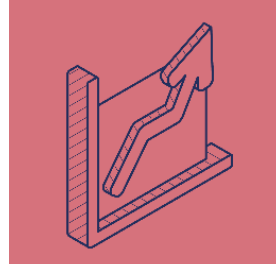
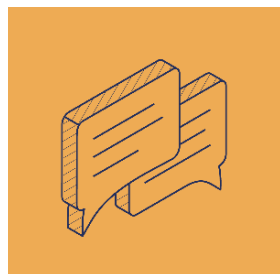
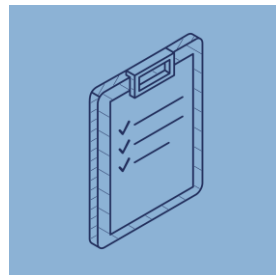
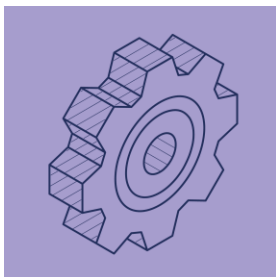




Office for Place



International Design Codes

July 2024

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Executive Summary

At the start of this report we write that, in line with our brief, we were looking for international examples of design codes that were prescriptive; enforceable; measurable; popular; and visual.

Our case studies showed that the selected codes were indeed prescriptive, enforceable and measurable. Among a great deal of general urban design guidance, important elements of the codes were precisely stated as being firm requirements, compliance with which was capable of being determined by a yes/no question or in terms of physical measurements. The codes were enforceable by virtue of being embedded in a structure of plans and processes which determined whether a particular development proposal would receive planning permission.

Only some of the codes showed signs of reflecting the views of local people. In many cases, rooting planning standards and guidance in local circumstances may be something that happens earlier in the planning process, at stages where the politics of development gets hammered out. There was some, but not extensive, evidence that design codes can make people more accepting of development. Again, this depends very much on the characteristics of the planning processes in which a code is embedded.

All but one of the case study documents were highly visual, with extensive use of diagrams and photos, and often sophisticated graphic design. This showed a determination to guide development towards higher standards of design, even when this was not being done through prescriptive, measurable standards. What was usually missing, though, was any idea of where these design principles came from, and whether they were at all rooted in the particular setting, its surroundings and the people who lived in the vicinity.

The Office for Place sees a virtue in design codes being short. Our case study documents were certainly not that. What we rarely saw was a simple narrative, explaining what was special about the place; how the design principles had been formulated; and what essential features were necessary for development to fulfil those principles.

Further research may well be able to find international experience that will shed light on those matters and guide English practice to creating design codes that are prescriptive, enforceable, measurable, popular, visual – and concise.

Our case studies provide wide-ranging lessons for local authorities and developers preparing design codes in England. These include:

1. Design codes work when they are part of a system with higher-order area and city plans.
2. Illustrations and diagrams make design codes more accessible and usable.
3. A design code should set out design principles and include those that relate specifically to the particular place.
4. A design code can help empower citizens and deliver more popular design; give communities a formal role in the process of preparing and implementing the code; and explain the participatory process through which the design code was drawn up and agreed, and how potential conflicts were resolved.
5. The use of a design panel allows a design code system to contain not just prescriptive rules but also more flexible guidance that requires expert judgement to assess compliance. There is also a role for design review panels in assessing alternative and innovative approaches to meeting design principles.
6. Design codes should be 'living documents' that are subject to regular review and updates that learn from what works and what doesn't.
7. Some of the best codes help manage the delivery of complex, phased development with multiple sub-developers. Block or plot data sheets can be used with design codes to clarify how code requirements apply to phases or sub-developers and avoid repetition.
8. Design codes have the potential to streamline simpler planning applications by offering fast-track approval for compliant planning proposals.
9. A training programme will help ensure that those who will administer and use codes will make the most of them.
10. Many of our more successful case study design codes give emphasis to landscape aspects. This includes not just street trees but also on-plot planting forward of the building line.

Introduction

The purpose of this report

This research into International Design Codes is an exciting opportunity to support the Office for Place and the Ministry of Housing, Communities and Local Government (MHCLG) to promote high-quality design codes that learn from international case studies. This is pressing and important evidence gathering that will inform the work of the Office for Place and in setting standards for local authorities in England for their delivery of design codes.

This short study identifies examples of international design coding across a range of topic-based code types. The study draws lessons from the successes and shortcomings of case studies to provide a better understanding of how design codes can be prepared and used. As far as possible in the time available it will provide analysis of each case study on their success in delivering improved and more popular design.

Illustrations from the design codes have been included where possible but we were not able to secure agreement from authors to use illustrations in all cases.

This report document also includes recommendations for follow-on research work.

Our research methodology

The research progressed through a series of stages, starting by long-listing potential case study design codes. A short list was then agreed with Office for Place to cover the following six topics/themes:

1. Urban
2. Residential
3. Out-of-town retail
4. Commercial and industrial areas
5. Codes for street typologies, including the retrofit of existing streets
6. Codes applied at an authority-wide scale.

Each case study is identified by location and type, and is supported by sample imagery and project data: date published, commissioning organisation, and project scale.

Each case study has examined how the code was prepared, including the extent to which any stakeholder consultation was undertaken, and to assess the extent to which the code is

measurable, prescriptive or flexible, and how it will be reviewed over time. And, ultimately, the degree to which each case study design code has contributed to creating popular and better places.

For the Hobsonville Point, Madinat al Ifran and Burien case studies it was possible to interview consultants who prepared the codes and our summaries reflect the additional insights they provided. Full acknowledgements are given in Appendix 2.

Criteria for successful design codes

In selecting the case studies, we have taken a pragmatic approach to what constitutes a design code. Not all of our case studies are titled as codes. A design code is defined in the National Model Design Code as ‘A set of illustrated design requirements that provide specific, detailed parameters for the physical development of a site or area. The graphic and written components of the code should build upon a design vision, such as a masterplan or other design and development framework for a site or area.’

The Office for Place has identified ‘*10 criteria for effective design coding*’ which represent good practice in creating, applying and enforcing design codes.¹

The criteria are:

1. Set a clear vision.
2. Align with policies and be evidence based.
3. Find out what people really like.
4. Keep them short, visual and numerical wherever possible.
5. Keep them practical.
6. Set definitive requirements through the use of language.
7. Keep them real.
8. Keep them relevant.
9. Make sure they are enforced.
10. Allow them to change over time.

Some of those criteria apply to any design guidance, including development briefs, urban design framework and masterplans. Others seem to be the key to successful design codes: find

¹ <https://www.gov.uk/guidance/10-criteria-for-effective-design-coding>.

out what people really like; keep the code short, visual and numerical wherever possible; set definitive requirements through the use of language; and make sure that the code is enforced.

In other words, a design code should be:

- Prescriptive (this is essential if it is to be an effective code, rather than just design guidance).
- Enforceable (essential if we are to be sure that the code will shape development).
- Measurable (if the elements of the code cannot be measured, they may be useful guidance but they are probably not precise enough to be the essence of an enforceable code).
- Popular (in the context of this report, we are looking for codes that will be effective due to the fact that, first, they reflect the views of local people on what form development should take; and, second, they are likely to make people more accepting of development, as they can be confident that the development will be appropriate and well designed).
- Visual (this can make it easier to involve a wide range of people in creating the code, and it can help to ensure that as many stakeholders as possible understand and use the code).

Our case studies

Our case studies listed below were selected from a long-list of international design codes. Our short list is based on:

- Availability of information
- A spread across multiple continents and planning systems
- A range of sizes and scales including site-specific and area-wide codes
- A spread across our six topics.

Case Studies

Country	Location	Title	Date
United Arab Emirates	Abu Dhabi	Urban Street Design Manual	2009
Australia	Western Australia	Residential Design Codes Volume 1 and Volume 2	2021
Ireland	Limerick	Design and Public Realm Code	2015
Netherlands	Amsterdam	Borno Sporenberg	1993
New Zealand	Auckland	Hobsonville Point	2009
New Zealand	Auckland	Massey North Town Centre	2010
New Zealand	Auckland	Vinegar Lane	2013
Oman	Muscat	Madinat al Irfan	2015
USA	San Jose	Downtown and City-wide Design Guidelines	2022
USA	Washington State	Burien Municipal Code	2000 (updated 2024)

- Note: Not all design code documents are in the public domain.

Overview of planning systems internationally

The case studies reviewed in this report are each a component within their respective national and state or city planning systems. These systems vary considerably and although there are similarities with planning in England, the differences are fundamental. In all the cases we reviewed, design codes work below higher order planning documents that are generally more prescriptive than the National Planning Policy Framework (NPPF) and less negotiable than local plans. An outline for national variations is given below solely to provide a context for the case study design codes and these outlines are not intended to be fully comprehensive or detailed.

Europe

Planning systems vary, and design codes mean different things in different places.

Fundamentally in most European countries, planning is regulatory: the plans say what you can or cannot build, and applicants have to follow it to get approval. There is little or no discretion. That means that the plans have to be more precise than they are in the UK, and may include such matters as plot sizes, building lines, height of buildings and type of roofing. These can be seen as basic design codes.

The other major difference is that for many large developments, whether urban or on the urban fringe, the local authority takes the initiative. It buys the land, provides the infrastructure, draws a masterplan, which includes some form of design code, then sells parcels of land to developers who have to respect whatever is in the plan.

The Germans have the Bebauungsplan, which is fairly prescriptive, although they vary from one region to the other. They also have much more precise plans for developments, such as Hamburg's Hafencity, where developers had to follow strict design rules. Cities can also have a Gestaltungssatzung, which is closer to a design code and is used particularly for historic conservation areas. As Germany is a federal country, each Land may interpret these differently. Austria has a very similar system.

Similarly in France there is the Zone d'Aménagement Concerté (ZAC), a comprehensive development area. There the local authority designates an area for development and prepares a plan with more or less detailed design requirements. These vary from place to place. The management of a ZAC is in the hands of a public-private development company that will decide what kind of rules to apply.

Spain and Italy have similar systems.

In most European countries an applicant for planning permission must be a qualified architect.

USA

The planning system in the USA is based on zoning, a system of allocating land for different uses and/or densities. Local government prepares 'comprehensive plans' as instruments for strategic planning. These usually do not create binding restrictions for landowners, but are used to develop zoning ordinances. These ordinances indicate permitted and conditional uses for lots. Jurisdictions attempt to influence design by drawing up 'guidelines' (usually advisory) and 'standards' (usually mandatory). Many of these can be considered as being 'design codes'.

Many local authorities have a system of 'design review' to assess development proposals in relation to their standards. Design review is commonly applied to commercial and multi-family development, and development in downtown and historic districts. Where due process is not respected, applicants may litigate on the grounds of subjective decision-making by reviewers if they are not working to an appropriate standard-based code.

The new urbanist movement promotes the use of 'form-based design codes', arguing that, especially in suburban areas since the middle of the twentieth century, zoning has tended to create suburban sprawl and to erode historic urban centres. Conventional design guidelines and standards, critics say, lack effectiveness, as their urban design principles are often undermined by other elements of the zoning ordinances. Form-based codes for mixed-use neighbourhoods can often be used as alternatives to conventional zoning.

There is a wide range of different practice in the control of design in the US planning system, with a variety of more and less successful results.

Australia

In Australian states, typically, there are two layers of controls:

Local Environment Planning Controls (LEP) Established by the State, implemented by Councils. These are the broad obligatory land planning controls which specify:

- Land use zoning
- Height
- FSR (floor space ratio which is the gross floor area divided by the site area)

If a landowner wants to challenge and vary these – a 'Planning Proposal' is submitted to the State with a justification as to why the proposal should vary the controls from an urban design perspective. Planning Proposals are pretty common!

Development Control Plan (DCP) The next layer down is the DCP established by Council. These are qualitative guidance controls which are based on merit – this is where the discussion comes in (similar to the UK) covering:

- Setbacks
- Open space
- Deep soil
- Tree canopy
- Active frontages

New Zealand

The New Zealand planning system is very different to that of the UK. It is made up of design rules (something like a simplified design code approach), with rules and standards controlling everything on every site. They cover such matters as height, height in relation to boundary, recession planes, setback, parking, yard size, landscaping, tower dimensions, impact by wind and outlook, while being criticised as too rarely leading to high standards of design. The danger is that more traditional design codes become rather lost among the many other rules governing development.

Abu Dhabi – Urban Street Design Manual

A design code can be highly effective if it is backed by the political will to develop urban places in radically different ways.

The Abu Dhabi Urban Street Design Manual represents a dramatic turnaround in planning and design for the city.² Before its publication, the design of the city's streets was based on documents such as the US Association of State Highway Transportation Officials' Policy on Geometric Design of Highways and Streets. The new manual instead draws on current best practices in the USA, Canada, UK, Germany, Australia, and other European and Asian countries and was prepared by some of the most reputable international consultants.

- Location: Abu Dhabi, United Arab Emirates
- Type: Code for urban streets, including the retrofit of existing streets
- Date published: 2009, with regular updates following 6-month reviews.
- Commissioning organisation: Abu Dhabi Urban Planning Council
- Project scale: City-wide

Introduction

The manual introduces to Abu Dhabi the concept of the pedestrian realm as an integral part of the overall street composition, with pedestrians at the top of the movement hierarchy. It is recognised that there are lessons to be learned from the local traditional neighbourhoods, particularly in terms of pedestrian movement and protection from the heat. Other significant features include a training programme for people who need to understand the manual, and an online design tool has been developed alongside the manual to provide a simplified, complimentary resource for designers, both in Abu Dhabi and around the world.³

At 172 pages, the manual is a large document.

Context issues: active lifestyles, climate and social factors

An important aim of the manual was to create safer streets and encourage a more active lifestyle. This was particularly important for Abu Dhabi, which has had some of the world's highest rates of road deaths, with 29 per cent of road accidents involving pedestrians. The

² https://vtpi.org/Abu_Daabi_Street_Design_Manual.pdf

³ <https://usdm.upc.gov.ae/USDm/>

emirate also has some of the world's highest rates of cardiovascular diseases, obesity and diabetes.

The manual takes account of the climate, particularly in view of the summer in Abu Dhabi tending to be very hot and, in the coastal areas, humid.

The manual also takes account of specific social factors. For example, it specifies that separated waiting areas and visual buffers should be installed in locations that women frequent.

Defence needs, relating to underground communications infrastructure, seem to have been significant considerations.

Relationship of the code to other planning tools

The manual is aligned with Abu Dhabi Vision 2030's overarching principles and the goals of the urban planning council's urban structure framework plans.

Content

- Street composition
- Designing for pedestrians
- Designing for transit users
- Designing for bicyclists
- Designing for motor vehicles
- Junction design
- Traffic calming
- Universal design guidelines
- Surface materials
- Cohesive design with adjacent building frontage
- Shade and climate attenuation
- Landscaping and water use
- Lighting
- Streetscape furnishings
- Signing and wayfinding

Illustrations

The manual is very fully illustrated by diagrams, photographs, sketches and even children's paintings. The children's paintings add a personal touch, but there is no mention of whether they relate to the process of preparing the manual in any way.

Prescription

The manual provides a combination of standards and guidelines. Standards (the words 'shall' or 'shall not', 'must' or 'must not', and 'is required' or 'are required') are required, and either mandate or prohibit specific practices. Guidelines ('should' or 'should not') are more flexible.

Enforceability

All designs must undergo evaluation and review by the urban planning council, the Department of Transportation, the Department of Municipal Affairs, the relevant municipality, and other approval agencies as required. Once concept planning approval is granted, applicants must finalise their design in order to apply for detailed planning review. Detailed planning review addresses more specific street design issues.

The manual is enforceable in a planning system that is operated by a central authority controlled by the ruling family.

The process of preparing the code

The manual was prepared by the urban planning council with a team of some of the best international consultants, with extensive input and review by a technical advisory committee that included the Department of Transportation, Department of Municipal Affairs, Directorate of Civil Defence, and the three local municipalities.

Consultation on the code

There is no record of any citizen involvement.

Abu Dhabi Urban Street and Utility Design Tool

An online design tool (a free, web-based app) has been developed alongside the manual to provide a resource for both experts and non-technical users to quickly make design decisions about the composition of typical street plans and cross sections. The software provides cross-section and overhead views of a variety of street scenes, allowing designers to set road and sidewalk elements, and incorporate features such as parking, public transport, landscaping and utility corridors, creating a street design that falls within the specifications of the Abu Dhabi Urban Street Design Manual.

The tool can be customised for use in urban environments all over the world. It incorporates more of the Urban Planning Council's manuals, including the Abu Dhabi Utility Corridors Design

Manual, the Abu Dhabi Public Realm Design Manual, and the Estidama [Sustainability] Pearl Rating System, into one tool to make urban street design quicker and more efficient.

The app provides a real-time integrated interface between above- and below-ground elements. All the different elements of cross-section and plan views, such as above-ground street elements, below-ground utilities and public realm elements, can be quickly added and edited. If a street planner makes a design change that contravenes the guidelines of these regulations, the app will automatically show a warning.

The user language can be Arabic, English or French, and the measurements imperial or metric. Users can alter between Gulf and western dress for virtual pedestrians. With the guidelines of the Estidama Pearl Rating System incorporated in the app, users can make drag-and-drop alterations between different green landscaping options, such as trees and hedges, and find out the resulting change in water consumption and shading levels.

Training

The urban planning council has carried out training sessions for representatives of other government agencies, developers and all major technical consultants in Abu Dhabi. The urban planning council has also provided training in the use of the online tool. Training recognises the dramatic change in approach that the guide represents.

Retrofit

In the updated version of the manual, a new chapter has been added which provides design guidance for retrofitting existing streets. Through a three-step approach (from simple decluttering, through to more complex pedestrian realm improvements and the total recreation of the street) a range of options is provided to meet project characteristics. Retrofit is covered by the online design tool.

Impact of the code

The manual's influence on design codes and guidance elsewhere reflects what seems to be its acknowledged success.

Abu Dhabi Urban Planning Council points to Sheikh Zayed Street, a major arterial road that was rebuilt by the municipality, as an example of what the manual has achieved. All street elements and pedestrian facilities were designed according to the manual's standards. After the newly designed street opened in 2012, a study was carried out by the urban planning council in collaboration with all major stakeholders to evaluate the performance of the street.⁴

4 Abu Dhabi Urban Street Design Manual, Application for the 2013 Award for Excellence, Explanatory Report, https://isocarp.org/app/uploads/2014/05/AfE_2013_4-UPC.pdf

The council claims that remarkable results had been achieved in terms of pedestrian safety. The study highlighted, for example, that with the new standards pedestrian waiting time at refuge islands had dramatically improved, and that the probability of pedestrian fatalities at right-turn lanes was reduced from 25 per cent to 5 per cent. Feedback from residents living in the area had been very positive, the council said: people felt that the new pedestrian facilities were much safer, and it was now much easier to cross the road. It is not clear how this feedback was obtained.

Change of culture

The Abu Dhabi Urban Street Design Manual recognises that its specifications for street design need to be matched by changes in behaviour in those who use the streets, and enforcement of violations of good driving practice. The manual has proposed a public education campaign, aimed at changing the culture of transport in the Emirate (to encourage drivers to give ways to pedestrians, for example). For this reason, the manual does not yet include the modern European concepts of 'shared' roadway space. The removal of all curbs, junction controls and signage from major junctions are not included in this manual except on very low-volume, low-speed streets. Its authors acknowledge that the manual remains a 'transitional' document.

Sources

https://vtpi.org/Abu_Daabi_Street_Design_Manual.pdf

Australia – Western Australia Residential Design Codes

Design codes can offer fast-track approval for simple, compliant applications.

This design code for residential development offers a streamlined planning process for compliant development proposals for single-family dwellings, while requiring a more interactive approach for complex residential or mixed-use development.

- Location: Western Australia
- Type: Design Code, Volume 1 covers houses (individual dwellings, groups of houses, and aged and dependent persons' dwellings).⁵ Volume 2 covers apartments, mixed-use development and higher-density development.⁶
- Date published: 2013, updated 2021
- Commissioning organisation: Department of Planning Lands and Heritage, Government of Western Australia, and Western Australia Planning Commission
- Project scale: State-wide
- Retrofit: Yes. Volume 1 assumes infill into existing streets or redevelopment of brownfield land.
- Pre-permission: Yes (Volume 1, houses only)

Introduction

Western Australia's Residential Design Codes (referred to as R-Codes) apply to all residential development throughout the state. The R-Codes are set out across two volumes: Volume 1 – Single houses and Volume 2 – Apartments.

The two volumes take notably different approaches to design standards, with Volume 1 (family houses) being more prescriptive and Volume 2 (apartments) relying on a process of expert review.

Volume 1 operates on a deemed-to-comply consent for houses (not for apartment or mixed-use development). A decision by the planning authority is required only where either the proposals do not satisfy the code requirements or where the applicant has chosen to meet or exceed underlying design principles while not constrained by the parameters of the code. In either case,

5 <https://www.wa.gov.au/system/files/2024-04/r-codes-volume-1-2024-mar2024.pdf>

6 <https://www.wa.gov.au/system/files/2024-03/r-codes-vol-2-mar2024.pdf>

the planning authority is required to exercise its judgement: ‘to consider the merits of proposals having regard to objectives and balancing these with the consideration of design principles’.

Structure plans, local development plan or local planning policy will be a relevant consideration in the exercise of judgement only where it is specifically sanctioned by a provision of the R-Codes and consistent with the design principles of the R-Codes. To this degree, the R-Codes overrule the aforementioned types of plans.

Volume 1 therefore reads as a design code, while Volume 2 is more akin to a design guide – although with measurable requirements in respect of plot ratio, building height, separation distances etc.

Applications for higher-density and mixed-use development are decided through a staged design review process carried out by appropriately trained, multi-disciplinary built environment experts. The process includes early review of concept (similarities to the pre-application process in the UK).

The code sets out its objectives for residential development:

- Contextual and functionally appropriate.
- Consideration of social, environmental and economic opportunities.
- Respect heritage and local culture.
- Offer opportunities for better living choices and affordability.

The planning and development process also aims to allow variety and diversity, as appropriate, where it can be demonstrated that this better reflects context or the scheme’s objectives; where it will allow the scheme’s objectives to influence the assessment of proposals; and to ensure the consistent and timely assessment and determination of proposals.

Content

The codes include advice on the application process and submission requirements for planning applications.

The two volumes cover a range of parameters, including:

- Plot size, minimum site area and plot ratio
- Setback (frontage) and projections (e.g. porches)
- Boundaries
- Open space

- Building height
- Car parking – linked to public transport accessibility.
- Street surveillance
- Landscaping: Dwellings must include at least one tree, and a minimum of 50% of landscape in front of building line must be permeable surface.
- Access and footways
- Storm drains

The residential design codes do not address street design, other than access from the highway.

Volume 2 is notable for including quite detailed requirements in respect of landscape. Both volumes require tree planting for all types of residential development.

The two volumes focus on major aspects of building plot, scale and massing, rather than issues of architectural style or appearance. Facing materials are not addressed.

Definitions are provided as an Appendix.

Illustrations

The Volume 1 Code is not illustrated. The code assumes orthodox building practices and typologies. Innovative design will require a decision by the planning authority on a project's merits, but little explanation of underlying design principles is provided, so decisions will be reliant on skilled decision makers.

Volume 2 is illustrated, with a comprehensive series of diagrams.

Prescription

Where a proposal does not meet deemed-to-comply provision(s) of the R-Codes Volume 1 and addresses design principle(s), the decision-maker is required to exercise judgement to determine the proposal.

The two volumes of the R-Codes take very different approaches. Volume 1 uses the incentive of a simplified decision process to encourage applicants to bring forward compliant proposals. Volume 2, in contrast, assumes that all relevant proposals will be prepared by professional developers and design teams, who will engage in a dialogue of design review informed by the overarching principles set out in the design code.

Measurability

Most of the code requirements are dimensioned or set relative to neighbouring properties.

Review process

The guidelines may be amended from time to time in consultation with local government and relevant stakeholders.

The process of preparing the codes

Although some best practice is referenced, the design codes do not explain how they were produced, nor do they reference any baseline evidence (e.g. for space standards) that might justify code requirements.

The design codes do not state whether any public consultation has been carried out as part of their preparation.

Where the planning authority must make a judgement, the Code sets out requirements for applicants to consult on applications. However, the application process does not routinely expect deemed-to-satisfy applications to be consulted on with the public and even immediate neighbours have no opportunity for objection to compliant applications.

The impact of the code

The Western Australian government announced revisions to the R-Codes applicable from 10 April 2024 that expand the code incentives for small and accessible dwellings, which are seen as promoting greater housing diversity.

This design code has an almost universal application across all residential development within Western Australia. It has therefore influenced all development since its first publication in 2013. It is noted that the primary intention of the Volume 1 R-Code is to speed up approval times and reduce costs for homeowners rather than to improve design quality - Indeed. some controls (e.g. rear garden sizes) work against achieving well designed housing.

Sources

Volume 1 - <https://www.wa.gov.au/system/files/2021-10/SPP7.3-Residential-design-codes-Volume-1-computer-%20version.pdf>

Volume 2 - https://www.wa.gov.au/system/files/2021-06/SPP-7-3-R-Codes-Apartments_.pdf

Ireland – Limerick Design and Public Realm Code for the Limerick Regeneration Areas

Design codes are one way of increasing certainty but will not overcome all issues of viability.

The Design and Public Realm Code for the Limerick Regeneration Areas, of more than 100 pages, provides detailed standards and guidance for the regeneration of four badly rundown areas of Limerick.⁷ Particular attention is given to the design of streets and public open space. Parameter plans show the basic concepts for each of the regeneration areas. Some aesthetic matters e.g. facing materials are coded in an attempt to create or reinforce distinctiveness between the four regeneration areas.

- Location: Limerick, Republic of Ireland
- Type: Codes for four regeneration areas
- Date published: 2015
- Commissioning organisation: Limerick City and County Council, Office of Regeneration
- Project scale: Area-wide

Introduction

This document supports the adopted Limerick Regeneration Framework Implementation Plan (2013).⁸ The code provides design and public realm guidance covering the areas of Moyross, St Mary's Park, Ballinacurra Weston and Southill.

The authors of the code note that informal design codes have played a role in the development of the city of Limerick. 'The Georgian city achieves a high level of visual coherence despite being developed over a relatively long period and involving numerous stakeholders. While there is variation between buildings, the overall composition is united by a strong urban design approach with a restricted palette of materials, consistent approach to plot widths, height and

⁷ <https://www.limerick.ie/sites/default/files/media/documents/2017-10/Design%20and%20Public%20Realm%20Code%20for%20the%20Regeneration%20Areas%20compressed.pdf>

⁸ https://www.limerick.ie/sites/default/files/media/documents/2017-05/limerick_regeneration_framework_implementation_plan_small_version.compressed.pdf

proportion and a clear hierarchy between primary streets, secondary streets and laneways.’ They point to the development of the South Campus at the University of Limerick as a more recent example of a design code.

As well as guiding development in each of the areas, the document is intended to ensure coordination between the different sites, ‘providing a coherent approach to the quality and character of adjacent developments to deliver a coherent visual environment, particularly when different designers are involved’. The authors note that the guidelines are not just to inform or brief the design team, but are a common guidance document for the client body (which is a large multi-departmental organisation), public realm stakeholders (Irish Water and other utilities), and for the general public.

They note that new buildings will be developed over multiple phases and that any given street may be bounded by separate phases of development delivered by separate design teams within different timeframes. ‘It is recommended that a built form and streetscape with a coherent physical character is adhered to. In this regard the first architect principle should be observed, that in completing the second side of a street, the second architect will as far as practicable adopt the plot size, vertical heights, building proportion, roof profile, external materials, colours and tree/plant species, carried out by the first architect on the completed side of the street.’

Content

One chapter sets out ‘parameter plans’ (setting out a series of limits to which development must conform) for each of the regeneration areas, outlining the structure of the code in a single drawing. The parameter plans highlight street types; key frontages; key buildings; character areas (residential, mixed-use, etc); local areas of play; district level play; and sports pitches. More detailed requirements are elaborated on in the code.

The code covers streets; building form (general objectives; building interface by street type; and special buildings); public open spaces (general objectives, detailed design guidance, and implementation); building material palette (building materials by regeneration area type, local vernacular influences, and precedents from elsewhere).

The document also contains a section on ‘lessons learnt from completed developments’, analysing local examples in terms of the code’s principles in some detail.

Retrofitting

The code applies to both new development and the retrofitting of existing streets. The regeneration areas to which it applies contain open space, derelict buildings, cleared sites and buildings that are likely to be demolished, as well as occupied buildings.

Illustrations

The code is illustrated with diagrams and photos.

Prescription

The document describes itself as being ‘flexible and containing a set of parameters within which a variety of designs can be created, and a library of components to draw from’. The authors write that ‘it is not prescriptive in terms of architectural style or construction method’, though it is prescriptive about many other matters’, such as building proportion and colour, street width and boundary treatment.

Measurability

One example of a standard, part of which is measurable:

“Building proportion: Ensure that new developments respect the existing vertical building proportion by: (1) Promoting a high solid-to-void ratio in all new buildings of between 70-80% (solid) to 20-30% (void); (2) Ensuring building openings and projections maintain a vertical emphasis to main elevations.”

Enforceability

Compliance with the code is assessed as part of the planning application process at pre-planning and planning application stages.

A ‘Public Realm and Design Code Checklist’ is included within the document (unnumbered page in Section 10 of the code). This must be completed and included with all planning applications. All applications within the regeneration areas must demonstrate compliance with the code. If the answer ‘no’ is given to any of the checklist parameters, a statement of justification must be made to the Office of Regeneration prior to lodgement of an application to Limerick City and County Council.

The process of preparing the code

The code was prepared in-house with input by planners and architects, and landscape architecture expertise was provided by consultants.

The Limerick Regeneration Framework Implementation Plan, which the code supports, claims to have been based on ‘structures put in place over five years to facilitate consultation with stakeholder groups on wide-ranging issues relating to the development and implementation of social and physical regeneration strategies’ and to have been ‘the result of a considerable body of work by numerous stakeholders including – perhaps most importantly – those who live in the areas involved and know them best’, but the code itself does not mention public or stakeholder engagement.

The impact of the code

The Code was awarded a commendation at the Irish Planning Institute National Planning Awards in 2015.

There has been very little development in the four regeneration areas since the code was published, in large part due to the economic climate being much less favourable to investment since then. We have, however, seen no evidence that the design code negatively impacted on project viability.

Sources

<https://www.limerick.ie/sites/default/files/media/documents/201710/Design%20and%20Public%20Realm%20Code%20for%20the%20Regeneration%20Areas%20compressed.pdf>

https://www.limerick.ie/sites/default/files/media/documents/201705/limerick_regeneration_framework_implementation_plan_small_version.compressed.pdf

Netherlands – Borneo-Sporenburg

The basics of most effective design codes can be expressed very simply.

This development on two former docks has been admired as one of the best examples of a masterplan and design code creating successful urbanism and attractive architecture, without prescribing the outcome in excessive detail. The code is inspired by traditional Dutch forms of buildings and layout. It is striking how much of the content of the guidance is contained in a list of 10 requirements that can be fitted on a single sheet of paper. The code is part of the masterplan, prepared by landscape architect West 8.

- Location: Two peninsula sites in Eastern Docklands, Amsterdam
- Type: Residential
- Date published: 1993
- Commissioning organisation: City of Amsterdam
- Project scale: 2,500 dwellings



Borneo Sporenburg Copyright Marcus Wilshere

Content

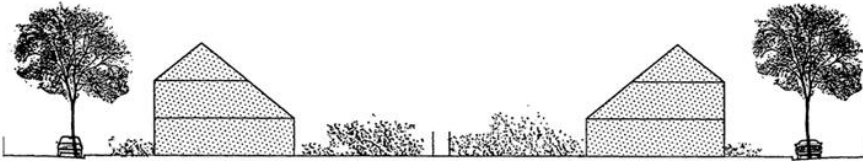
Apart from the two high-rise apartment blocks, the masterplan specifies that:

1. All houses should have a front door on to the street.
2. All houses should have a flat roof.
3. All houses should be the same height at the eaves.
4. No construction of more than three storeys.
5. Ground floor must be 3.5 metres high.
6. All houses must have their own outdoor space, integrated into the dwelling in the form of a patio, roof terrace or loggia.
7. The roof landscape must be attractive when viewed from above, from the nearby high-rise blocks.
8. A limited number of materials.
9. Houses to be designed by a variety of architects.
10. The specified plots (for single-family houses) are a standard 16 metres deep, 4.2 to six metres wide and a maximum height of 9.5 metres.

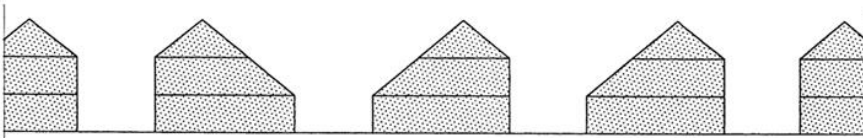
Architectural style is not coded.

Illustrations

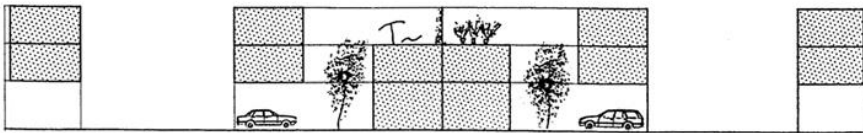
The masterplan and code are illustrated with diagrams.



The Dutch row house: suburban 28-40 dwellings per hectare



The Dutch row house: higher density, problems: privacy, accessibility etc.



Borneo-Sporenburg: 80-100 dwellings per hectare

House types in traditional Dutch settings and in Borneo-Sporenburg. Copyright West 8

Measurability

The features that are prescribed (such as roof and storey heights, and plot size) are measurable.

Enforceability

The code was enforced by the terms under which planning approval was given.

The process of preparing the code

The code was prepared by the masterplanners identifying traditional forms of canal-based urbanism and finding the appropriate means of emulating their essentials without constraining designers excessively.

Consultation on the code

There is no record of any public consultation. The people (mainly squatters and artists) who had lived on the twin sites in largely derelict warehouses, which have since been demolished, were moved on.

The impact of the code

The new neighbourhood is popular and widely admired internationally.

West 8 was awarded the 2002 Veronica Rudge Green Prize for excellence in urban design from the Harvard Graduate School of Design for its work on Borneo-Sporenburg.

The new neighbourhood has a density of 100 dwellings per hectare.

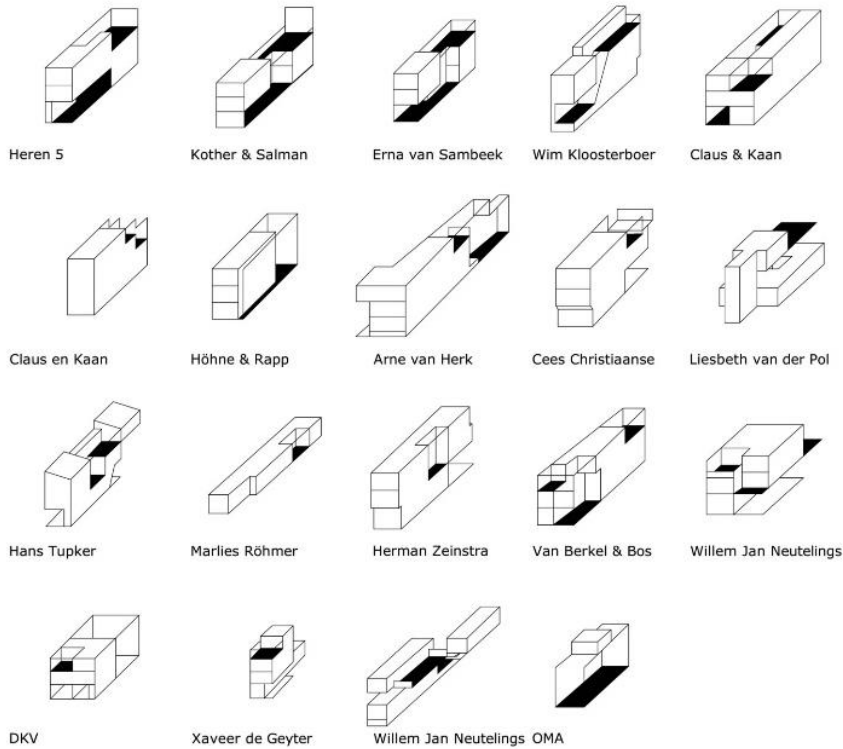
With more than 100 architects having contributed designs, a varied streetscape has been created, apart from a few blocks (not the larger apartment blocks) that have been described as monotonous.

The high ceiling heights at the ground floor were meant to encourage the creation of shops and workplaces. This has not happened, but it could do in future.

The best-known image of Borneo-Sporenburg is of the 60 units that were sold to self-builders, who employed their own architects. Unlike the rest of the houses, these have private access to the water. Elsewhere the waterside is public.

The author Alastair Gordon has written: 'Each architect worked with a slightly different combination of internal spaces, proportions, variations in height and setback, sometimes with small porches, projecting balconies and alternating window treatments. A brick facade with small, steel-framed windows might butt up against an all-glass facade, or a facade of greyish-blue slate with pulpit and clerestory windows, or a facade of pale orange with large, wood-framed windows, etc. This kind of rhythmic diversity helped to create instant character and a grounded sense of place in what might have otherwise been another blandly uniform environment. Tenants further personalized their respective units with potted plants, banners and benches as well as small docks and moorings for boats along the waterside of the community.'⁹

⁹ <https://lvbmag.wpcomstaging.com/tag/borneo-sporenburg/>



Varying treatment of residential space at Borneo-Sporenburg. Copyright West 8

Kay Hughes, design director of HS2, visited Borneo-Sporenburg with a group of renowned architects and planners. She writes of the scheme: 'The best bits are the intimacy and individualism of the reinvented Dutch canal house where design codes were tight. This topic raised a good level of discussion about the balance between tight design codes and squeezing out the opportunity for baggy space, where residents can fill gaps and make a place their own, but where a loose approach might lead to dysfunctional design planning.'¹⁰

Aaron Betsky, director of the Netherlands Architecture Institute, has commented: 'I would have made the streets of Borneo Sporenburg less strong. As built, they tend to become wind tunnels that overemphasise the traditional 19th century slum layout that is the point West 8, I believe, were trying to make.'¹¹

Sources

<https://lvmag.wpcomstaging.com/tag/borneo-sporenburg/>

<https://www.linkedin.com/pulse/dear-british-politicians-letter-from-netherlands-kay-hughes/>

<https://lvmag.wpcomstaging.com/tag/borneo-sporenburg>

¹⁰ <https://www.linkedin.com/pulse/dear-british-politicians-letter-from-netherlands-kay-hughes/>

¹¹ <https://lvmag.wpcomstaging.com/tag/borneo-sporenburg/>

New Zealand – Hobsonville Point Architecture and Landscape Design Code

Design codes should be adaptable in the face of changing economic circumstances and the development industry learning about design quality.

Hobsonville Point is an extensive, mixed-use community built on the site of a former military base. The design code is noteworthy as part of an evolved set of procedures that rely heavily on review of planning proposals by an independent expert design panel.

- Location: Hobsonville Point, Auckland New Zealand
- Type: Site development
- Date published: 2009
- Commissioning organisation: Isthmus (developer)
- Project scale: 61 ha (Phase 1 of 167 ha.) 10-15 year programme for 3,000 new homes, employment and community facilities.
- Retrofit: No
- Pre-permission: No



Hobsonville Copyright Kāinga Ora - Homes and Communities

Introduction

The Buckley Hobsonville Architecture and Landscape Design Code and associated design guide were produced to ‘secure the overall quality of development and reinforce identified neighbourhood character areas, creating a distinctive sense of place for the new Hobsonville Community.’

The guide works alongside the Comprehensive Development Plan (CDP) Planning Conditions – referred to as the ‘Design Code’.¹² The code is the statutory document for the CDP area. It ensures consistency of urban form and character, and sets out controls for buildings, streets, and open space. Relevant district plan rules apply. However, the design code can vary the city-wide rules and codes of practice set out in the city council’s district plan.

The design guide then ‘interprets and gives effect to the design code, providing a degree of certainty for the ‘look and feel’ of the development, while also encouraging variety and interest within the built form and landscape.’

The design guide is administered by an advisory design panel appointed by the developer but advising the council. The design panel are also responsible for recommending updates to the guide. The design panel includes architectural, landscape and urban design expertise, with representatives of Waitakere City Council, Hobsonville Land Company, and the relevant Housing New Zealand Corporation development partner.

This format means that the city council has measurable requirements for built form set out in the design code, but detailed interpretation of those requirements is more loosely guided by the design guide, and compliance is assessed by the design panel.

Content

The design code sets development parameters, including quantum, use mix and building heights for each development type, including residential, schools and employment accommodation. The code also covers street configuration, building line setbacks and the movement network, including public transport routing.

The code is based on an agreed masterplan, which the code explains and quantifies. Much of the measurable requirements of the code are set out in Section E as a series of development matrixes covering:

- Building types
- Street types
- Open space

12 <https://hobsonvillepoint.co.nz/public/assets/Uploads/Hobsonville-Point-Buckley-CDP.pdf>

Although part of a mixed-use development, the guide focuses only on residential quality. Together, the code and guide address issues of architecture with particular emphasis on landscaping of the front yard, which forms the interface of private plots with the public realm.

Advice on submission requirements and a checklist are included in the guide.

Definitions

Design principles and objectives are set out through each section of the design guide.

Illustrations

The design code sets out building and street metrics, which are explained in a series of diagrams, including dimensioned street sections. The guide is more richly illustrated, including illustrations of on-plot landscape requirements.

Prescription

The design code is in large part unambiguous and prescriptive. However, the code is limited to salient aspects of urban form such as highway configuration, building heights, uses and frontage setback.

Aspects of local character are covered in the design guide, but this is far more open to interpretation and to the discretionary judgement of the appointed design panel. The language of the guide is often vague and suggestive rather than definitive. For example: 'Lightness is expressed in structure and material, physically and visually. Generally, an appearance of lightness rather than massiveness is favoured.' (Paragraph 5.3)

Measurability

The requirements for the salient features of the urban form, including building heights and their relationship to streets, are measurable. Other aspects of urban form, including architecture and appearance are discretionary, based on broad urban design principles.

Review process

The design guide is described as: 'a live document that will be reviewed and updated over time to ensure its relevance to each phase of development. The design panel will identify and recommend to Hobsonville Land Company (HLC) when modifications may be required.'

Enforceability

The design code is assessed by an appointed design panel, which makes recommendations to the city council as part of the approvals process. The parameters of the design code are likely to have binary assessments: proposals either meet code requirements or they do not. However, in respect to other aspects of development, including architectural appearance and character, the city council will be largely reliant on the recommendation of the design panel.

The process of preparing the code

Generally, for planning in NZ, the city council produces a district plan. The developers then apply for a planning consent. On larger projects, the developer prepares a comprehensive development plan (CDP) and applies for planning consents under that. The city council will not generally refuse consents that comply with the CDP. The system has some similarities to outline planning permission and their respective reserved matters permissions in the UK context.

The Hobsonville Point development is on the site of a former military base. The CDP and design code were prepared by the developer, Hobsonville Land Company (later HLC and currently part of Kaimnga Ora). The design code was prepared for HLC by urban design consultants, Isthmus.¹³

The masterplan and associated design code were prepared through analysis of the site and an evolution of design, starting with landscape and natural resources, defining a movement network linking to surrounding areas, and setting activities and land uses based on 5-10-minute walking accessibility. The emerging design code has been a process of evolution combining the design standards of earlier regeneration initiatives and has been influenced by UK and Dutch precedents of how urban design codes could work.

The design code originally was envisaged to do two things:

- Satisfy the city council that design standards would be maintained.
- Ensure parcel developers adhered to master developer standards.

At the start of the project, builders and smaller developers were not considered too sophisticated in their approach to design.

After early attempts to define design rules, the HLC team ‘rowed back’ on the level of detail in order to focus on “what really mattered”. This was due to:

- Cost and manageability of complex/lengthy codes
- Introduction of a design panel process

The code therefore refocused onto urban design and street scene issues. More responsibility (for architecture) was passed to the design panel.

The extended phasing of the development has meant that early phases are inhabited as later phases are brought forward. However, review of the design guide is at the discretion of the

13 <https://isthmus.co.nz/project/hobsonville-point-2/>

design panel, and not formally linked to the emerging new community or their views on the success or otherwise of the development.

As a former military base in a largely rural context, there was little resident population to consult. The city council undertook community engagement on the CDP. The design code was consulted on only to the extent that it was a chapter in the CDP. There was little public comment made on the design code.

The impact of the code

The development at Hobsonville Point has resulted in high-quality residential neighbourhoods. Development is well scaled, with coherent block form and well landscaped, including street trees.

The resulting development demonstrates a clear translation of the requirements and intentions of the design code and design guide.

However, given the extensive scale of the development, there is little sense of distinctive neighbourhoods that might contribute to local identity or legibility. This is in large part due to the repetition of a limited range of street types, each a slightly differently scaled version of a conventional suburban typology. While these are attractive in themselves, the variation in street type is sufficiently distinctive neither to make the street hierarchy legible nor to contribute to coherent local neighbourhoods. Despite some variation in building type and facing materials, the houses do not provide a strong sense of locally distinctive character areas.

In an interview with Katja Lietz, formerly of the HLC design code team, the Hobsonville Point project highlights a number of important lessons:

Process is important

“The design guidelines on their own are not much good - it’s all about the process and how they (codes) are administered.” The process is the guidelines coupled with an ‘independent’ design panel.

The design panel was originally selected jointly by the city council, the master developer and sub-developers. All these parties agreed to accept the design panel’s decisions. The design panel was comprised of experts and was without direct community representation.

As the project phases progressed, the council merged with administrative neighbours and ownership of the panel fell away. The membership of the design panel stayed consistent throughout the project and learnt from critiques of its earlier decisions.

Learn as you go

The house builders learnt through the process, there was a shift in culture towards greater recognition of the importance of design quality.

The design code evolved with better understanding of economic viability. It learnt to focus on what could make a difference at least additional cost, and left out issues that made marginal difference but cost developers highly. An example was the initial emphasis on variety, which was considered disproportionately costly in proportion to perceived benefits.

Don't lock-in requirements long-term – 'so much changes even over five years, developer's priorities changed 180° over that period' (from wanting fewer, bigger homes to wanting more and smaller houses).¹⁴

Sources

<https://isthmus.co.nz/project/hobsonville-point-2/>

<https://hobsonvillepoint.co.nz/public/assets/Uploads/Hobsonville-Point-Buckley-CDP.pdf>

<https://hobsonvillepoint.co.nz/media-resources/>

Interview with Katja Lietz, formerly consultant at HLC on 27 March 2024

14 Interview with Katja Lietz, formerly consultant at HLC on 27 March 2024

New Zealand – Massey North Town Centre, Auckland

A design code can help to provide the certainty that commercial developers need.

These detailed design guidelines for a large site for a shopping centre were prepared by architecture and design consultants for the landowner/developer New Zealand Retail Property Group. The design guidelines are unusual in being a code for a retail area. Key parts of the text are printed in different colours to indicate their degree of prescriptiveness.¹⁵

- Location: Massey, Waitakere City, Auckland, New Zealand. (Waitakere City existed from 1989 to 2010 before the city was amalgamated into Auckland Council.)
- Type: Shopping centre
- Date published: 2010
- Commissioning organisation: New Zealand Retail Property Group
- Project scale: Large site
- Retrofit: No
- Pre-permission: No

Introduction

The title of the document is ‘Massey North Town Centre Comprehensive Development Plan Part 3: Design Conditions’.

The Massey North project involves developing a new town centre in the north-west of Auckland. The working mechanism of the Regional Growth Strategy was ‘Sector Agreements’ between the various Auckland Councils. Waitakere City Council was party to the Northern and Western Sectors Agreement. At the time, there was already a shopping centre at adjacent Westgate, but the area to the north of the shopping centre was largely undeveloped. The Massey North area was a dormitory suburb where people lived but had to travel some distance to get to work in the cities of Auckland.

The council considered it important that the town centre met certain urban planning and design criteria to ensure that it would attract higher levels of investment in the surrounding retail,

¹⁵ Massey North Town Centre Comprehensive Development Plan, Part 3: Design Conditions, Precincts A & B, New Zealand Retail Property Group, 2010

commercial and residential sectors. A particular concern was to avoid the possibility of mall developments covering the proposed site.

The statutory process envisages that the planning of this area would occur in three separate stages:

- At the highest level is the development of an Urban Concept Plan within the District Plan.
- The second tier is the approval of an overall land use consent that authorises the land use activities, referred to as a Comprehensive Development Plan (CDP). This consent would be subject to conditions that would continue to apply to the land and would guide future development.
- Finally, specific resource consents for physical works and development would be sought, within the broader context set by the rules in the District Plan, and by any existing resource consent conditions previously provided by the CDP.

'Massey North Town Centre Comprehensive Development Plan Part 3: Design Conditions' contains detailed conditions that relate to design matters.

Content

The document consists of:

Urban Framework Plan

The framework is schematic, with certain elements shown in indicative (as opposed to absolute) locations. This includes internal areas of perimeter blocks; internal retail components; pedestrian connections; pedestrian crossings; inner block parking areas; and upper-level residential locations. The text explains: 'It is important that these elements are provided in order to achieve the concept, but their precise location is flexible and will be subject to detailed consents.'

Regulating plan and frontage typologies

These two tools form the most important part of design control within the town centre and can be used as a starting point for understanding the conditions to be applied to development. A particular emphasis is placed on the public/private interface. Active street frontages are sought, whereby development positively integrates with streets. Regulating Plan and Frontage Typology Matrices are provided: these incorporate a series of street types and associated building frontage controls.

The rest of the content is set out under three headings:

- Precinct-wide activities, uses, noise; street network, street space allocation; streetscape elements, outdoor dining, signage; public transport, cycle facilities; car parking, service access; crime prevention through environmental design, injury prevention, universal access; environmentally sustainable design, low-impact design; infrastructure, development staging.

- Buildings height, frontage controls, landmark and corner buildings, public-private relationships, flexibility.
- Public realm/open spaces Size, location and functions, safety, durability, climatic design, tree planting.

Definitions

The document contains a glossary.

Illustrations

The document is illustrated with diagrams and photos.

Prescription

To ensure an appropriate balance between certainty of outcome and necessary flexibility, the conditions are separated into three types:

- The first group of conditions are those specific urban design conditions that can be written with a high degree of specificity and are expected to be strictly applied. These conditions are numbered, and identified using this format of red, double-underlined text.
- Conditions that still relate to design principles, but have some specificity to them. These are intended to set an aspirational design standard for development in order to achieve the vision for a high-quality town centre, but cannot be written (or applied) as hard and fast requirements. These conditions are numbered, and identified using this format of green, single underlined and italicised text.
- Urban design principles. These principles underpin and reinforce the intention and underlying purpose behind each of the subsequent conditions. These design principles are to be treated very much as high level guidance. Principles in the document are numbered and highlighted in blue text.

Further guidance for specific conditions is provided in many instances through a combination of words, diagrams, images and matrices. This is intended to demonstrate, through examples, what outcomes the conditions are seeking to achieve. Text providing such guidance is identified by a 'Guidance' heading and is in black standard text.

Example of a prescriptive guidance relating to outdoor dining in the streetscape:

'Signage and advertising in streets will be of restricted size and type. The following are not permitted: flashing or moving signs, A-boards (except for pavement eating areas for displaying menus), banners/canvas/fabric or bunting signs (except for one-off events), freestanding signs above 3m in height from the ground, and freestanding advertisements or promotional structures on footpaths.'

Example of non-prescriptive, aesthetic guidance 'intended to set an aspirational design standard for development':

'All building frontages will present forms which are visually well-balanced and composed with a primary intention of creating an attractive and interesting edge to streets. Frontages will present a recognisable "tripartite" pattern featuring a base, middle and top, and will include an expressive vertical rhythm. The size and proportion of elements will be clearly related to the human body. Unarticulated, over-scale and excessively repetitive elements of an industrial nature will not be permitted.'

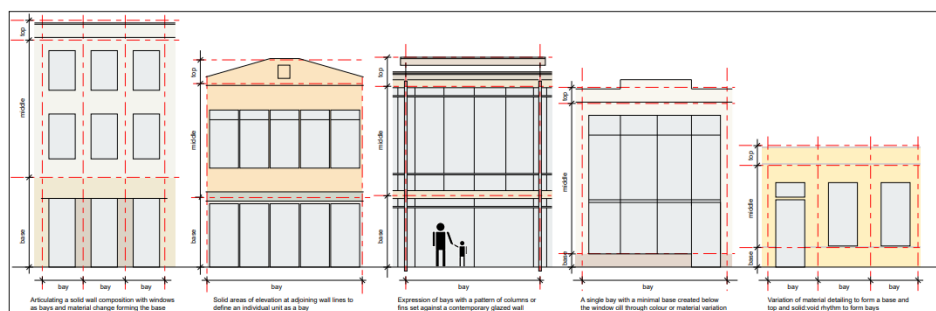


Diagram showing examples of tripartite elevation compositions.

The text notes: 'Guidance: the aspects controlled through this condition recognise that certain compositional rules or elements are commonly found in town centre areas which may be considered well-designed and attractive. This condition applies to all street edges, not just "active" or "entrance" frontages. The condition does not seek to restrict the architectural style of buildings, but rather the proportions of a design composition. Controls requiring a vertical emphasis together with top/middle/base recognise the value of buildings which relate well to the proportions of the human body when enclosing spaces which are to be intensively occupied by people.'

The process of preparing the code

The code was prepared by consultants for the major landowner.

There is no record of the public having been involved in the document's preparation.

The impact of the code

The new shopping centre seems to achieve the guidance's aim of creating outdoor shopping streets with an urban feel, instead of being one or more enclosed malls, which was the form of the older, adjacent Westgate shopping centre.

Sources

Massey North Town Centre Comprehensive Development Plan, Part 3: Design Conditions, Precincts A & B, New Zealand Retail Property Group, 2010

New Zealand – Vinegar Lane Mixed Use Sites Design Manual

Residents can have a formal role in implementing design codes, backed by expert design advisors.

The design code for Vinegar Lane controls the form of development for a mixed-use area near to Auckland city centre. It covers the smallest site area of any of our case studies.¹⁶

- Location: Ponsonby, Auckland, New Zealand
- Type: Residential and commercial mixed-use
- Date published: 2013
- Project scale: Site-specific
- Retrofit: No
- Pre-permission: No



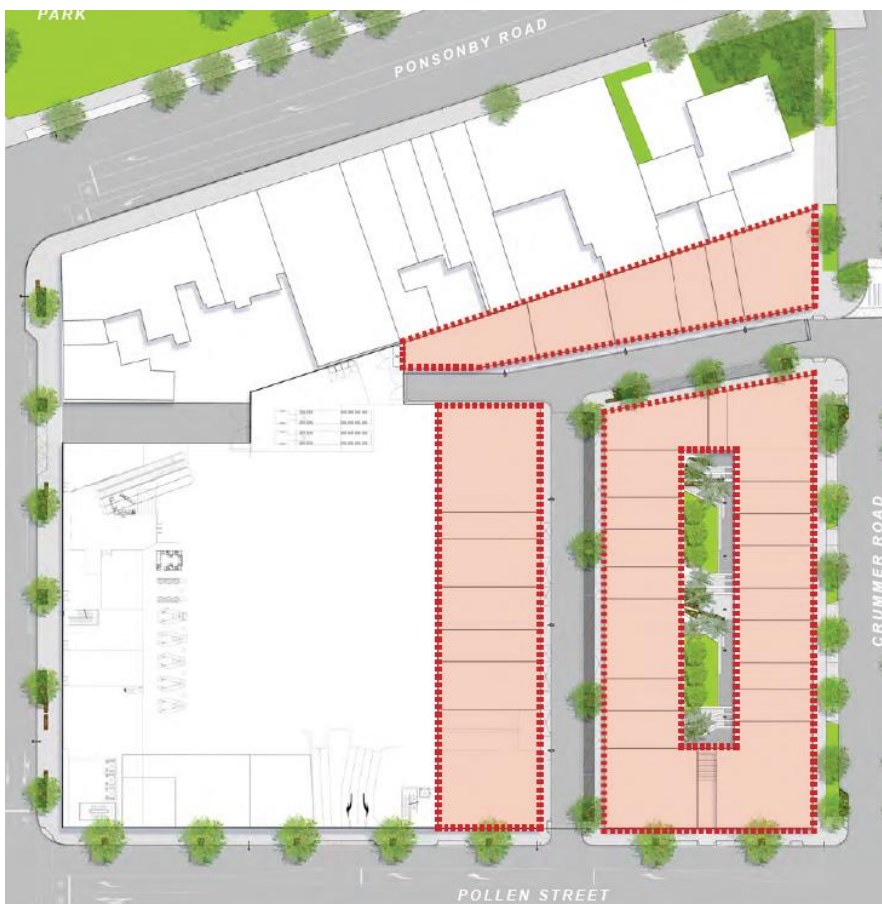
<https://isthmus.co.nz/project/vinegar-lane/> Isthmus Group Copyright 2022

16 Vinegar Lane Ponsonby Mixed Use Sites Design Manual 15.08.2013

Introduction

This mixed-use precinct was developed by Progressive Enterprises, the operator of the neighbouring supermarket, which oversaw development of their surplus adjacent land. The design manual describes the intentions and controls for 31 individual development lots to comply with land title covenants, planning consents and prevailing planning policy. Each lot has a 'Resource Consent' for development envelope prior to design being completed. Lots have been sold to individual owner-developers. The manual provides the design code to achieve a cohesive whole out of multiple individual design approaches.

The manual describes the concept as 'individually designed residences and commercial buildings built on small fee-simple lots replicating the way in which traditional New Zealand suburbs were developed. Buildings are to be developed by individual owners in a way consistent with a New Zealand ethos of property ownership and the ability to express individuality in the design of our homes and commercial buildings.'



Extract from design code: Illustrative masterplan

Content

The manual is a concise document of some 20 pages. Design controls address such matters as land use mix of residential with commercial (offices and retail), floor area ratio, building height and massing, street interface, setbacks and projections, material palette, private open space, vehicle access and parking, servicing and infrastructure services, and avoidance of uniformity and repetition.

Key lots are identified where commercial ground-floor uses are mandatory.

The manual promotes three-to-four-storey mixed-use buildings filling their plots (ie with party walls to neighbours) and facing the street. Integral outdoor space in the form of courtyards, balconies or roof terraces is required. Development parameters allow a floor area ratio (FAR) of 4:1. Emphasis is given to providing open space, sunlight and privacy within a high-density development.

The design approach seeks considerable diversity in architectural treatment, within the overall building form defined by the code. It claims influence from New York, Denmark and Japan.

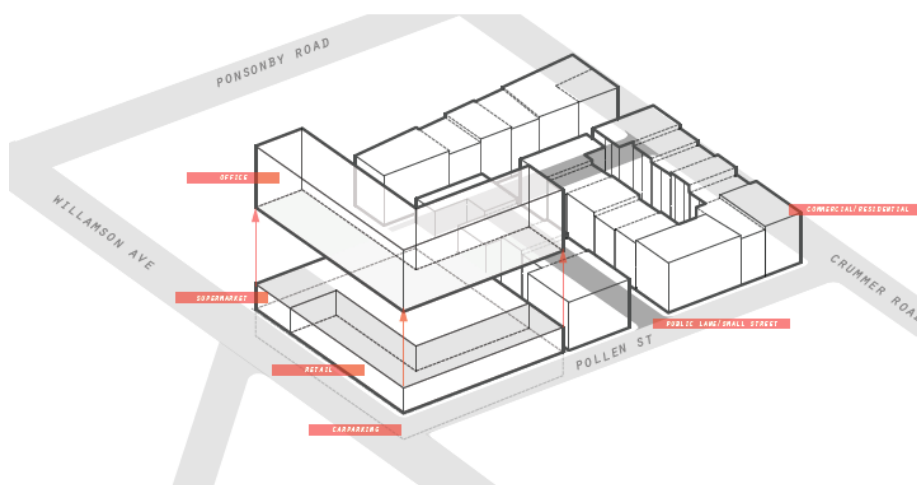
To achieve the desired urban character, the manual sets a minimum building height of 10 m. The maximum height of 15m is dictated by the City's District Plan.

Definitions

Each requirement is accompanied by an explanation of its design intent. A checklist of code requirements is appended to the manual.

Illustrations

The manual is illustrated with simple diagrams.



Extract from design code: Development concept diagram.

Prescription

The manual is highly prescriptive in regard to building use, form and massing, but it deliberately invites creativity and individualism in respect of the architectural treatment of facades.

Building materials are suggested as:

- Concrete slab (particularly for side walls)
- Timber (including timber weatherboards)
- Glass
- Metal cladding
- Brick
- Stone

No examples are given to illustrate this list. The manual discourages some other materials:

- Fibre-cement boards, proprietary sheets
- Galvanised or reflective corrugated metal
- Steel wire fences, timber paling, powder-coated metal
- Large areas of gaudy, vivid or luminous colour finishes
- Poor-quality or second-hand materials
- Bonded aluminium laminates

Measurability

Measurable parameters are set for building heights, including ground-storey height, building setback, proportion of ground-floor glazing and projections, private open space (including balconies), commercial signage and car parking.

Other requirements are less precisely defined. For example the manual requires that 'Residences are to provide direct sunlight into at least one habitable room for each residential unit', but it does not quantify this by either lighting level or duration.

Enforceability

A developer of a lot benefits from a pre-determined building envelope resource consent. Auckland Council subsequently certifies that the resource consent condition is in accordance with the design manual, and that controls have been complied with.

The design committee reviews all design concept plans to ensure that they are in accordance with the design manual.

The level of detail that is required to be provided in the design concept plans is equivalent to that for a land use consent application for a development of a similar nature. That is greater detail compared to what is normally required for initial 'concept' schemes, but less detail compared to what is normally required at the building consent stage.

The process of preparing the code

A design committee was set up through the constitution of a residents' society. The manual includes a protocol for appointment of the design committee members.

The design committee is made up of a representative of Progressive Enterprises; an urban designer; and an architect. Auckland Council seconds an urban design officer to the design committee, which is separate from council's statutory function. Covenants are placed on titles, and recorded by the residents' society.

The appointed design committee approves the design concept plans for each building proposal on behalf of the residents' society and before each design concept proposal is submitted to the city council. The residents' society therefore has considerable influence over the approval process whilst operating under the guidance of professional advisors.

The impact of the code

As of 2022, the majority of the precinct had been fully built out, with just a couple of vacant lots remaining for development.

The design code approach has coordinated the development of multiple individual building lots into an innovative development characterised by both a diversity of architectural language and materials and by an overall coherence of block form, scale and building frontage. The resulting development is an impressive embodiment of the underlying ideas of compact, higher-density, mixed-use urbanism.

The processes and structure for approving designs involved a residents' society advised by a design committee establishing and continuing a clearly defined voice for local residents in the emerging neighbourhood.

Sources

<https://isthmus.co.nz/project/vinegar-lane/>

Vinegar Lane Ponsonby Mixed Use Sites Design Manual 15.08.2013

Oman – Madinat al Irfan

Design codes can help to embed cultural, sustainability and civic values into private development.

The work to prepare the Madinat al Irfan Design Code was won in competition by a London-based architecture practice. Urban design codes have not been implemented before in Oman. The design code for Madinat al Irfan therefore represents an innovative approach in the Omani context and a test of the transferability of this technique to new planning regimes.

- Location: Madinat al Irfan, Oman
- Type: Residential, Commercial
- Commissioning organisation: Omran (national developer for tourism, heritage and urban development)
- Project scale: 624-hectare



Artist's visualisation Copyright Allies and Morison

Introduction

The Oman National Spatial Strategy 2040 is the general framework for guiding urban growth over the next 20 years. It aims to balance social, economic and environmental development.

A masterplan framework and design code for a new district for Muscat, Oman was designed by UK consultants Allies and Morrison. They state that ‘New development will be compact and walkable, place-specific and climate appropriate, taking inspiration from historic Omani settlements.’ The development will create a new urban centre to accommodate a working and visitor population of 280,000 (much of Muscat’s projected growth) on previously undeveloped land.

The design code is primarily a delivery and coordination tool, which was prepared to provide a clear mechanism to guide the work of a master developer working with a range of sub-developers.

Multiple development phases are planned over an extended programme running into decades, and involving a large number of organisations from local, regional and international interests.

Content

The urban design code aims to embed civic values within urban development.

The design code locates site-wide information and detail at the scale of individual buildings and blocks. It allows for flexibility but aims to ensure that the project vision is realised. The Irfan Design Code combines sustainability and urban design objectives.

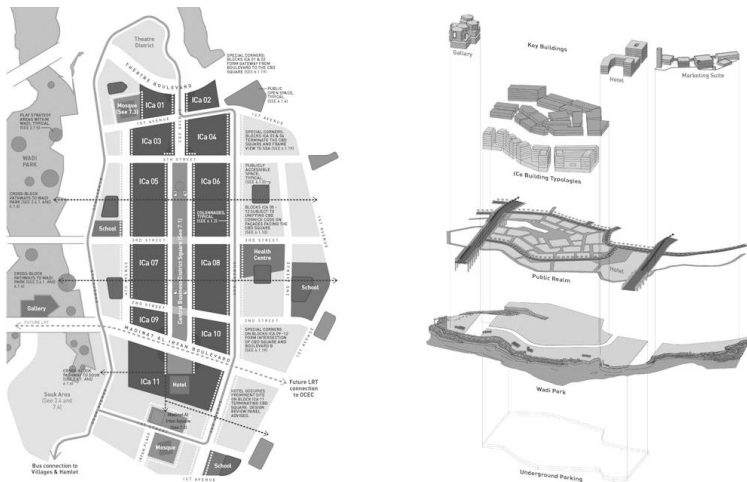
Every development parcel comes with a two-page block data sheet that directs the developer to all applicable sections of the code. This echoes plot-by-plot development briefs or ‘plot passports’ as used in some UK developments (eg Graven Hill Village in Oxfordshire). A short introduction describes how they are to be used and how compliance will be evaluated.

The block data sheets bring together site specific information with applicable design code requirements and include information on utilities supplies, permitted land uses and development quantum, open space and car parking provision and street types.

The code is arranged from the general to the specific, from site-wide, to sector, block, building, down to the architectural element. Strategic planning parameters are built into the code, while the later chapters incorporate more detailed regulations, including facade performance standards.

Prescribed streetwall profiles and facade compositions have been created based on solar orientation and tested for thermal performance, so that designers who rely on baseline rules will achieve sustainability goals.

Illustrations



Extract from Madinat al Iran Design Code Copyright Allies and Morrison

Prescription

This code was one of the first attempts at design coding in Oman. A more prescriptive approach was therefore adopted. A rationale is given to explain each code rule. The regulation forms a benchmark to guarantee a minimum level of quality, but alternative proposals can be accepted if they demonstrate how they meet the code rationale. This allows the code enforcer to apply the rule against weak designs but relax it for those that are deemed to be promoting quality and innovative.

The codes provide a graduated degree of control that prioritises key routes and spaces and landmark development plots. “Not all areas of Irfan are subject to the same amount of control, as some places have more obligations to the public realm than others” This is achieved in two ways:

1. Coding depth and detail is commensurate with the site’s position within the hierarchy of public spaces. Public squares and places of natural beauty play a larger civic role than private residential buildings, and major boulevards serve a larger population than a back-lane or cul-de-sac. In minor spaces, greater levels of deviation can be accommodated without compromising the overall vision.
2. The design code classifies sites as ‘background’ or ‘foreground’ sites. The latter are permitted to explore more daring and unprecedented building forms as urban elements that anchor the identity of different locales within the city. Paths for testing and approving alternative proposals have been set out. Requirements for foreground sites are non-mandatory. Instead, quality is promoted through architectural competition or a design panel review.

This approach is intended to create two classes of building: typologically consistent background buildings and expressive icons lending identity and distinctiveness to local areas.

Review process

The design code is conceived of as a living document, with a modular structure capable of maintaining the masterplan vision while adapting to future changes. This modular structure allows the code to be updated as determined by the master developer.

Enforceability

The design code is used to coordinate the delivery of sub-developer parcels and is enforced by the master developer as part of the land contract for each parcel.

The process of preparing the code

The client needed an implementable framework which could attract development partners.

Analysis was carried out of local development patterns and topography, including the wadi landscape.

Contemporary architectural language draws inspiration from the local vernacular, providing expression to Omani cultural identity. 'The masterplan responds to a series of ambitious principles that Omran laid out in their brief. These included learning from the past to inform the future, celebrating the natural landscape, creating places with distinct character, embracing quality and diversity in architecture, and integrating sustainable forms of transport and urban living.'

Planning in the Gulf states is highly centralised and influenced by ruling elites. The Madinat al Irfan is developed on previously undeveloped land, so there is little or no existing population. Consultation will have taken place with municipal authorities but not with local communities.

Endorsements such as those quoted below come from parties who bring both informed perspective but also a potential commercial interest in the development proceeding.

'As an Omani, residing in Muscat, I am aware of a need for public open space and acutely aware of my yearning for such spaces... I imagine the terraced allotments at Irfan as an opportunity to re-integrate urban with rural lifestyles, an opportunity to allow individuals to express individuality and re-connect with nature, and an opportunity to activate a community spirit, delivering a quality of life for the residents as citizens and members of a community rather than customers or consumers of a product. It is a vision of a city for all.'

Nadia Maqbool, Omani architect and founder of 23 Degrees North

The impact of the code

The masterplan and design code have been part of a sometimes tangled process. The original state-owned development programme was superseded by a joint venture with a commercial developer. The commercial partner ignored the design code resulting in significant dilution of

the design code's original sustainable and urbanistic intentions. For Madinat al Irfan, this has resulted in development patterns that are largely indistinguishable from a standard commercial product in the region.

However, Omran is also developing another site nearby - Irfan East. Allies and Morrison has also been asked to re-purpose their design code for this new development, which includes residential areas, a business district and a souk, and is now under construction.

Sources

<https://www.alliesandmorrison.com/research/why-urban-design-codes>

<https://www.alliesandmorrison.com/projects/madinat-al-irfan>

Interview with Nicholas Choy, Project Architect Allies and Morrison 27 March 2024.

USA – San Jose Design Guidelines and Standards

This joint case study begins by reviewing the guidelines and standards for San Jose Downtown and goes on to look at the Citywide guidelines and standards for San Jose (in less detail, as much of the basic context is common to the two documents).

San Jose Downtown Design Guidelines and Standards

Design codes can focus on the pedestrian experience of a city or town centre that might otherwise be dominated by unsympathetic commercial buildings.

These detailed guidance and standards for the Downtown of a prosperous and fast-growing city aim to achieve design excellence, sustainable urbanism and a sense of place, with a clear focus on the pedestrian experience.

- Location: San Jose, California, USA
- Type: City centre design guidelines and standards
- Date published: 2019
- Commissioning organisation: City of San Jose
- Project scale: City-centre-wide
- Retrofit: The document includes design guidelines and standards for buildings adjacent to historic buildings, but does not include guidelines for rehabilitation or modifications to historic buildings, or adaptive reuse of historic buildings.

Introduction

San Jose's Downtown is the largest urban centre in Silicon Valley. The San Jose Downtown Design Guidelines and Standards aim to influence the form and design of buildings in Downtown, their appearance in the larger cityscape, and their interface with the street level public realm.

The guidelines document defines the design objectives for the elements that determine the image of Downtown and refines the concepts of other plans, translating them into an operational document that the City of San Jose says will increase predictability for developers and their architects.

Content

The design guidelines and standards cover:

- Buildings (massing; building elements, including facades; windows and glazing; bird safety; balconies; materials and colours; vertical circulation; parking garages; roofs; pedestrian bridges; lighting and signage).
- Pedestrian level (street life, commerce and the public realm; public art in private development; ground-floor treatments and uses; surface parking lots; entrances; paseo [alley] design; privately owned public space design).

Definitions

The document includes a comprehensive glossary.

Illustrations

The document is illustrated with diagrams and photos. It explains that these are for illustrative purposes: ‘proposing a similar design will not guarantee City acceptance’.

Prescription

The standards are prescriptive; the guidance is not. A project applicant may request an exception to the design standards contained in the design guidelines. The exception process set out in the design standards and guidelines is in addition to concessions or waivers possible under pre-existing state laws. An application for an exception must contain detailed information on the design standard that is requested to be waived; how the physical constraints and unique situations of the project site make it infeasible to comply with the design standard; how the proposed project meets the design standard at issue to the extent feasible; and how the request meets each exception requirements.

Guidelines (unlike the standards) describe best practices, are typically qualitative, and serve as overarching design guidance. Proposed projects located within the design guidelines boundary must be in ‘substantial conformance’ to the intent of the guidelines contained in the document.

Measurability

The document’s *standards* (unlike the guidelines) provide design guidance that is numeric and verifiable. Proposed projects located in the design guideline and standard’s boundary must meet the minimum standards set out in the document. Standards are binding and considered to be City of San José policies.

Two examples of numerical standards

‘Place a ground-level building facade along 70% of each parcel’s public-space-facing property lines (within 10 feet) or setback lines (within 3 feet).’

'Use a bird safety treatment on the facade of any floor of the building within 15 vertical feet of the level of and visible from a green roof, including a green roof on an adjacent building within 20 horizontal feet, if the facade has 50% or more glazed surface.'

Two examples of non-numerical standards

'At the pedestrian level, use elements of stone, pre-cast concrete, terra cotta, masonry, or cast stone in addition to any other materials such as metal and glass.'

'Place bicycle parking so that bicyclists do not have to cross vehicular parking or drive aisles to enter the building.'

Example of a guideline

'Major colors should be predominately light. Avoid dark major building colors, including black, dark red, dark gray, and dark natural stone colors.'

Enforceability

Any planning application is required to comply with the standards and, broadly, the design guidelines. The City of San Jose distinguishes between design guidelines (which are subjective; recommendations that may not be enforceable; open to interpretation, and difficult to measure or verify; using words such as 'should' or 'may'; and adopted by resolution) and design standards (which are objective; requirements that are enforceable as regulations; measurable and verifiable; using language such as 'shall', 'must' or 'is required to'; and adopted by ordinance).

The City of San Jose points out that design standards are 'objective' if they are measurable, verifiable, and knowable to all parties prior to project submittal. A planning review process based on objective design standards involves no personal or subjective judgment by a public official. The city does not have a design review committee. Most major projects can be approved at a 'director's hearing' carried out by planning staff, often a person with little or no experience of design.

The process of preparing the code

The guidelines have been prepared in the context of the Envision San José 2040 General Plan (2011), the Diridon Station Area Plan (2014) and the Greater Downtown Strategy for Development (2000).

The Downtown guidelines and standards were prepared with the support of consultants. The cost of the project was supported by a local charitable foundation.

A series of Framework Plans were prepared, identifying several different characteristics of the Downtown's various streets, blocks and parcels. The treatment of urban design developed from these.

The document thanks those who participated in the community workshops and who otherwise contributed to its development but does not give details of their involvement.

The impact of the code

The guidance and standards for the Downtown apply to an area that is already built up, and they will shape its future in the long term. Stakeholder engagement was undertaken to ensure that the guidelines and standards were specifying an approach that, although it would have a cost in many cases, would not affect the viability of development negatively. The code does not, however, give any information as to who was consulted or how.

The vision for the future of Downtown San Jose reflected in the document has come from a variety of plans and public involvement over several years. The City of San Jose recognises that implementing the vision will require both public and private investment to achieve the aims of design excellence, sustainable urbanism and a sense of place that is unique to San Jose.

Source

<https://www.sanjoseca.gov/home/showpublisheddocument/38781/638058306327430000>

USA – San Jose Citywide Design Guidelines and Standards

There is scope for design codes to shape the design of building types that traditionally rarely have any urban qualities, helping the places to become more pedestrian-friendly in the long term.

The San Jose Citywide Design Guidelines and Standards cover an unusually wide range of building types, from residential development to auto dismantling, showing confidence that positive urban qualities can be achieved even in the most unlikely settings. The nearly 100-page document complements the separate guidelines and standards for Downtown San Jose.

- Location: San Jose, California, USA
- Type: Citywide (except for Downtown) design guidelines and standards.
- Date published: 2021
- Commissioning organisation: City of San Jose
- Project scale: Citywide
- Retrofit: As noted above, the Design Standards and Guidelines do not apply rehabilitation, modifications, or addition to historic buildings or adaptive reuse of historic buildings.

Introduction

The Design Standards and Guidelines apply to the portions of the City of San Jose within the Urban Growth boundary, excluding: Single-family residences; Rehabilitation, modifications, or addition to historic buildings or adaptive reuse of historic buildings; and Downtown San Jose (where the Downtown Design Guidelines and Standards apply).

The guidelines have been prepared in the context of the Envision San José 2040 General Plan (2011).

Content

- Site (site access location; site organisation, access and design).
- Building (massing, access and entrance design, building elements).
- Pedestrian level (ground-floor design and uses, open space design, public art).
- Specific development types (residential, commercial, industrial).

To give an idea of the range of the guidelines and standards, residential includes live-work spaces, and ground-floor offices associated with residential units. Commercial includes house

conversion-to-commercial use, fuelling and charging stations, and drive-through uses. Industrial includes industrial research and development, and auto dismantling.

Definitions

The document includes a comprehensive glossary.

Illustrations

The document is illustrated with diagrams and photos.

Prescription

Compliance with the Design Standards and Guidelines is mandatory in the Design Review process for all applicable developments. The Design Standards and Guidelines work in conjunction with other City documents and regulations to ensure that buildings throughout San Jose have a high-quality design and are appropriate for their site, function, and neighbourhood.

Any planning application for a new permit or permit amendment is required to comply with the Design Standards and Guidelines.

Measurability

As for the San Jose Downtown Design Guidelines and Standards.

An example of a standard relating to driveways: 'Locate curb cuts at least 20 feet away from publicly accessible open spaces and 50 feet away from pedestrian and bicycle entrances, except within porte-cochères and for sites with less than 60 feet of street frontage.'

Review process

As for the San Jose Downtown Design Guidelines and Standards (above).

Enforceability

As for the San Jose Downtown Design Guidelines and Standards (above). Applicants for planning approval are asked to fill in an 11-page checklist of the design standards, indicating whether or not each has been met.

The process of preparing the code

The Citywide guidelines and standards were prepared with the support of consultants.

The document thanks all those who participated in the community workshops, provided comments, or otherwise contributed to its development.

Stakeholder and community engagement on the Citywide Design Guidelines and Standards consisted of:

- A public workshop as a listening session
- A public workshop on the draft document
- Two study sessions with the Historic Landmark Commission
- Two study sessions with the Planning Commission
- A focus group meeting with developers and designers
- A series of Zoom meetings with community organisations and architects.

With a long document of detailed guidance and standards it is inevitable that the engagement focused on broad principles.

The impact of the code

See San Jose Downtown Design Guidelines and Standards (above).

Sources

Source: 'Deep dive into the San Jose Design Guidelines and Standards', event on Zoom, 11 May 2023.

<https://www.sanjoseca.gov/home/showpublisheddocument/38781/638058306327430000>

USA – Burien Municipal Code: Downtown Design Standards

Involving communities in preparing design codes can help to make development more publicly acceptable.

The Burien Municipal Code's Downtown Design Standards, and the design Standards for Old Burien (the historic core), are very long and highly detailed. This is an example of a code that was prepared in response to public concern about the impact of development, and it contributed to shaping development in what was intended as being in a popular direction.

The code is notable for the aim of promoting a particular architectural form: structures 'designed and built in the early twentieth century.' The document is largely unillustrated, but its text is highly prescriptive. Nearly all the key terms used are precisely defined.

- Location: City of Burien, Washington State, USA
- Type: Downtown and historic core
- Date published: 2000, updated 2024.
- Commissioning organisation: City of Burien
- Project scale: Downtown and historic centre



Extract from design code: how a street corner building should orient the primary entrance to the corner.

Introduction

Burien, formerly a suburb of Seattle, has a population of around 53,000. It was incorporated as a city in 1993, partly following pressure by residents who felt that they needed a more responsive government in the face of the threatened expansion of the local airport, and of increasing densities of residential development.

The Downtown Design Standards section of the Burien Municipal Code directs the design of buildings and sites within the Downtown Commercial zone, in compliance with the city's zoning code and comprehensive plan. The aim is to create 'an attractive, pedestrian-oriented urban downtown with a small-town atmosphere'.

The document urges: 'Design buildings that reflect a traditional main street character. Traditional main street character refers to a collection of structures designed and built in the early twentieth century when structures were composed of simple forms expressed through commonly available materials such as brick, masonry, cast stone and timber.'

The City of Burien emphasises that 'the guidelines are not intended to slow or restrict development, but rather to add consistency and predictability to the permit review process'.

- Content
- Pedestrian and vehicular circulation
- Relationship to adjacent properties
- Relationship to streetfront
- Pedestrian facilities and amenities
- Parking area location and design
- Site lighting
- Service, loading, outdoor storage and mechanical areas
- Building design character
- Building scale and mass
- Building exteriors

Prescription

Any guidance identified in the document as a ‘design objective’ must be complied with. Following each objective are a series of ‘design standards’, of two types. Some design standards are viewed as fundamental in achieving the stated design objective(s). These standards are mandatory. In these statements, the word ‘shall’ is used.

The second type of design standard are examples or alternatives to achieving the design objectives. In these standards, the word ‘should’ is used, or neither ‘shall’ nor ‘should’ is used. In standards where ‘shall’ is not used, there is an obligation to comply with the standard, unless the project demonstrates a better means for achieving the design objective.

Measurability

Many of the specifications are measurable. Three examples:

- ‘In parking areas, pedestrian walkways connecting the parking area with primary building entrances, pedestrian-oriented spaces, adjacent streets and adjacent properties should be provided at least every 150 feet.’
- ‘On corner lots building corners shall be set back up to 15 feet from the front property line.’
- ‘The roofline of all facades visible from a street or public park or open space shall be modulated [that is, varied] according to the following standards: For flat roofs or facades with a horizontal eave, fascia, or parapet – change roofline so that no un-modulated segment of roof exceeds 60’. Minimum vertical dimension of roofline modulation is the greater of two feet or 0.1 multiplied by the wall height’ – and so on for various other types of roof.

Choices

In some cases, the guidance offers a choice. For example: ‘If a proposed building is more than 60’ wide as measured along any facade facing a street and visible from that street, then the building shall incorporate at least three of the measures indicated below.’ In this case eight alternatives are suggested. These include providing balconies; bay windows; pedestrian-oriented space; individual windows; a gable or hipped roof; a porch; or a trellis, overhang or canopy (most of these being described in some detail). The code goes on to note that ‘the City may consider other methods to provide human-scale elements not specifically listed here’.

Definitions

Many specific terms in the online document are hyperlinked to a definition. For example: ‘Articulation: The giving of emphasis to architectural elements (like windows, balconies, entries, etc) that create a complementary pattern or rhythm dividing large buildings into smaller identifiable pieces.’

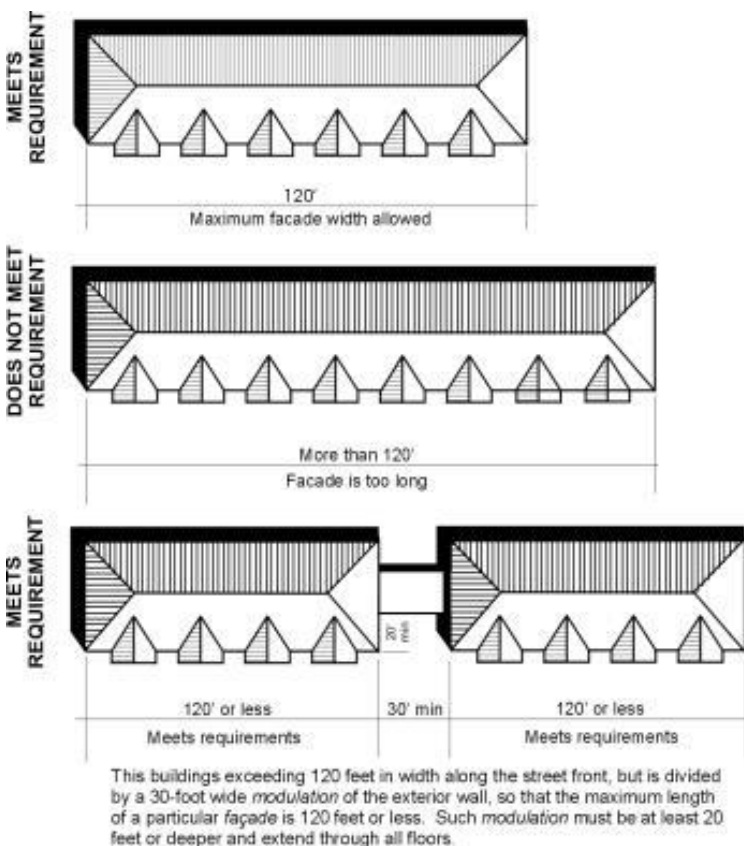
Enforceability

Every new building goes through a process of design review. This is carried out by council staff, not by consultants or an independent panel. The council sees this as a means of making the review process efficient and consistent. There is also a 'land use review' process by which a developer can request a 'design departure' from the code. This is fairly common in relation to such issues as 'modulation'. The design standard may require that the facade is modulated (the standards define modulation as 'a stepping back or projecting forward of portions of a building face within specified intervals of building width and depth, as a means of breaking up the apparent bulk of a structure's continuous exterior walls'), whereas the developer may claim that that would be an unnecessary expense.

Negotiation and discussion on such matters is common before design review, giving the city an input into the design process even if the design standards are eventually relaxed for a particular development proposal. Flexibility is provided by the feature of several of the standards which specify that, for example, 'at least three of the measures indicated' must be complied with.

Illustrations

Most of the code is unillustrated. The chapter 'Old Burien Design Standards' is illustrated by indicative drawings and photographs of good practice (two examples below).



Extract from design code: Diagram showing maximum building facade width standards.



Extract from design code: Diagram showing how 'to utilize design techniques to clearly define a multi-story building's top, middle and bottom'.

Old Burien Design Standards

The chapter 'Old Burien Design Standards' sets out design standards for the old town. The aim is 'to reinforce Old Burien's early 20th century "main street" character.' The code 'encourage[s] developments to employ desirable architectural features found in historical Old Burien buildings without promoting a false sense of historicism.' The chapter does not explain what historicism is, how a false sense of history might be created, or how it can be avoided. [Historicism: Drawing heavily on historical precedent in designing buildings (Rob Cowan, 2005, *The Dictionary of Urbanism*, Streetwise Press, Tisbury).

Some of the Old Burien guidance is specific to a particular street. For example: 'Buildings on SW 152nd Street west of 10th Avenue SW shall include a 10' minimum landscaped setback from the street.'

The Old Burien standards specify how to use colour: 'A storefront's palette should be no more than three colors; one base color, one trim color, and one accent color. Encourage trim and accent colors that contrast with the base color. Specifically, darker base colors with white trim work particularly well. However, lighter base colors can effectively be combined with dark trim colors.'

The process of preparing the code

Twenty years ago, the city council recognised that the downtown was tired and needed revitalising. Consultants carried out a visioning exercise and extensive community consultation through community meetings, workshops and visual preference surveys. It was agreed to create a focal point for the downtown, and to increase residential densities to accommodate growth and create a market for downtown services. The highway of the main street was reconstructed to make it more usable by pedestrians, and the city bought land to create a town square, which has since been constructed. It was decided that new design standards were needed.

After further consultation, the city's architecture and urban design consultants produced draft standards, which were again subject to community meetings and workshops. The planning commission (an advisory body in Burien) then made recommendations to the city council for the design standards that are now in the Burien Municipal Code. One chapter of the code contains design standards for Old Burien, the historic core that had been little changed since the 1920s. In a visual preference survey, community members were shown a series of slides of buildings and places (in Burien and elsewhere), and were asked of each slide how much they liked what they saw. The design standards were drawn up in the light of that process.

The impact of the code

The Municipal Code's design standards have had the intended impact on the design of buildings in downtown Burien and the historic centre, at least to some extent, and the standards have opened up discussion and negotiation on design matters with developers. At a time when the public was nervous of new development and the impact of growth, they gave people a sense of being in control and made certain types of development more acceptable.

The council recognises that the design standards need updating. For example, there was initially a great deal of resistance to the idea of high buildings being constructed downtown. Once they were built, opinion became more relaxed.

As an example of a response both to public concern and to local ways of building, some parts of the design standards call for buildings to be designed with a distinct top, middle and bottom. This was partly a response to public concern about the perceived mass of buildings. That top/middle/bottom arrangement also happens to suit the common way in which buildings are constructed in downtown Burien: what is known as the '5 over 2' method. That means five storeys of timber frame above two storeys of concrete frame (sometimes with an additional concrete-framed storey of parking underground). In such cases the top is the roofline, and windows in the roof; the middle is the timber-framed storeys; and the bottom is the two storeys nearest the street. The variation and 'modulation' (see above) that the code calls for may be achieved by expressing those three parts through a variety of forms, materials and colours.

Sources

Online interview with David Johanson, Senior Planner, City of Burien, on 28 March 2024.

<https://www.codepublishing.com/WA/Burien/html/Burien19/Burien1949.html>

Conclusions

This section draws conclusions from the case studies we examined and suggests what lessons they can provide for practice in England.

The research has revealed extensive use of design codes in many countries around the world and as part of many, very different planning systems. Design codes are an established practice, and in many countries, they are embedded as part of state or city-wide planning systems. We have nevertheless found a surprising consistency in the scope and topics that codes address, and in their focus on the major aspects of urban form such as building plots, height and massing, streetscape and amenity.

Gathering evidence on design codes has been challenging. Not all codes are published online, and some developer-led codes are considered commercially sensitive. For the most part, this review has not had opportunity to contact the organisations involved in producing and applying their design codes. However, this review is an initial survey of the breadth and spread of the use of codes around the world and suggests how this first gathering of case studies can be extended into more detailed research.

Have the case study design codes resulted in improved or popular design?

Even when there is a design code, what gets built is a result of local planning systems, regulations, ordinances, policies, guidance, professional and industry practice, and local culture. Untangling the specific impact of the code is difficult.

In the US, European and Australasian contexts, design codes are used in conjunction with suites of other documents, most commonly masterplans and higher-order plans and building standards. Without further research, we cannot reliably assess the contribution that codes make to the built places that emerge.

Enforceability

In reviewing our case studies, we were looking for evidence of adherence to design code requirements. For most of the case studies, there appeared to be a good degree of adherence to code rules although we could only judge by appearances rather than measured parameters.

The one unfortunate exception was Madinat al Irfan where a new commercial development partner deliberately ignored the design code. The resulting development is indistinguishable from Omani developments that are not coded. It remains to be seen if the design code will influence future development nearby as hoped.

Aesthetics

The codes we reviewed gave little emphasis to aesthetics. Only the Burien Municipal Code and the North Massey guidelines prescribed architectural character. The Limerick code was notable for including a palette of prescribed facing materials.

Stakeholder engagement

Design codes outside the UK appear to be more technocratic. They rarely seem to draw authority from having been widely consulted on or demonstrating public approval.

The code documents themselves make little or no reference to stakeholder consultation. Even Limerick's code, for the regeneration of existing neighbourhoods, does not explain whether or how local communities were engaged. This might be due to the codes being considered as technical documents that explain and amplify higher-order planning documents from which the codes take their authority in the planning process.

The technocratic nature of many of these codes appears to have by-passed opportunities to engage communities in their production. We found no examples of community co-production in them. It seems likely that any community engagement happened at the level of strategic plan making sitting above the design code.

However, three case studies show a commendable degree of citizen participation:

- The Burien case study seems to be one example of design standards tending to lead to more popular development and making development more acceptable. The code was prepared following a visioning exercise and extensive community consultation through community meetings, workshops and visual preference surveys.
- At Vinegar Lane, a residents' society has considerable influence over the approval process whilst operating under the guidance of a design review panel.
- The citywide code for San Jose is exceptional among our case studies for having undergone a process of consultation and stakeholder testing, including input from developers on viability issues.

The other codes generally fail to include other voices in the process of shaping places and their communities.

It is not therefore possible to determine the popularity of the design that has been produced in the case study developments, apart from the three mentioned above. Further research is required, as noted in Section 3.5.

How applicable are the case studies to English planning context?

The case study design codes present well-conceived urban design ideas. Although prepared within very different planning systems to our own, much of the detail of the case study codes could be applied to a UK context. This does, however, suggest that there is a great deal of generic good practice thinking within urban design world-wide. Indeed, the codes we examined, although based on international experience, are not particularly innovative, with the influence of coding practice coming particularly from North America and the UK, as acknowledged by codes for Ireland, New Zealand and Oman.

All the design codes we examined represent a good standard of design approach and are well put together as easily readable and accessible documents. They are, however, often lengthy, and technically sophisticated. Only one design code (Western Australia's R-Code) appeared to have been aimed at a non-technical audience that will include self-builders. The R-Code uses a design code to set standards for pre-permission. This could have direct application in the English planning system, such as to manage permitted development.

The international case studies we reviewed mostly tended to separate highways design from building form. The result was that consideration of the whole street scene between buildings was incomplete, and a more holistic view of placemaking across professional silos was missed. In this respect, the best UK practice can be considered superior to some of the international examples we reviewed.

Most codes emphasise streetscape, public realm and residential development. We found fewer codes for commercial and retail areas.

What lessons can we learn from the case studies?

Our case studies provide wide-ranging lessons for local authorities and developers preparing design codes in England. These include:

1. Codes work when they are part of a system with higher-order area and city plans. In all the cases we reviewed, the design codes are part of a system of planning controls, standards and higher order plan making. In our US, Australian and New Zealand examples, the design codes draw authority from planning standards that are often well established and have evolved over time. Their systems seem more at ease with prescriptive and measurable planning standards.
2. Illustrations and diagrams make design codes more accessible and usable. Simple diagrams are an important component in most of the case studies as shown for example in the San Jose design codes.
3. Design codes should include design principles that relate specifically to the particular place. Many of the codes we reviewed tended to be a bit generic and influenced by international urban design thinking. We found that codes such as Burien and Oman were better for being

based on design principles more clearly rooted in an analysis of their context and (as at Burien) on principles derived from discussion with local residents. Prescriptive rules can be mixed with looser guidance so long as language and assessment are clear and consistent. The case study codes generally do not take a purist approach to coding – they tend to combine both prescriptive, measurable requirements alongside more aspirational and less well-defined guidance. The language used in the codes reflects this: the ‘must haves’ sit alongside the ‘should dos’.

4. Design codes can help empower citizens and deliver more popular design. Communities can take a formal role in the process of preparing and implementing design codes as demonstrated at Vinegar Lane. Design codes should explain the participatory process through which the design code was drawn up and agreed, and how potential conflicts were resolved.
5. When a design code includes guidance alongside more prescriptive rules or when applicants wish to submit non-compliant proposals they believe offer better or innovative ways of meeting design principles, assessment of compliance can benefit from an effective process of design review. There is a role for design review panels in assessing compliance with codes and potential for innovation. Successful planning processes in Australia and New Zealand rely heavily on review of proposals by independent, expert design panels. These design panels appear to review a larger proportion of proposals than typically occurs in England, and they review each proposal at more stages in their design gestation.
6. There is greater emphasis on learning by doing – for developers, for the planning authority and for their design advisors. Some codes are treated as ‘living documents’, subject to regular review to learn from the outcomes of earlier decisions and adjustment of requirements in the face of market changes. Moreover, as the consultant working on Hobsonville Point noted, building an emphasis on design quality into a robust, enforced planning system can lead to a change in culture within the development industry towards a greater valuing of design quality.
7. Some of the best codes help manage the delivery of complex, phased development with multiple sub-developers. Block or plot data sheets as used with at Madinat al Irfan can be used with design codes to clarify how code requirements apply to phases or sub-developers and avoid repetitious documentation.
8. Design codes have the potential to streamline simpler planning applications by offering fast-track approval for compliant planning proposals as demonstrated by Western Australia’s R-Code (Volume 1).
9. A training programme will help ensure that those who will administer and use codes will make the most of them. Few codes seem to be supported by training to make their users familiar with them. Abu Dhabi’s street design manual is an exception to this, reflecting the dramatic change that it represents in how streets are designed in the region, with pedestrians now prioritised above vehicles at the top of the movement hierarchy.
10. Coding in England could learn from many of the international case studies, which give more emphasis to landscape aspects, such as street planting. This includes not just street trees but on-plot planting forward of the building line. For example, Western Australia’s R-Code (Volume 2) has detailed requirements for landscaping for both street trees, verges and also for front gardens. Planning Minister John Carey has explained the intention to ‘improve

liveability, including the enhancement of neighbourhood tree canopies through incentives for tree retention, and requirements to provide new trees and deep soil zones in all medium density developments.”¹⁷

What future research is recommended?

The case studies described in this report provide a good introduction to the range of design coding being practiced around the world, but we recognise the limitations of this study. To answer the fundamental question of whether design codes have demonstrably resulted in either improved design or in more popular developments will require further investigation and evidence.

We suggest the following further research:

Further exploration of the process of preparing design codes through online interviews with those responsible for preparing and implementing them, including developers, planning authorities and consultants. This research would consider the evidence base used to justify code requirements, the testing process that codes undergo, and what form of stakeholder consultation is carried out, including with members of local communities.

To demonstrate the popularity of recent development we should ask those that live there. We suggest a survey of residents' associations or neighbourhood groups representing those who live in and around coded developments. Given the international context, this would be a remote process involving a questionnaire and an online interview with the community group representatives.

Likewise, companies delivering development within a design code could be surveyed for their insights – notably in respect of commercial viability.

There has been little direct evaluation of how popular recent developments have been. We are aware of only two UK design codes that has undergone some form of post-occupancy evaluations – Nansledan urban extension to Newquay and the Graven Hill development in Oxfordshire, where developers recently consulted residents of the first development phase to find out their views of the emerging village, to inform proposals (including a design code) for the subsequent development phase.¹⁸

It would be worth considering carrying out similar evaluations of UK design codes for comparison. This could involve walking tours of developments with local community groups using Placecheck-style checklists to assess design quality.

¹⁷ <https://www.miragenews.com/wa-revamps-planning-policy-to-enhance-housing-1190824/>

¹⁸ <https://www.createstreets.com/wp-content/uploads/2018/05/A-place-to-call-home-online-version.pdf>

Appendices

Authors



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Marcus has provided training and mentoring on design codes, including working with Urban Design Learning and the Design Council to train the Design Code Pilot Expert Panel. He has provided training on urban design and design codes for Planning Inspectors.



Rob Cowan is a prolific author on urban design. His over 20 publications include *Essential Urban Design*; *Urban Design Guidance*; and three design guides for the Scottish Government (on urban design, housing quality and masterplanning). Rob was the joint author of *By Design*,

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Rob is well-known as an illustrator and cartoonist, bringing insight and humour to planning and design topics. He has edited numerous publications, including *Context*, journal of the Institute of Historic Building Conservation, *Roof* (Shelter's magazine), *Town and Country Planning*, and the *Architects' Journal*. He has led *Vision for London* and the Urban Design Group. Rob's academic roles include as a Teaching Fellow (urban design) at the Bartlett School, UCL; external examiner in town planning at the Bartlett School and University of Manchester; and as Senior Research Fellow, Department of Architecture, De Montfort University. Rob was a special advisor on planning to the House of Commons ODPM Committee.

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