we deal with designing buildings to change in space and over time: space in terms of accommodating a mix of uses in close proximity (see 3.2); and time in enabling buildings to be adapted, personalised and changed in use over time according to the needs of occupants.

5.4.1 MULTI-USE BUILDINGS

Most uses are compatible side-by-side

Many of the old justifications for the separation of uses are no longer valid. With the advent of clean technologies and the rise of the services sector in the post-industrial economy, uses can once again be 're-mixed'.

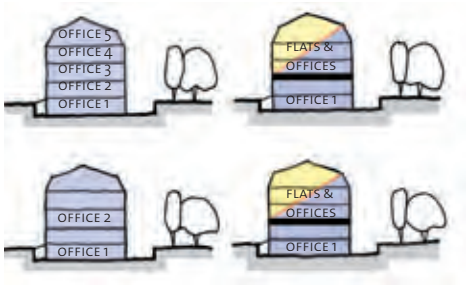
Many traditional urban building forms, the terrace in particular, have lent themselves easily to conversion. Conversely, most current standard products, whether houses, shops or offices, have not. Yet even if injecting non-residential uses is not viable immediately, buildings which are inherently flexible will facilitate change over time (see 5.3).

Mix at close quarters

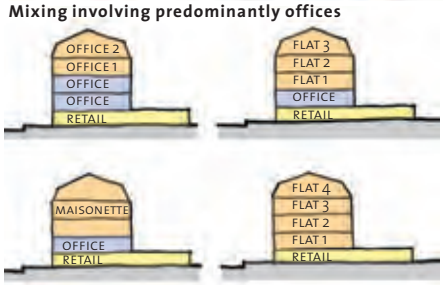
In recent years new flexible building types have emerged to offer innovative ways of injecting non-residential uses into housing areas, or into the transition zones on the fringes of the commercial core. Many historical precedents are also informative. Devices for mixing uses at close quarters include:

- inserting managed workspaces or compatible employment uses into 'backlands', or block interiors;
- introducing mews lined with single-aspect offices, workshops or studios;
- 'grading' uses, for instance, from general industrial uses, through light industrial (B1) / workshops / offices to residential;
- creating hybrid building types that can serve as a buffer between different use areas, such as live-work units or foyers, that serve as one-stop centres for training, advice and young persons accommodation;
- encouraging temporary or 'meanwhile uses' such as small arts and crafts workshops or markets to bring life to an area until permanent accommodation has been constructed.

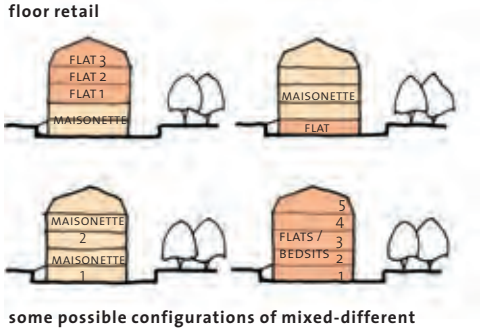
Even where 'breathing space' between uses is considered necessary, this can be treated positively with the insertion of a public square or park.



Mixing involving predominantly offices



Possible mixed-use combinations with ground floor retail



some possible configurations of mixed-different residential types

The rooms needing the most maintenance and refurbishment, bathrooms and kitchens, should be located to make change easier (proposed house type for Trowbridge Estate redevelopment, Hackney: PRP Architects)

Walter Segal – designed self-build social housing in Lewisham, London

Vertical mixed-use: make it stack up

Flats or offices can often be accommodated over shops, restaurants, community or leisure uses. Use combinations including high-intensity activities, such as nightclubs, work well when located under commercial space, less well when sited under a block of apartments. Table 5.5 provides some detailed design recommendations for mixed-use buildings.

Table 5.5 Recommendations for Detailed Design of Mixed-use Buildings

Detailed element	Advice
Entrances	Separate entries from the street to upper levels. Position so as not to break up ground floor retail continuity.
Parking	Secure parking, with allocated spaces for residents in larger developments. Shared use of both on-street and off-street space can be incorporated (such as daytime use for offices, evening use for residents).
Service and rubbish centres	Position to the rear of developments, with measures to mitigate adverse noises and smells (that avoid the need for lorries to use their reversing horns, for instance).
Sound insulation and internal planning	Mitigate noise impact with sound insulation and sensitive internal planning. Acoustic barriers are particularly necessary between restaurants or nightclubs and residential accommodation.
Vents	Extend vents from smell or pollution sources (such as basement parking emissions) away from housing.

5.4.2 ADAPTABILITY AND RE-USE

Home is where the heart is

Flexible buildings offer occupiers the opportunity to modify and personalise their homes and workplaces. They can be altered to suit individual preferences and changes in use. Much is down to the configuration of the building (its height, width and depth -see 5.3), access arrangements, the amount and configuration of internal space, and the way that thresholds are dealt with (see 5.2.1). However, other innovative means of designing-in flexibility can be employed, such as:

- creating a 'kit of parts' which enables units selected by prospective occupiers to be 'slotted-in' to the structural frame;
- designing a modern form of the traditional town house, so that the internal uses and circulation can be changed to meet new requirements;
- promoting self-build schemes (see opposite).

Access for all

Buildings and public spaces must address the needs of everyone, and especially those with pushchairs, people with disabilities and the elderly. 'Lifetime Homes' respond either to *"the changing needs occurring throughout one family's lifetime - raising small children, accommodating the teenager with a broken leg, having grandparents to stay, mobility difficulties on old age - or … the varying needs of numerous changes of occupier in the same home"* (JRF, 1997). The established guidelines over these matters need attention (most notably the new Part M of the Building Regulations), particularly in relation to the detailed design of the building/street interface.

Tate Modern has been successfully transformed from a redundant power station into one of London's top visitor attractions.

Conversion: Reveal the history of a place

Most places benefit from a presumption in favour of retaining buildings and open spaces of quality and stitching them into new development. To quote Austin: *"What is needed is continuity... historic preservation is not sentimentality but a psychological necessity. We must learn to cherish history and preserve worthy old buildings... we must learn how to preserve them, not as pathetic museum pieces, but by giving them new uses"* (Austin et al after Huxtable, 1988).

The canal basin provides focus for new mixed use quarter

Mill buildings have been converted into a mix of offices and high quality flats

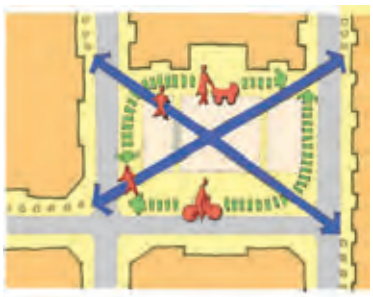
Sowerby Bridge, West Yorkshire: *Creating new futures*	
Location	Sowerby Bridge town centre
Area	15,000m²
Project	Change of use of five redundant mill buildings to provide housing, canoe club, workshops, retail units, offices, a hotel/restaurant and a museum/visitor centre.
Details	In 1984 the five mills that dominated the town were all closed. Some had experienced fires and the rest were all but derelict. Since then the mill town has been undergoing a process of regeneration. The whole town needed to adapt and change as its core use and industry had gone, taking with it a number of subsidiary businesses. The first phase of the redevelopment was opened in 1985. This was an international standard canoe slalom course on the River Calder. This is novel in terms of its town centre location and has proved to be popular with spectators. One of the town's most prominent redundant buildings was Carlton Mill, a listed five-storey structure. The regeneration work carried out by Allen Tod Architects has made the building sound while creating a mix of uses within it. Similarly, another of the town's listed buildings known as the Salt Warehouse has been refurbished for office suites and facilities for the Sea Scouts. Sowerby Bridge as a whole is a good example of how not only buildings but whole towns can reinvent themselves and evolve through time if their basic structure allows it.

5.5 A THRIVING PUBLIC REALM

A comfortable and stimulating public realm that encourages social interaction requires detailed attention to the structure of a space and the elements it contains. This involves the surfaces; what is hard, what is soft; what forms of planting are appropriate; and what surfaces are for vehicles as well as pedestrian use, for example. It also requires that the issues of security, public art, street furniture, lighting and signage and so on be looked at in tandem. The designer will need to move freely up and down the design scale of elements. We concentrate here on the fundamentals - more technical guidance is provided in other publications, notably the excellent Scottish Enterprise's *"Streets Ahead"* (1997).

Animating spaces with water

Market stalls inject colour and life, Guildford High Street



People are energy efficient and take the shortest, most direct route through a square. Only those pushing prams or cycles may detour

5.5.1 SOCIAL SPACES

Focus activity areas

The best public spaces often have nodes of activity (with pavement cafes or markets, for example), complemented by quiet zones for rest and people-watching. Deciding the relative positioning of activity areas requires attention to:

- visibility - enabling people to have views across spaces, while giving them a choice of areas to sit or linger in relation to activity 'hot spots';
- orientation - south-facing sunny and well sheltered spots with seating provide the most popular spaces for lingering;
- facilities for sitting and stopping in squares and parks at activity nodes and crossings;
- places for children to play, and not just in designated play areas. It is particularly important near housing to create spaces for children to play and for parents and carers to meet.

Uses in and around the space

There are many means of creating a 'stage set', for a lively and interesting environment. The most successful way of ensuring that an urban park or square is well used is to introduce an activity source alongside or in the interior of the space, such as a café or food stall. Remember that people attract people. Additionally, in central areas, spaces can be created to:

- encourage street performers;
- transform squares into evening film auditoria or theatres (such as Meeting House Square, in Dublin's Temple Bar - see 5.5.2);
- accommodate markets, carnivals or parades.

Build in versatility

People from different cultural or age groups, including children, the disabled and the elderly, will use spaces in different ways. Rather than segregating activity types and thus user groups, it is beneficial to look at ways of designing versatile spaces that enable different people to enjoy different activities *in the same space* as far as possible.

Routes through space: enable people to pass directly from A to B

The best-used paths will follow natural desire lines between destinations. This means aligning direct paths along popular routes and providing seating and lighting along the way. This can be done by observing movement patterns through a space and looking for tracks. For example, it is often possible to design diagonal pedestrian walkways through parking lots. This creates a more pedestrian-friendly approach and visually articulates the form and landscape of the car park.

The NBA shop,
Fifth Avenue, New York

Textured walling

Street performers outside Quincy Market, Boston, USA.

Flowers in Rockefeller Garden, New York

Street hawkers in New York

Stimulate the senses

Sight isn't the only sense that shapes the identity of a place. Users are also influenced by sounds, smells and touch under hand and foot. The creation of spaces that stimulate all the senses requires that we ask:

Touch: how does it feel?

The feel of a place is influenced by surface textures and the effects of microclimate. Texture is most important for surfaces that come into contact with the majority of people and are visually prominent. Designing for the sun, wind and rain makes a place pleasurable, whatever the season. This means making the best use of sunny spots for seating in the spring and autumn and exploiting shaded areas for sitting out in the summer.

Sound: what sounds can help create character?

Sound can enhance the atmosphere of a place and landscaping can control the level of noise in the outdoor environment. There will be times when planting can provide a screen from intrusive sounds, particularly from traffic. It can also provide sources of background noise - such as water bubbling in a stream, birds chirping or the wind rustling through trees, helping to create an intimate feel - a moment of calm in the heart of the city. Noise-generating activities can also enliven central spaces - whether stalls, music or seasonal entertainment.

Smell: what scents can be added?

The experience of a place can be heightened by its aromas - whether the scent of flowers, coffee or fresh bread. Even if unpleasant to some, others may consider certain smells to provide the essence of a place - such as the smell of yeast reflecting the presence of a brewery. Birmingham's Brindley Place, for instance, combines the sound of water from fountains and an aromatic coffee shop, which draws people into its centre and creates a lively source of activity.

Dutch patterning of public space

Treating the floor as public art

Unusual features such as this colonnade in Hexham's market square, Northumberland, unique local identity

5.5.2 DISTINCTIVE PLACES

Strengthen local identity

Local distinctiveness and identity can be strengthened through design of the floorscape by:

- using local materials;
- retaining historical associations - such as the use of cranes as sculpture in London's Docklands, incorporating elements into the streetscape, such as old tram-lines or archeological foundations, or even converting a railway viaduct to a park (see the Bastille Viaduct case study on p.72);
- installing symbols or icons, such as imprints in the pavement, whether leaves or flowers of local trees in concrete slabs of the pavement, and treating the floor space as public art;
- involving the community, such as local pavers or tilers or organising a design competition at local schools, for example.

Plant local

Planting can define a space and its function. It can give direction or identity, separation or enclosure. Species can be selected to create different moods or character. The use of local or regional plant species indicates which part of the country you are in - and sustains greater biodiversity. Wherever possible, attractive and ecologically valuable existing vegetation should be protected, especially against utility providers and contractors. The planting of cherries in one block and ash in another tells you which street you are in. Trees, shrubs, groundcover, climbers and seasonal flowers can all be used to enhance distinctiveness. Seasonal interest can be achieved using all or only one of these elements. Edible fruit and nut bearing species will attract further wildlife.

Quality places are built to last

The specifications of materials and maintenance regimes must demonstrate high standards of visual attractiveness, durability and environmental performance. Materials affect user perception, and should be selected to relate to the intended traffic 'design speed' of a place. Loose gravel, for example, slows pedestrians and vehicles, while smooth surfaces allow for quicker passage.

Meeting House Square, Temple Bar, Dublin: *Injecting life with a vibrant new space*	
Location	Dublin's cultural quarter on the south side of the Liffey
Designer	Group 91
Developer	Temple Bar Properties
Project	Meeting House Square is flanked by the Irish Film Centre and Archive, The Gallery of Photography, The National Photographic Archive and School, The Ark Children's Centre and The Gaiety School of Acting with the Eden Restaurant below.
Details	All of the buildings on the square contribute to and provide innovative active frontages. The Ark is a children's cultural centre and comprises a theatre, galleries and workshops. The stage area its ground floor theatre opens out on to Meeting House Square as a raised performance area. When not in use the stage is concealed behind a dramatic door. The Photographic Centre comprises of two buildings - the Gallery of Photography and the National Photographic Archive and School. These two buildings combine to provide added interest in the Square when films are projected across from the Archive building on to the Gallery wall. The Eden Restaurant embraces the square by continuing the surface treatment from the square into the restaurant.

Co-ordinated street furniture on London's South Bank

Street furniture is not always used for the intended purpose!

Clutter undermines the quality of spaces

5.5.3 STREET FURNITURE

Public space is occupied by a host of components, whether seats, fences, shelters, boxes, poles, lights, bollards or signs. All these need careful attention.

Clean up the clutter

The public realm is frequently characterised by clutter. Roads and streets are often dominated by ugly and sloppily applied white and yellow paint and littered with so-called 'street furniture', which includes anything from grit bins, benches, bollards, railings, lighting, signposts, CCTV and substations to cycle stands and phone boxes.

This panoply is generally owned and managed by different bodies. At worst, there is no co-ordination and the only functional considerations are engineering-led and car-orientated. The pedestrian is ignored or marginalised. Some of these items are introduced on grounds of 'pedestrian improvements', yet the 'sheep-pen' staggered pedestrian crossings and guard rails impede pedestrian movement while allowing a free run for the car. A more sophisticated approach is achieved through a co-ordinated design, installation, management and maintenance strategy - ensuring a consistency of style and colour. This should involve a partnership with key stakeholders, such as highways agencies, local authorities and utility companies. Guidelines for design include:

- removing the superfluous and obsolete; establishing a visual logic, with clear messages for pedestrians, cyclists and drivers;
- designing the space so that the functions of its parts are clear and the need for signs, barriers and the like is minimised;
- either hiding it or flaunting it. Certain elements, such as service inspection boxes, are unavoidable but visually dull and frequently located where they impede the pedestrian. They are best hidden in the landscape or building edge. If it is essential that it be positioned in the open, the lampost for example, then its design, height and level of illumination should be selected carefully for the particular space. Treat the artefact as art;
- producing a comprehensive and co-ordinated strategy of elements for each space; carefully selecting them according to context - the landscape, buildings and floorscape. Both 'special' and 'off-the-shelf' designs are possible. We should encourage designers to use the best of modern design rather than the continuing reliance upon the 'heritage' range, which all too often equals pastiche.

A veritable forest of signs, barriers and lights

Fit art to the place

Public Art can make a major contribution to giving a place character and identity, bringing people into and through places. An extra layer of quality can be obtained for a small proportion of the total project budget.

For a large scheme, there are usually great benefits in preparing a public art strategy. This identifies locations and types of work and provides a framework for commissioning artists and seeking funding. Cardiff Bay Development Corporation, for instance, has a five per cent public art levy on all projects in their area, although one or two percent is a more usual requirement.

Street sculpture, Bratislava

Mural, New Orleans

Steel Kangaroos, Brisbane

Wall of water, Seattle

Quayside, Newcastle-upon-Tyne

Imaginative sculpture

Birmingham

Newcastle-upon-Tyne

High quality signage, South Bank, London (Designer: Lifschutz Davidson)

Lighting for people instead of cars - Ladbroke Grove Environmental Focus areas (Designer: Tibbalds Monro)

Quality lighting has helped bring the Grainger Town area of Newcastle-upon-Tyne to life

South Bank lighting strategy, London

5.5.4 SIGNAGE

Make a place legible

Signage can be a major clutter problem and can often be misleading. Not infrequently, the only signage provided is for vehicles, so that the stranger on foot can find himself circulating around one-way systems. The answer lies in:

- consistent and coordinated design of these elements over a wide area;
- making the structure of the place legible so as to minimise the need for signs, especially those concerned with traffic direction and control;
- concentrating pedestrian signage in a designed locality at specific nodal points;
- implicit routing defined by the paving type; installing art in the floorscape; and introducing other imaginative means of easing orientation.

5.5.5 LIGHTING

Illuminate the scene

Frequently lighting systems are selected for highway illumination purposes. They are often out of scale and ugly. By designing places that are well lit for pedestrians, with particular care given to vehicle/pedestrian conflict points, places are made safer and unthreatening, but care needs to be taken to avoid unnecessary light pollution.

Lighting can be provided by overhead street lamps, sometimes best mounted on buildings, as well as from bollards, uplighters, feature lights, building and façade lights and shop windows. Through a composition of all available sources, a desirable level of lighting can be produced, bringing attention to some components but hiding others. The shape and colour of light can also generate three-dimensional sculpture, transforming the perception of a place and dramatically painting its night landscape. The more light-the more encouragement of night - time activities.

Millennium bridge provides further quayside attraction

Newcastle Quayside: *A waterfront renaissance*	
Location	North side of the River Tyne, Newcastle.
Design team	Master planners: Terry Farrell & Co. Architects: The Napper Partnership (Blue Anchor), Jane Darbyshire & David Kendall Ltd. (Ouseburn Water Sports Centre)
Details	The Quayside has been an active waterfront in Newcastle since Roman times. Continuing to grow through the medieval period, it culminated in the flowering of late Victorian enterprise. Thereafter, decline set in and by the 1970s decay was extensive. The Quayside was the Tyne and Wear Development Corporation's flagship development, and is now a key project for the new Regional Development Agency, One North East. Urban Design principles embodied in the Master Planning Guidelines / Framework include issues such as definition of the Quayside, aesthetic considerations, materials, public art and landscaping.
• Blue Anchor Court	Blue Anchor Court, the first housing for sale built in Central Newcastle for over half a century, was the initial project in the Quayside regeneration programme. An intimate series of residential courtyards, encompassing two/three storey housing, it reflected the traditional scale of Trinity House and reinforced the urban fabric. Connected to the River's edge from its highest point, overlooking the Tyne Bridge, by cascading steps and cobbled paths within its quieter quarters, it opens on to the lively waterfront through arches.
• Ouseburn Watersports Centre	The intriguing Ouseburn Watersports Centre at the Quayside's eastern point gives this unique location the landmark it deserves - a beacon tower, nautical design and active maritime uses.
• Attention to detail	The linear Quayside experience is captured and enriched by the attention to detail. Reflected in the public art - on facades, in courtyards and along the waterfront and pedestrian routes - it has an eye-catching yet understated maritime/nautical "feel", adding "depth" to the experience.
• Interwoven spaces	The Quayside may be best described as a series of interwoven spaces, both private and public, with buildings, large and small, that are stitched together as a collective whole by the quality and simplicity of the urban design.

Public art and quality detailing of quayside public realm

5.6 SAFETY AND SENSE OF SAFETY

Safety and security are vital elements in any urban development. The creation of a sense of personal and community safety in cities is a complex issue; the perception of safety or danger does not always relate directly to actual incidence of crime. We feel comfortable and confident using areas where there is good visibility and effective lighting, where we feel we can be seen and heard by other people. Thoughtful design is an important instrument in enhancing everyone's sense of well-being and making places more user-friendly, easy to understand and secure. It can help open up areas to as many groups of users as possible and create a shared sense of confidence in the use of streets and other facilities.

There is ample evidence that the sensitive combination of good design, good management and community involvement is effective in creating more secure environments and of reducing vandalism and the risk- and fear-of crime and violence. One of most effective measures for community safety and crime prevention is the creation of lively, lived-in urban areas and public spaces which are easy to overlook and oversee.

5.6.1 BUILD IN SAFETY

A security grill as art, Temple Bar, Dublin

There are essentially three key principles to building in safety, namely:

- **ensuring natural surveillance and human presence.**
  This is achieved by:
  - making buildings front onto the public realm (see 3.7.1 and 5.1.2);
  - putting 'eyes on streets' and minimising exposed blank facades (see 5.2.1);
  - mixing uses, particularly at ground level, adding vitality at different times of the day and night and over time (see 3.2);
  - designing an integrated network of streets, rather than more vulnerable cul-de-sacs (see 3.1.3);
  - locating parking in front of buildings on-street or in secure private courtyards;
  - being careful not to make planting too high or dense to screen potential assailants in certain locations.
- **minimising conflict**
  by providing safe routes for walking and cycling (see 4.1 and 4.2).
- **designing-in territoriality and community involvement.**
  When people view public space as their own, they begin to take responsibility for it. Places can be designed to foster a sense of ownership, mutual protection and belonging (a factor emphasised in the design of Greenwich Millennium Village).

5.6.2 CRIME PREVENTION AND THE PUBLIC REALM

Gates as sculpture, Leith, Edinburgh

If there has to be a security fence or grill, design it as a sculpture
Buildings and private space can be made more secure without resorting to the offensive additions of yards of barbed wire, bollards, shutters and other visually intrusive security measures. The creation of fortified territories is an admission of defeat; both public and private security measures frequently undermine civic quality. Integrated streets with informal surveillance will go a long way to promoting security, but if detailed devices are felt necessary, with design ingenuity these can be transformed into works of art.

Watch the main entrance closely

Entry and exit from all buildings should be appropriately and clearly monitored. In the case of main entrances to workplaces, commercial and public buildings, a combination of appropriate staff and technology should be adopted, together with good lighting, convenient public transport and parking and routes that are overlooked by the main building.

Greenwich Millennium Village: *"Gossip groups" and social spaces*	
Location	A new settlement on the Greenwich Peninsula, a former British Gas site
Site Area	13 hectares (32 acres)
Promoter	Homes and Communities Agency
Design Team	Masterplanner: Ralph Erskine Phase I design co-ordinator: Hunt Thompson Associates Project manager: Trench Farrow & Partners Specialist architects: Baker-Brown & McKay, Cole Thompson M&E engineer, landscape and ecology: Battle McCarthy
Developer consortium	JV Countryside, Taylor Wimpey, Moat Housing Group
Local Authority	London Borough of Greenwich
Project	Buildings and open spaces have been designed to promote positive social interaction and a feeling of community. The 1,377 dwellings are clustered into five groups of about 300 homes focussed on a public place, which are further sub-divided into smaller, horseshoe-shaped "gossip groups" of 30-50 houses. This is taken to represent the number of people who recognise each other without forced intimacy.
Details	1,377 mixed tenure homes are planned (at a density of 70 habitable rooms per hectare), together with a range of facilities including shops, offices, a health clinic, primary school, community centre, teleservices centre, yacht club and ecology park.

06 IMPLEMENTATION AND DELIVERY

Crescent Block, West Silvertown, London (Designer: Tibbalds Monro)

A review of the case studies makes it clear that in general success emerges from:

- a widely based and consistent commitment; from the communities involved, the landowners, developers, public authorities, funding agencies, voluntary organisations and the professional planning and design team to a quality product;
- the establishment of an appropriate design management and review process working at each stage of the project; with a clear project management and reporting structure;
- the assembly from the outset of a high quality multi-professional team working as a cohesive unit toward a defined vision and agreed project objectives.

With this in mind, this chapter provides a framework for considering how to organise the design process. While it is not the primary purpose of the Compendium to provide detailed advice on design procurement, it is necessary to recognise the importance of managing the design process properly and in a structured manner. This means planning the various activities and the community participation process to enable the focus on quality to be sustained throughout a project's life-time - from inception through construction and ongoing management. To achieve success, it is crucial that the design procurement process is well defined and that each step contributes to the realisation of the long-term vision.

TABLE 6.1 DESIGN MANAGEMENT FLOWCHART

STAGE			DELIVERABLE PRODUCTS
1 GETTING STARTED	• Assemble steering group and core client team • Identify project manager • Set project objectives • Outline a strategy and its resource requirements	• Form a multidisciplinary project team • Define the project terms of reference, responsibilities and authority delegations • Establish overall objectives, scope of work and deliverables • Define budgets and funding sources • Estimate team inputs and prepare a programme • Decide lines of communication • Encourage active community participation • Establish review process for monitoring and control	• PROJECT BRIEF • PROJECT EXECUTION PLAN • INITIAL PROJECT PROPOSALS
CLIENT REVIEW AND SIGN OFF			

2 APPRECIATING THE CONTEXT (CHAPTER 2)	• Collate existing data and information
	• Undertake site analysis and context appraisals
	  - Community appraisal
	  - Planning policy analysis
	  - Character appraisal
	  - Environmental and landscape appraisal
	  - Movement analysis
	  - Market supply and demand assessment
	  - Engineering feasibility
	• Meet stakeholders and canvass local opinions
	• Liaise with statutory service providers
	• Sift the information
		• Prepare a SWOT analysis
		• Undertake 'Planning for Real' or design charette workshop as necessary
		• Set design principles and objectives
		• Agree the overall "vision" and initial concept ideas
			• PROJECT APPRECIATION AND DEFINITION REPORT
			• DESIGN PRINCIPLES OBJECTIVES, VISION AND INITIAL CONCEPT IDEAS

CLIENT REVIEW AND SIGN OFF			
3 CREATING THE URBAN STRUCTURE/MAKING THE CONNECTIONS (CHAPTERS 3&4)	• Define assessment criteria • Confirm base case • Generate options (if necessary) • Evaluate options • Establish preferred approach • Present design rationale to client team / community forum (depending on project scope)	• Outline proposed development form, content and mix • Elaborate the plan • Undertake environmental, community and traffic impact assessment and financial appraisals • Prepare urban design guidelines • Define delivery mechanisms • Review project (internal and community)	• DRAFT MASTERPLAN • POSSIBLE OUTLINE PLANNING APPLICATION / DEVELOPMENT AGREEMENT / IMPACT ASSESSMENTS (ENVIRONMENT, COMMUNITY, TRAFFIC ETC), FINANCIAL APPRAISAL
CLIENT REVIEW AND SIGN OFF			

4 DETAILING THE PLACE (CHAPTER 5)	• Identify priorities (short/medium/long term)
	• Prepare Action Plan and programme
	• Focus detailed design development and feasibility on priority projects
		• Progress detailed Masterplan
		  - Sectoral plans
		  - Three-dimensional imagery
		  - Site-specific and thematic urban design briefs
		• Detail delivery mechanisms and programme
			• DETAILED MASTERPLAN
			• DESIGN GUIDES OR CODES
			• DEVELOPMENT BRIEFS
			• ACTION PLAN

CLIENT REVIEW AND SIGN OFF			
5 FOLLOWING UP	• Confirm implementation and management arrangements • Formally adopt Masterplan / briefs • Promote / market proposals • Sustain community involvement • Create media interest	• Formalise design review protocol • Monitor project implementation against design principles, objectives and Masterplan intentions • Agree updating procedures	• IMPLEMENTATION STRATEGY • INDIVIDUAL PROJECT PROPOSALS • MONITORING REPORTS

6.1 MANAGING THE DESIGN PROCESS

H M Treasury Procurement Guidance notes,
These relate to all areas of public sector procurement (and focus on construction work). Within this context, design management falls within the basic principles of good practice that is outlined in this series of 'booklets'. These recognise the importance of design in obtaining value for money, whilst balancing affordability with design excellence. They are intended to supplement and replace The Central Unit of Purchasing (CUP) guidances notes previously issued by the Treasury.

The series consists of nine documents, the titles of which are listed below. There are only six of these published at the present time (Nos 1 – 6). The remaining three are due in 2000.

1 Essential requirements for Construction Procurement (Dated 12/97)
2 Value for Money in Construction Procurement (Dated 12/97)
3 Appointment of Consultants and Contractors (Dated 12/97)
4 Teamworking Partnering and Incentives (Dated June 99)
5 Procurement Strategies (Dated June 99)
6 Financial Effects of Projects (Dated June 99)
7 Whole life Costs (not yet issued)
8 Project Evaluation and Feedback (not yet issued)
9 Benchmarking (not yet issued)

All obtainable from:
The Treasury's Public Enquiry Unit
Room 89/2
HM Treasury
Parliament Street
London SW1P 3AG
Tel: 0717 207 4558
www.treasury.gov.uk/gccp

CUP Guidance notes are obtainable from the same address, but are being phased out as they are embodied in the above nine documents. Each of the above booklets makes reference to the CUP notes that it supersedes, but they are not sequential.

References
Project Management and Design Procurement

- English Partnerships 'Project Management Manual'.
- European Community Services Directive (92/50/EEC) effective 1st July 1993 (Threshold 200,000 ECU). This relates to the procurement of a range of services, and is the main one that (subject to threshold limits) is likely to impact on the design process. It will also effect time scales, as there are minimum time scales set out for tendering.
- European Community Works Directive (71/305/EEC) of 1976 Amended by (89/440/EEC) in 1989 UK Law Public Works Contract regulations 1991 (SI 2680) (Threshold 5 Million ECU). This deals with the procurement of works, and as such we need to be aware of this during the design process as it may, subject to the threshold value affect time scales for inviting and awarding tenders.• HM Treasury, Procurement Guidance notes (see opposite)
- HM Treasury 'Central Unit of Purchasing (CUP) Guidance' notes

Urban Design Principles and Procurement

- English Partnerships / Urban Villages Forum (1998) 'Making Places'.
- English Partnerships (1996) 'Time for Design'.
- English Partnerships (1996) 'Time for Design II'.
- The Urban Task Force (1999) 'Towards an Urban Renaissance'.
- The Urban Villages Forum (1992 and 1998) 'Urban Villages'.

Quality Standards

- The Department of Environment, Transport and the Regions in association with the Housing Corporation (1998) 'Housing Quality Indicators'.
- The Housing Corporation (1998) 'Scheme Development Standards'

Economic Feasibility

- Bentley et al (1987) 'Responsive Environments' summarises how to undertake an economic feasibility check (Chapter 2).
- HM Treasury (1997) 'Appraisal and Evaluation in Central Government' – "The Green Book"' The Green Book' - Government Treasury
- Urban Villages Forum (1998) 'Economics of Urban Villages'.

The flowchart on the opposite page provides a simplified framework for the management of the design process. It charts the journey along which the commissioning client and design team travel and highlights the major steps - passing from project inception to completion of detailed design and ongoing management. The remainder of this chapter briefly describes each phase and is cross-referenced to design guidance contained in the rest of the document, with further references provided for additional reading.

It should be noted that this flow chart is for the 'urban design process' not the development process as a whole. Thus, this is only a caricature of a process that is, in reality, more detailed than this sequence can portray - requiring numerous feedback loops and iterations, continuous re-evaluations and reviews. The key purpose is to emphasise that while the comprehensive coverage of this flowchart is particularly applicable to large sites, where the full range of inputs will be required, the need for a structured approach to design management is true of all scales of design development. While the urban design process needs to be tailored according to circumstance, but it is important that a sequential process is followed. This should include:

- a single point of contact for managing the design process;
- clearly identified tasks and responsibilities;
- client review and 'sign-offs' for completion of each stage, related to delivery of 'outputs' or 'products' (such as a Development Framework or Design Guide);
- a defined budgetary control system, identification of funding sources and time scales;
- a procurement strategy, and delivery mechanisms for making the project happen.

6.2 STAGE ONE: GETTING STARTED

Pointers on Tendering for Urban Design Consultants

- Use pre-qualification procedures to select short list (4–6 teams maximum)
- Give adequate time for bidding (4 weeks for pre-qualification; 4 for tendering).
- With pre-qualified teams, concentrate on the assessment of the team and approach for the assignment in hand.
- Consider assessment systems prior to calling for pre-qualification and bidding – and make them explicit.
- Consider how to get best value for money. The idea 'best is cheapest' in this type of work is not appropriate. A two envelope system (Technical and Financial proposals), with the financial proposals only considered between once the best technical consideration has been agreed upon (covered by Treasury Procurement Guidance Notes).
- Subject to the European Services Directive 92/50/EEC

Identify the main driving force behind the project, whether this is community-led, private partnership, local or other public authority. This will inform the composition of a **steering group** or committee of local stakeholders, which may include residents, local government, businesses, institutions, community and special interest groups. Once formed, this group oversees the **core client team,** which has executive authority for taking the project forward. A **project manager**, (or team leader/project sponsor), is identified with the prime responsibility for co-ordinating and delivering the project.

An initial appraisal undertaken by the client to define the key issues in a comprehensive, if preliminary, way is essential. An early seminar/think session of a multi-professional team and the client bodies can help enormously in getting the basics in place. Project objectives are set, together with an outline strategy as to how these are to be achieved and the resource requirements, taking account of funding and resource constraints. Design development considerations must be properly in place from the outset. This information forms the basis of a **project brief**, which should be set out in a formal document as part of the **project execution plan**, stating clearly:

- the people involved in the project, names and contact addresses;
- team inputs, responsibilities and authority-delegations;
- the overall terms of reference, objectives, scope of work and deliverables;
- defined budgets and funding sources;
- any procurement constraints, lines of communication and reporting mechanisms;
- estimates of the programme and review process for monitoring and control.

A **multidisciplinary project team** (or teams) is then required to submit detailed **project proposals**, following a competitive tendering process if appropriate. The appointment should be confirmed after negotiations and discussions with the selected team (see box on pointers for tendering). This helps 'tune' the joint approach and is the key first step in team building between the client body and the project team.

The process should encourage the **active participation of all sectors of the community** from the outset. Interaction with team members and local commitment to the process in the form of financial support, in-kind services, or volunteer time create a sense of ownership in the results thus helping to sustain the energy needed to implement proposals.

6.3 STAGE TWO: APPRECIATING THE CONTEXT

Contextual studies for Granton Waterfront

Collation of existing data and information avoids having to reinvent the wheel. As set out in Chapter 2, a **full appreciation of the context** will build upon this. Information to obtain should include:

- community appraisal / audit;
- analysis of planning policies (including Regional Development Plans);
- character appraisal;
- environmental and landscape appraisal (including surveys of the topography, geology, ground conditions and potential for contamination, as appropriate);
- movement analysis;
- market supply and demand assessment;
- engineering feasibility (including services availability).

All this requires meeting stakeholders, canvassing local opinions and analysing community needs, delving into archives and looking at local assets. Liaison with statutory service providers will help ensure proposals have a firm footing.

The contextual appreciation will begin to suggest development potential and workable ways to get things done. Information needs to be sifted and summarised via a **SWOT analysis** (see 2.6), or similar method. An important component of this is the identification of any physical constraints to the future land use that will impact on the development.

Such analysis may be carried out as part of a 'Planning for Real', or Design Charette / Workshop programme, for instance, which provide useful ways of brainstorming, consensus building and focussing community involvement. The **SWOT** analysis provides the underlying rationale for the preparation of **design principles and objectives** to aim towards. Before moving to the next stage, the overall "vision" should be agreed, mutual benefits reached between participants and **initial concept ideas** discussed, which will help to focus Masterplan development.

6.4 STAGE THREE: CREATING THE URBAN STRUCTURE AND MAKING THE CONNECTIONS

Proposals now come more sharply into focus as to how the existing place can be improved, new urban forms created and activities added. Advice contained in Chapters 3 and 4 is fused together as the scheme takes shape.

For the project and client teams to evaluate the best way forward, it is first necessary to agree on the **assessment criteria** . Typically this will combine the design principles with community need, economic viability and engineering feasibility. It is important that a land remediation strategy, if necessary, follows the design intentions and not vice versa. Where a site is heavily contaminated it will be necessary to revisit the design layout to achieve the highest quality and most economic solution. The way contamination is dealt with should be part of the creative design process. Design development is an iterative process and will involve constant and frequent reviews of all the issues as more information is obtained.

The base case then needs to be confirmed, which will include 'do nothing', and options generated for comparison. These, ideally, offer no more than three different strategic directions - even for a large site. Sometimes the preferred way forward will be so apparent to the team that structured options may be unnecessary. However, even in this scenario a management decision making process must be documented to give a clear audit trail, and facilitate a 'best practice review'.

Evaluation of the options establishes the preferred approach amongst the project team. Depending on the scale and scope of the project, the design rationale will then be presented to the client team and, if appropriate, to the wider community. Proposals should be worked up with community feedback and ongoing involvement - the most helpful inputs at this stage are often the result of people being able to weigh up the pros and cons of different scenarios, and understanding the underlying logic of the preferred route forward, but technical information must be made 'user-friendly' and robust

As the scheme design becomes more definite, an **'accommodation schedule'** is defined - comprising a matrix of building types, uses and floor areas. This is used as the basis for the quantity surveyor to assess costs and chartered surveyor to ascertain values and feed into the economic appraisal.

The client weighs the social and economic considerations (existing and new markets, local and regional impact, costs, values, gap funding and funding availability) against the design specifications and project objectives. This forms the basis of an iterative dialogue between the client group and design team, which leads to refinement of the scheme.

Publicising the draft Masterplan

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Masterplan briefing
- English Partnerships (1999) 'Allerton Bywater Development Brief' (Stage One and Two) provide good references for comprehensive Masterplan briefing documents.
- Urban Task Force (1999) 'Towards an Urban Renaissance' provides a checklist of design issues to be covered in a Masterplan (see Figure 2.10 (p.74).

Development trusts
- Department of Environment (1988) 'Creating Development Trusts: Good Practice in Regeneration' provides an explanation of different development trust models and a series of case studies.

As designs are elaborated, ideas for development form, content and mix, require more rigorous research and testing. **Plan assessments** may take the form of environmental, community and/or traffic impact studies. A financial appraisal will certainly be necessary to ensure proposals are grounded in economic reality. Designs also need to be considered in relation to:

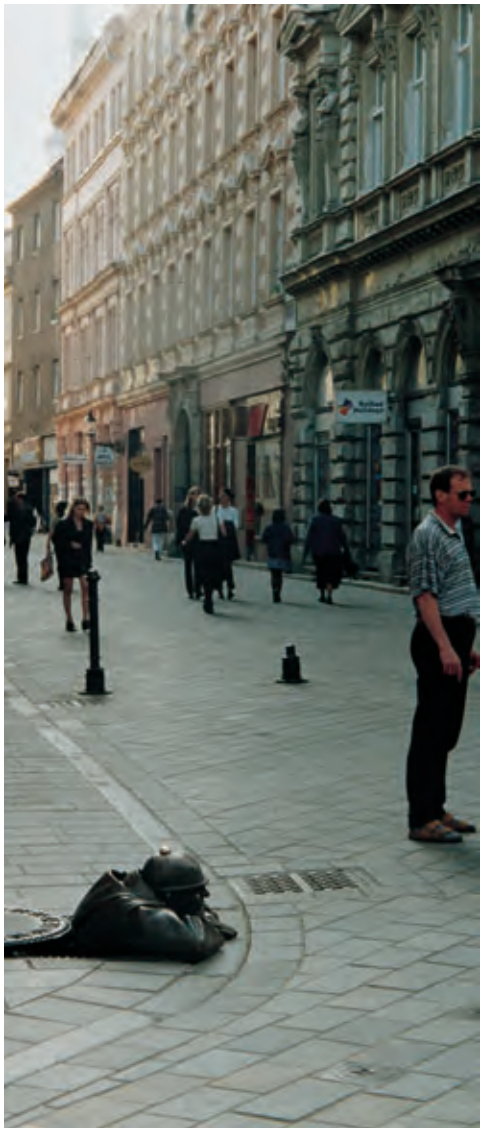
- economic and financial parameters - using Cost Benefit Analysis and cash flow projections;
- an appropriate delivery structure - whether a partnership, developer, joint venture company or trust;
- management and maintenance responsibilities, particularly of open spaces and shared access.

A **Development Framework or Masterplan** is the likely output of this stage - which is still in draft form until more detailed proposals are worked up - but this may be enriched with more detailed urban design guidelines and indicative ideas for individual schemes. This 'package' may form the basis for a discussion with the planning authority in relation to an outline planning application or development agreement.

A period of review will follow within the project team, client body and also, more widely, as community feedback is encouraged via the use of exhibitions, workshops and focussed meetings as necessary.

St. John's Village, Wolverhampton

6.5 STAGE FOUR: DETAILING THE PLACE



City Centre, Bratislava

As designs become more detailed, priorities are identified for short, medium and long term implementation. These may be formalised into an **Action Plan** or form part of the revised Project Execution Plan, with detailed design development and feasibility studies focussed on priority sections of the overall project - targeting realistic ideas for helping communities to achieve the vision of their future. Masterplan proposals are given further definition with the use of sectoral plans ('layering' transport routes, landscaping and building form, for instance) and three-dimensional imagery including perspectives, computer or physical modelling and axonometrics, as appropriate.

As design moves towards 'pre-architecture', attention is paid to how discrete elements (often developed by separate developers and their consultants) can work in unison, making sure there is a positive relationship between buildings and the public realm. Key outputs at this stage are the preparation of detailed design guidance for others to follow. These are likely to take the form of **design guides / codes** or **development briefs**, which may be consolidated within the **final Masterplan**. Design guides establish the core principles and set out detailed guidelines or performance criteria, whereas codes are a set of more prescriptive requirements for the dimensioning of blocks and plots, streets, squares, buildings and access. Development briefs are site-specific documents, combining relevant planning policies and urban design parameters, and are sometimes linked to a competitive bidding process.

Urban design briefing documents can be usefully arranged according to the following categories:

- specific guidelines for individual site design and development;
- specific guidelines for major public realm areas, such as routes, footpaths, parks, gardens and waterfronts;
- generic guidelines for the three-dimensional elements of the project, such as street and building cross-sections, corners and parking arrangements;
- generic guidelines on detailed public realm components, such as floorscape, street furniture, signage and lighting.

Detailed designs are also influenced by the delivery mechanisms and implementation programme. These have been considered from the outset, but at this stage are confirmed, particularly by clarifying:

- the management of public areas - through initiatives such as local community trusts, local partnerships and management companies. The management and supervision of public areas such as squares, community parks and children's play areas are a key part of ensuring the physical and social quality of the environment is maintained. This will be the subject of detailed discussion with the local authority and local residents' groups and associations;
- the adoption and maintenance of streets, squares and parkland;
- the management of quality through planning obligations, covenants and other legal and financial agreements.

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6.6 STAGE FIVE: FOLLOWING UP

Byker, Newcastle-upon-Tyne
(Designer: Ralph Erskine)

Once detailed designs have been agreed upon, confirmation of the **implementation and management arrangements** needs to target in particular:

- the programme of delivery - to ensure a diverse range of development opportunities, choice of sites and forms of accommodation. This will also facilitate affordable housing, self-build and self-managed houses and development by a range of developers and their design teams, from the small scale local builders to regional or national companies;
- the management of site sales to ensure urban design consistency;
- the setting of a high quality management and maintenance regime, especially of the public realm, after project completion.

Formal adoption of the Masterplan or briefs as Supplementary Planning Guidance ensures that they 'bite' when it comes to development control. Effort put into **promotion and marketing** helps sustain community involvement and create media and developer interest.

Formalising **design review protocol** ensures that the client body keeps its 'eye on the ball' when it comes to safeguarding design quality as defined in the project objectives. It may be appropriate to retain the Masterplanner in an advisory capacity when the client is considering development of the individual plots or phasing of the overall project. Design Review Panels, initiated from the project outset and comprising multi-disciplinary professionals and community representatives, can help to make sure everyone is pulling in the same direction. Project implementation is monitored against Masterplan intentions, design principles, objectives, agreed outputs and targets. **Updating procedures** are then agreed upon so that designs remain up-to-date. As individual projects are implemented, periodic reviews are carried out, assessed against best practice, using perhaps for example the Compendium as a point of reference.

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