

National Model Design Code

Guidance Notes for Design Codes

Comments by the Urban Design Group

The Urban Design Group submits this response following extensive consultation within the urban design, including two public events attended by nearly 400 people, and a series of expert discussions.

We welcome the ambition of increasing the quality of design in new development, and offer the following comments in order to strengthen the effectiveness of the NMDC and ensure that it contributes to the discharge of statutory duties and wider government policies.

The Urban Design Group is a membership charity with over 1000 professionals drawn from architecture, engineering, landscaping architecture, planning, surveying and development. It is dedicated to collaborative, interdisciplinary working in the interests of providing better environments for people.

Presentation of the documents

1. **One document, not two – to avoid confusion and eliminate duplication**

The Guidance notes, at 97 pages, read well, with comprehensive information, and diagrams that are reproduced at a size that makes them legible. The National Model Design Code at 51 pages duplicates much of the content of the Guidance notes, but omits important detail. Conversely there is content, such as definitions and references, which are present in the Code and absent in the Guidance notes.

We have found that users were confused by this, and that it hindered their understanding of the documents.

We strongly advise against publishing two documents. One single consolidated document should be provided which, by eliminating the duplication between the two, we estimate would run to around 120 pages. One of the objectives of the review of the planning system was the removal of duplication between government planning policy documents. And this principle should be continued with the national guidance on the production of design codes.

Name the “National Model Design Code” “National Guidance Notes for Design Codes”

The National Model Design Code is not a national model design code, in the sense that it provides a code that can be adopted. It is a guide to producing a design code, and to avoid confusion this should be reflected in the title. There was a national model design code produced under the 1875 Public Health Act – the **Model Byelaws of 1877** which set out legal requirements for the construction of new streets and buildings. It was the Building Regulations and Manual for Streets of its era, except compliance was a legal requirement. They were required to be adopted by urban councils, and dictated development that followed in subsequent decades. The impact on English towns and cities was immense, continuing at least until the 1940s.

2. Consistent and coordinated policy, design, planning and technical guidance

- a. We applaud the use of the same terminology as the National Design Guide. Common policy and terminology should be used across all relevant policy and guidance documents issued by all government departments, including DEFRA, and DfT.
- b. There needs to be adequate reference to other planning and environmental legislation that design decisions can impact on and how this would be taken account of in the coding process.
- c. the Guidance Notes should be aligned to the new Manual for Streets, and not the 2007 edition.
- d. the Guidance Notes should provide references to the leading guidance documents and relevant duties and regulations within the text, rather than at the end of the document
- e. In addition to the references provided in the Model Code there are:
 - i. **Movement**
 1. Gear Change – National Strategy for Cycling and Walking - DfT
 2. Design Manual for Roads and Bridges NB this should be referenced as suitable for use only for Motorways and restricted access dual carriageways.
 3. Buses in Urban Developments, CIHT
 - ii. **Waste Management** – updated guidance is needed
 - iii. **Utilities** – updated guidance is needed that includes combined utilities ducts and tunnels, extra services including district heating and cooling, grey water,
 - iv. **Sewerage** – Sewers for Adoption
 - v. **Noise** – technical guidance is lacking in this area, and should be published by DEFRA
 - vi. **Climate responsive design** – technical guidance is needed. CIRIA has produced guidance on Water Sensitive Urban Design.
- f. **Statutory duties should be referenced in the Guidance, including health, crime and disorder, Equality duties including S1 and S148, climate change, and so on.**

3. Signposting or Instruction?

The Guidance may state requirements (eg page 53)

“Footways: The street should have pavements of at least 2m unobstructed width for pedestrians with crossings as necessary”

or refer to requirements made in supporting documents for example:

Footways: Manual for Streets (revised) requires footways of at least 2m unobstructed width.

To avoid duplication it is suggested that the Model Design Code does not duplicate guidance that exists elsewhere, but rather, signposts that guidance. If it provides summaries of requirements, care will be needed to ensure selective summary does not mislead.

General Comments

- 4. Design Codes cannot rectify the fundamental problems created by unsustainable site location created through the current call-for-sites driven planning system. This approach is wholly incompatible with the duty under Section 19 in the Planning and Compulsory Purchase Act “to secure that the development and use of land in the local planning authority's area contribute to the mitigation of, and adaptation to, climate change”, and the meeting of the 2050 net Zero carbon reduction target.**

Currently the system is bringing about the development of unsustainable, car dependent, land-wasting housing development. Many of the decisions on design, including density, parking, highway width, and drainage are committed by the decision on where to locate a new development. There should be no doubt that a design code can remedy defects in planning and strategic urban design that are leading to the wrong development in the wrong place.

A design code ‘encodes’ a design concept. Where a design code is seeking to encode a proposal in the local development plan, a physical design proposal needs to be included in the local plan e.g. a new boulevard opening up an area of growth. A strategic urban design input into the local plan is therefore required to set out such design proposal and provide a broad vision which can then be encoded. The strategic urban design dimension is currently unclear from the Planning White Paper and not addressed by the draft NMDC.

- 5. The NMDC must set out a landscape and people-centred approach to design, in accordance with the duties under:**

**Planning and Compulsory Purchase Act 2004
S19 Climate Change mitigation and adaption,**

**2050 net Zero carbon target Climate Change Act 2008 (2050 Target
Amendment) Order 2019**

Duties under the Equality Act 2010

S1 Public sector duty regarding socio-economic inequalities

“to reduce the inequalities of outcome which result from socio-economic disadvantage”

S148 Public sector equality duty

A public authority must, in the exercise of its functions, have due regard to the need to—

(a) eliminate discrimination, harassment, victimisation and any other conduct that is prohibited by or under this Act;

(b) advance equality of opportunity between persons who share a relevant protected characteristic and persons who do not share it;

(c) foster good relations between persons who share a relevant protected characteristic and persons who do not share it.

The Protected Characteristics are: age; disability; gender reassignment; pregnancy and maternity; race; religion or belief; sex; sexual orientation.

NB Due regard is defined under the Common Law as an essential preliminary to a decision necessitating a substantial, vigorous and open minded approach; where consideration is given to measures to avoid adverse impact before fixing on a solution. It is emphatically not a tick box exercise.

Currently the NMDC approach focuses on the built-environment: the street, the urban block and public square as the primary organizing components for new places especially on greenfield sites. We recommend that a balanced approach is needed, that is founded on landscape and an understanding of spaces and routes for people and nature, with green and blue infrastructure used as a key structuring element in how we plan and design rather than a second thought.

Climate responsive design should be key. The guide refers to micro-climates, and this section should be expanded to include:

Urban heat islands, the consequences of heat waves and the impact of elevated temperatures on the generation of air pollutants.

Local convective air flows across urban areas – including problems caused by the obstruction of flows by buildings, trapping of pollutants in canyon streets, etc.

Evaporative cooling from leaves, soil, streams, rivers, ponds and lakes.

Albedo and radiative heat loss from streets and buildings

Building design to prevent overheating and enable through-ventilation

It should be remembered that in extreme rainfall events (eg 100mm of rain in under 4 hours) a failure to design with regard to natural contours may risk catastrophic and potentially life-threatening consequences, including flooding and landslips.

A balanced landscape-led approach would help with biodiversity, discharge the statutory duty to mitigate and adapt to climate change and promote wellbeing, reconnecting people to each other and with the environment.

6. Enabling innovation

Whilst it is important to consider context through the analysis stage in the preparation of a masterplan or design code, it is vitally important to enable innovation, and not to lock-in a development to following design practices that become outdated should better alternatives become available or different needs arise. In particular, there is the need for development that will achieve the zero carbon target, and this may require substantially different designs and technologies to those that have been used in the past. A priority for street layout at present is to alter driver behaviour and encourage slower speeds. Electronic speed control / intelligent speed adaptation will make this unnecessary, but the design and layout of these streets will be with us for centuries into the future.

7. Securing good design through the planning system using frameworks, masterplans, guides and codes

- a. A key tool for securing quality is the masterplan. The masterplan is the most common design tool used by local authorities. A masterplan is the spatial interpretation of the vision.
- b. The design of a new development is not created in one discreet stage. A staged or cascade approach is undertaken aligned to the planning and delivery process and technical and viability evidence which fixes increasingly detailed amounts of spatial and design instruction at each stage.

Area Framework

Site Frameworks

Strategic Site Allocation Masterplan

Supplementary planning document

Outline Planning Application Masterplan

Parameter Plan – with quantities eg employment, retail and housing numbers, population size etc, necessary for Environmental Impact Assessment

Design Code + Regulating Plan

Reserved Matters

- c. The inclusion of a design guide or design code in a local plan would require the passing of the soundness tests which include viability and delivery, and require support by robust evidence, and policies that are written in a clear and unambiguous way. This may be difficult.
- d. It is possible to set out in strategic policies where masterplans and design codes should be produced on an area wide or site-specific basis. This currently happens. This approach would be further supported if there were standard definitions or descriptions of on masterplan, design guide or code. Currently there is ambiguity and uncertainty, which could be resolved by Government providing definitions for use within planning.
- e. Adopting a design guide and or code as a Supplementary Planning Document is the most sensible route to ensuring it receives sufficient weight in the decision-making process as a material consideration.
- f. Requiring better design documentation to support planning applications is possible at the local authorities' discretion and the LPA can also attach the requirement for a site specific design code as a condition.

8. Precise and legally sound definitions of the different types of masterplan and design code that can be produced should be established, so that they can be formally and robustly included within planning documents

The terms Design-guides and codes are used together throughout the document but they are very different things. A code needs a regulating plan, a guide does not.

There is a new definition of a design code in NMDC that differs from that in the NDG and NPPF. This new definition seems to decouple a design code from the masterplan.

Parameter plans are used out of context, and this could be misleading.

For the purposes of the planning system as a whole, clear definitions should be produced for:

Framework Plan

Development Framework

Masterplan

Parameter Plan

Regulating Plan

Design Code – here three-sub categories could be used

Level 1 – Primary Structuring Elements

The main structuring elements of a local plan setting out new urban form, for example new primary route centre-lines and cross sections showing usage of the public realm. These should be the responsibility of the local authority.

Level 2 – Massing

Showing building envelopes, building lines, build-to lines etc. behind the main street corridors. This could be led by a local authority for complex areas such as areas for change, or by a development promotor for strategic sites in simple land ownership.

Level 3 – Architectural and Street Detail

Architectural codes, where required, might be produced as a generic code (i.e. not site-specific) by the local authority e.g. building detailing, materials, colours. For strategic sites they could be produced by the master developer.

Public realm codes could be bespoke or simply refer to the new Manual for Streets.

Setting out different levels of coding would enable an appropriate level (and resource) at each stage of the development process; each area does not need to be coded in complete detail at the outset and a progressive approach would enable neighbourhoods to 'grow into themselves'.

9. Visioning and Analysis

There should be a vision for each town or neighbourhood created with the community. Our advice is that it is more valuable to involve people in the shaping of their town or community: where development should go, where green and blue space should be protected or enhanced, where amenities should be provided and so on, rather than in matters of detailed design, such as the colour of street furniture or the detailing of doors, roofs and windows.

We refer to the work of the Farrell Review of Architecture and the Built Environment, which encouraged a proactive planning approach, and the use of innovative means to involve the local people, such as urban rooms.

The Analysis and Visioning sections should be expanded

There appears to be an underestimation of the 'analysis' required to accurately fix design instruction especially for large sites (if there is no robust evidence then is conceptual). This table and plans sets out typical information requirements to inform design decision making.

10. Design and Development Process

Design codes are particularly useful for coordinating design and delivery on complex sites/areas in multiple land ownerships. Discussions around the NMDC seem to suggest that its use will primarily be for large strategic sites in relatively isolated locations – which would be missing a great opportunity.

There is an over-simplification of the masterplanning and coding process for large sites.

The Area Types seem to be an over-simplification of reality. Many areas straddle these 'zones' and need **comprehensive redevelopment** – coding them would be a superficial exercise without the evidence, masterplanning and market realism required.

11. Suitability for use in rural areas

The code appears to be focussed on metropolitan areas, which are fundamentally different from villages and rural towns. Perimeter blocks do not apply in rural areas. It is strongly recommended that additional work be undertaken to provide guidance on the coding that would be necessary for these areas. There is already a large body of research work in this area... eg English Heritage's Region and Place, A study of English Rural Settlement.

12. Resources

We are concerned that Government should be aware of the resources required to create quality design codes.

It is unrealistic to base a new planning system on design codes when LPA are under resourced and under skilled. The production and process of a design code takes a lot of different skills and is time consuming, how would that work?

Resources are also required to ensure compliance with a code, with effective remedies and sanctions for non-compliance.

The Urban Design Group has commissioned a skills survey which will report later in the year.

13. Effectiveness of a Code

A final concern is over the ability of a scheme promoter to overturn a design code that has been agreed with the community. We ask government to address this issue, and come to a public position on how this question is to be resolved, and the trust of communities honoured and respected.

Detailed Comments

M. Movement

Further emphasis on enabling active travel and public transport should be provided.

Location of development should be covered including the unsuitability of isolated sites in open countryside.

Terms

It is recommended that all the terms used are those that are defined in the Highways Act 1980.

“carriageway” means a way constituting or comprised in a highway, being a way (other than a cycle track) over which the public have a right of way for the passage of vehicles;

“cycle track” means a way constituting or comprised in a highway, being a way over which the public have the following, but no other, rights of way, that is to say, a right of way on pedal cycles (other than pedal cycles which are motor vehicles within the meaning of the Road Traffic Act 1988 with or without a right of way on foot);

“footpath” means a highway over which the public have a right of way on foot only, not being a footway;

“footway” means a way comprised in a highway which also comprises a carriageway, being a way over which the public have a right of way on foot only;

“highway maintainable at the public expense” means a highway which by virtue of section 36 above or of any other enactment (whether contained in this Act or not) is a highway which for the purposes of this Act is a highway maintainable at the public expense;

“traffic” includes pedestrians and animals

Street should be used in preference to road throughout

Movement networks should be advanced as a concept: to enable mobility for all. For particular groups of users, such as women concerned over personal security, children or blind people who find difficulties in making crossings of streets, the available network will be different from that which is drawn on the plan because there will be sections which they will be unable or unwilling to use.

The street network on the left is given in the Guidance Notes as a poor example of development which indeed it is. But the diagram on the right is not ideal: it is a complex layout which would be difficult to navigate: it is full of T junctions and staggered T junctions, the street layout is sinuous and militates against vistas which aid legibility. A layout with straighter streets and more crossroads would be much preferred, and one that reflects the illustrations elsewhere in the Guidance Notes.



M1.1 – Street hierarchy –

This must be consistent with Manual for streets revised – it may be that the final hierarchy is arranged around people or place, as opposed to intensity of movement.

Ring roads are generally discouraged as bad practice. Similarly inner urban “relief roads”.

The hierarchy given may not be optimal or desirable in all instances, nor may a development need all elements in the hierarchy. Pre 1920 towns and cities had a simple range of street types. The hierarchy as presented appears complex.



10. Street Hierarchy: A typical neighbourhood street hierarchy. All of these streets would include frontage access.

Primary street: Arterial, ring road or relief road with dedicated lanes for cycles and public transport, where possible.

High Street: Primary or Secondary street that acts as a focus for retail and other services.

Secondary Street: Mainly carry local traffic and provide access into neighbourhoods; they are often the location of schools and community facilities and may also be residential streets in themselves.

Local Street: Residential streets with managed traffic flows to prioritise active travel. They provide access to homes and support active travel, social interaction and health and wellbeing.

Tertiary street: With no through traffic, these are used for servicing or for access to small groups or clusters of homes. They can be lanes, mews courts, alleyways or cul-de-sacs.

Multi-functional streets and other spaces: High Streets and secondary streets are at the centre of public life and support a wide range of activity. They can prioritise pedestrian and cycle movement while making it easy to get to their edges and beyond by public transport.

Active Travel

This section be entirely consistent with LTN 01/20 and Gearchange. It should not advance original policy or guidance. A partial summary will serve to mislead.

M3 Parking

Car-free developments should be included.

Certain designs of parking courts lead to wasted land, increased hard surfaced areas with increased run-off, and potential security concerns. It is hoped that this will be covered in the revised Manual for Streets.

Shared use car parks should be mentioned where uses served by a carpark spread demand throughout the day.

M3 Services and Utilities

“Bring Points: An alternative is to use underground waste storage bins, although this requires a specialist collection vehicle.” Bring points are commended.

“Refuse collection: 56. The road network needs to take account of access for refuse collection and emergency vehicles.” This approach is unlawful and negligent.

There is no duty to take account of access for refuse collection vehicles, important though refuse collection is.

There is a duty of care owed by planning authorities and highway authorities over the safety of both careful and negligent road users (Yetkin v Newham, Kane v New Forest District Council), and a duty to have due regard to the needs of people covered by the Equality Act 2010 (Ali v Newham)

1. The street geometries required by this approach run wholly counter to the objective of a design hierarchy that places people - pedestrians and cyclists at the top. The effect is to

place them at increased danger of injury and death. This approach is negligent under the common law.

The user hierarchy in the current edition of Manual for Streets, places pedestrians and cyclists at the top, not refuse collection vehicles.

2. The waste collection authority and its contractors are bound by law to have due regard to the impact of their operations on people with the protected characteristics listed in the Equality Act. As well as the danger created by large vehicles and oversized street geometry, kerbside collection systems have been the subject of campaigns by RNIB owing to the obstruction and hazards they present to people who are blind or partially sighted. This should be stated in the Guidance Notes. Future litigation may find that it is unlawful to obstruct the footway in this way.

The size of refuse collection vehicles needs to take into account the street network and geometry necessary to meet the needs of people - not the other way around.

Utilities

This section should be expanded to cover the full range of utilities, plus illustrations of under-street design including:

- Tree pits and planting media
- District heating and cooling systems
- Grey water recycling systems
- SuDS
- Combined utilities ducts
- Combined utilities tunnels
- Sewerage systems
- Cabling and recabling for electric vehicles and electric heating of buildings
- And the full range of statutory utilities as defined in the New Roads and Streetworks Act

There is a lack of integrated guidance in this area. The guidance on statutory utilities has evolved piecemeal since before the 1940s and is in urgent need of fundamental review, given the need to address changes in climate, and provide for an enhanced energy supply infrastructure and embark on a major tree planting programme. The current systems are not fit for purpose.

N.1 Green Infrastructure

Research has found that different communities have preferences for different types of greenspace. Naturalistic landscapes are not a universal preference, and there can be tensions between dog exercising and child play, dogs and certain religious groups and cultures and so on etc. In essence, there is a need for a nuanced approach to the needs of the local community.

N2 Water and Drainage

It is important that this section identifies the difference between pluvial and fluvial flooding and the types of weather systems responsible, the times of year that these events tend to happen, and the measures that can be used to mitigate the risk. Fluvial flooding – flooding from main rivers should be specifically addressed. It may also be desirable to address tidal flood risk.

Catchments, contours, watercourses and main rivers should be one of the foundations in developing the design of a site.

N.3.iii Street Trees

The full range of options for tree planting should be given varying from – no trees as would be expected of a medieval market street, through to continuous canopies, including

- single forest trees on private land adjoining a street, especially where there is a set-back building.
- forest species planted in squares at the ends of streets where they close the vista (eg Bloomsbury, London)
- forest species planted at junctions where additional space can be made available.
- Avenues ranging from ornamental to forest species, reflecting the street width available.

The Trees and Design Action Group is supporting the revision of Manual for Streets and should be able to assist.

B Built Form

B2 Blocks

Rural areas require addressing.

The NMDC omits several of the block types listed in the Guidance Notes.

There may be forms other than blocks that should be illustrated.

I Identity

Reference should be made to the British Geological Society / Historic England Strategic Stone Study and County Atlases.

I.1 Legibility

There is a growing body of research on the neuroscience of place and navigation which is offering considerable insight which could be reflected in a supporting document.

P Public Space

Can the carriageways be illustrated in a colour other than green?

Air quality/urban climate effects should be mentioned, including the potential problems with the creation of canyon streets, the entrapment of pollutants, and air circulation.

Alignment of streets may assist in purging polluted air.

P.3.i Secured by Design

Security grills or shutters are routinely added to shops and are often a requirement of insurance policies. The effect is to make a place feel insecure and hostile. If this issue can be addressed by coding then it should be.

Use

The possibility of integrating schools into the urban fabric is strongly encouraged. The possibility of community use of school facilities could also be mentioned.

Logistics

There are new approaches in prospect for logistics, that avoid the need for heavy goods vehicles to enter into urban areas and, by doing so, improve safety, and allow a more human-scale street environment to be provided. Measures include edge of town hubs, supported by zero emission delivery (and collection) vehicles, plus neighbourhood collection hubs which can also add to local community vitality.

Housing

Gardens and balconies

As well as illustrating this with a conventional suburban development, it is very important that illustrations at higher densities should be provided. There have been successful and innovative schemes in recent years.

Resources

A major and, increasingly, *the* major use of resources will arise from private car use. This should be added to this section.

Further input should be sought on the minimisation of energy required for cooling.

Microclimate

This should cover in addition the Urban Heat island effect, (as listed above)

- Urban heat islands, the consequences of heat waves and the impact of elevated temperatures on the generation of air pollutants.

- Local convective air flows across urban areas – including problems caused by the obstruction of flows by buildings, trapping of pollutants in canyon streets, etc.

- Evaporative cooling from leaves, soil, streams, rivers, ponds and lakes.

- Albedo and radiative heat loss from streets and buildings

- Building design to prevent overheating and enable through-ventilation

P.3.iv Water Saving

This is strongly endorsed. The work by CIRIA on Water Sensitive Urban Design should be referenced.

In general this section would benefit from illustrations showing how sub-street space can be used for resource efficiency. It is a core component.

Lifespan

This is a very important section. It would be helpful if guidance could be given on how to address Commuted Sums and Highway Adoption Agreements. At present local authority concerns over revenue funding is leading to a reluctance to take on additional maintenance burdens, and pressure on developers and designers to “value engineer”: stripping out better quality or more attractive materials and features. The consequence are developments with no trees, conventional galvanised lighting columns, minimised landscape areas, and surfaces made up with concrete and bitumen.

This illustration below needs tighter corner radii if it is to reflect Manual for Streets. It could perhaps incorporate the junction types already illustrated in the NMDC. It is important that all the diagrams in the document represent in all aspects the best practice that is advocated in supporting specialist guidance.



Community Engagement

Community engagement is needed at the local plan stage, and in developing a shared vision for the future of the town, what development is needed, and where. This is a critical stage, before the consideration of design codes.

Design codes can be prepared by Local Authorities, Local Authorities in association with consultants, Local Authorities in association with developers/consultants and by Neighbourhood Groups as part of a Neighbourhood Plan. For Local Authorities preparing a Design Code for part of their area the active engagement of stakeholders including the local community will be necessary. For Local Authorities to embark on this process they need to have the resources and skills in place as the process is resource-intensive.

The guidance sets out a range of well-established tools for engaging with local communities. The use of Placecheck can be carried out using mobile technology to inform and interrogate the character of places. Similarly urban design charrettes have moved into the digital age and can often reach a wider number of people. Even break out rooms on Teams and Zoom can be used for smaller discussion groups to feed into the wider online event. A combination of traditional and digital methodologies may be appropriate.

The guidance is helpful in setting out a range of community engagement techniques. It is important to tailor community engagement to seek to obtain the views of hard-to-reach groups. These may be engendered through using trusted intermediary contacts, community opinion influencers who may be able to help design a more effective engagement and taking events to places where people meet that may be more accessible for them. The events need to be properly structured at each stage of the design code process.

Where a design code is being prepared by a developer and their consultants, they should also actively involve the local authority. This helps to reassure local authority officers that the process has actively sought out hard-to-reach groups and that the process is transparent at each stage of decision taking.