

Summary

This way to better residential streets



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CABE Space is a specialist unit within CABE
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Introduction

This briefing follows *This way to better streets* (2007), in which CABI Space looked at the design of 10 streets from town centres to ring roads and beyond. Here, we focus on the design of residential streets in new developments.

For the past 50 years we have thought only of the car, in effect providing parking spaces and access routes for drivers between home and the outside world. Things have to change – we must not let the car dominate when a well designed street can help create sustainable communities, enable people to get around, promote walking and cycling, civic pride and identity, provide safe play for children and allow the community to interact.

So improving residential streets is an imperative. The case studies that feature in this briefing show that there are big improvements still to be made. New neighbourhoods are not connecting well with existing towns and cities. Their design is not sufficiently inclusive to offer a great place to live for all residents. They do nonetheless include some features and approaches that work well, providing useful guidance for future developments.



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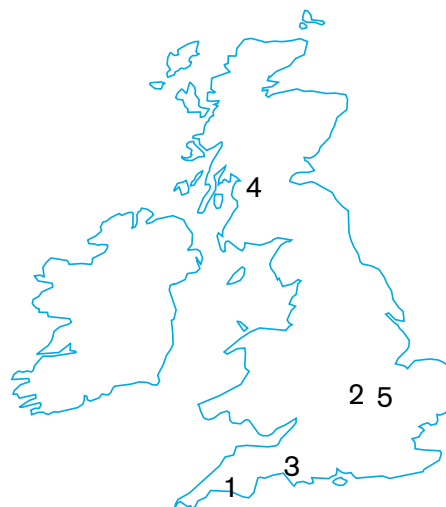
‘The case studies in this briefing show that there are big improvements still to be made in street design’

The case studies

Five case studies feature in this briefing:

- 1 Gun Wharf, Plymouth
- 2 Upton, Northampton
- 3 Charlton Down, near Dorchester
- 4 Crown Street, Glasgow
- 5 Accordia, Cambridge

You can see the full studies at:
www.cabe.org.uk/casestudies



Case study	Description	Finding
Gun Wharf, Plymouth	Small urban redevelopment with significant site constraints	Even small developments can create streets with character
Upton, Northampton	A new extension for the centre of Northampton	A fear of through traffic hinders neighbourhoods connecting together
Charlton Down, near Dorchester	A residential development in a rural setting	A fresh approach to rural expansion but limited by an isolated location
Crown Street, Glasgow	Bringing a street network back to replace 1960s tower blocks	Thinking big has its benefits in street design
Accordia, Cambridge	An inner-suburban high-density development	New ideas in designing streets and layout can give a real sense of place

Neighbourhoods and communities – learning from the past

Residential design is moving away from the cul-de-sac but still needs to learn from tried and tested street types to create well-structured neighbourhoods.

Ideas for designing new streets should come from streets in our towns and cities which have proved successful over time. There is a range of recognisable street types based on a variety of standard patterns, such as Georgian streets and squares, mews and Victorian and Edwardian terraced grids.

Each type is based on some common conventions – front doors face onto the street (often through a front garden), and a back door on to a garden which backs onto another back garden so private and public space is clearly defined. Each new development became part of a wider network of streets. This allowed our towns and cities to grow in a connected way, supporting local shops and services and giving residents greater choice.

These residential street types were successful over time. However, they became much less common after the Second World War when a regulatory approach that prioritised vehicle movement came



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In Upton, a new type of street containing a wide swale down the centre suggests how to manage water in new developments

to dominate. Since then, development has been supported by a much smaller range of street types, perhaps most commonly, the cul-de-sac.

The cul-de-sac solves specific problems such as enabling the intensive development of brownfield sites that have only a single point of access. However, when repeated across neighbourhoods it fails to create a connected network or to integrate new and existing neighbourhoods. Instead cul-de-sacs create places that are disconnected, inward looking and where people have car dependent lifestyles.

A close look at the case studies reveals a range of types of street and connected networks being used to structure new residential neighbourhoods. Some use modern interpretations of traditional types of street, such as the mews in Accordia leading off a main spine street, and the wide formal Georgian street in Crown Street. In Charlton Down there is a range of streets and spaces including small squares, lanes and connecting walkways. In Upton, a new type of street containing a wide swale suggests how to manage water in new developments.

Front doors in Charlton Down face onto streets and overlook small squares. This basic convention creates spaces that are understood by residents and visitors



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Neighbourhoods and communities – finding your way around

Too many neighbourhoods make it hard for people to find their way around, lack character and feature spaces where ownership is ambiguous. This threatens their long-term sustainability, because they do not work well and are not seen as attractive places to live.

Streets structured around established design conventions and combined with specific uses and designs for corner properties (often shops or pubs) created neighbourhoods where people could find their way around easily.

Each of the case studies has features that help people find their way around. At both Crown Street and Accordia it is clear what is a main street and what are side streets or mews (in the case of Accordia). In Crown Street you can see where you should walk, what is public space, and where cars are meant to park. It works well as a modern take on the city's tradition of tenement housing. And it is on a large enough scale to create a clear character for the Gorbals area.

Both Charlton Down and Gun Wharf show how a development can build on its location. Charlton Down uses much of the mature planting on the site, and views of the countryside out from the site, to create points of reference. These features are enclosed in small squares and in views along streets. Gun Wharf uses the huge historic walls of the dockyard to define it on two of its sides, and makes best use of the views down to the circus and the estuary beyond.

Accordia has been designed in sympathy with the character of its suburban setting, for example in respect to the massing of the housing on the main road, and its use of brick that resembles the local Cambridge stock. At the same time it has a strong character of its own through – among other things – the bold form of the housing blocks and the careful detailing of front doors and garage entrances.

However, visitors would not be clear whether the landscaped gardens between the blocks of houses are public or private spaces. Accordia is aimed at the wealthy end of the market and the residents may be able to pay for these spaces to be well maintained. However experience from elsewhere suggests that “confused” space is often unused and prone to neglect.

‘Space that is ‘confused’ is often unused and prone to neglect’

Gun Wharf makes best use of the views down to the circus and the estuary beyond



Neighbourhoods and communities – designing for a range of uses

None of the schemes support the range of shops and services that you would expect to find in a traditional urban neighbourhood.

In the past, streets played a wide variety of roles. They provided access, social space, and play spaces for children who could explore the wider network of neighbourhood streets and spaces as they got older. They also supported commercial activity.

The increase in car ownership in the 1960s placed street design firmly in the arena of traffic engineers. Their brief was to keep traffic moving, reduce casualties and separate residential traffic from through traffic. Traffic engineers adopted the practice of segregation (of pedestrians and vehicles) and standardisation of street design on one main criterion – vehicle flow.

It took a long time to realise the problems with this approach. CABI's research¹ has shown that vehicle-dominated layouts continue to be the norm. This research also highlighted that in the eyes of the residents, such places failed to encourage a strong sense of community, gave few opportunities for children to play, had inadequate space for parking, (while cars often dominated the street) and provided little opportunity to walk - within the development or beyond.

Our neighbourhoods have, as a result, become purely residential. Extensions to villages, towns and cities are effectively creating enclaves without access to facilities or the vibrancy to support them.

Recently there has been a significant change in guidance for building residential streets. *Manual for Streets*, launched by Department for Transport and Communities and Local Government in 2007, 'places well-designed streets at the heart of sustainable communities'. (MfS, p7)

The case studies show that designers are exploring how to create streets that accommodate a range of uses and users. One strategy is to design spaces where a range of things could happen.

¹ CABI (2007) *A sense of place*; CABI (2007) *Housing audit*

The aim is to design inclusive streets rather than spaces for vehicle movement. The approach at Gun Wharf shows this in a very efficient way – the streets and central area support a range of activities for most people – play, sitting, socialising, getting around, parking and access to homes. The scheme works because the basic design elements work. These elements include:

- the proportions of the streets and central space
- the sense of enclosure
- the positioning of windows to offer views over the street
- the variety of places to socialise or play
- the bespoke design of the space rather than relying on off-the-shelf equipment
- the high-quality materials
- the lack of signs dictating how you should or should not use specific areas.

'CABI's research has shown that vehicle-dominated layouts continue to be the norm'



‘Our neighbourhoods have become purely residential. Extensions to villages, towns and cities are delivering enclaves without access to facilities or the vibrancy to support them’

Neighbourhoods and communities – parking

Designers rely too heavily on limited parking solutions, especially rear parking courts, and are failing to design or build them well enough. As a result residents and their visitors are ignoring them and streets are coming to be dominated by parked cars.

Parking features as a central issue in our research into new residential developments². It often causes dissatisfaction and arguments between residents. Usually, residents want plenty of parking directly under their control and within sight of their front door.

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So how have the case study sites done with their parking arrangements? The evidence shows that there is not a single best solution and that relying too much on one type of parking can be problematic. English Partnerships' guide *Car parking - What works where* (2006) provides useful advice through a range of case studies to show that car parking must respond to the location, the types of housing proposed and their tenure.

Other research has also shown that the mix of allocated versus unallocated parking is important to delivering parking efficiently³. The theory here is that unallocated parking, usually on the street, delivers the greatest flexibility by allowing spaces to be used by visitors and residents, who may be about at different times. This appeared to be supported by evidence in the case studies. The Crown Street and Gun Wharf schemes, with the highest levels of unallocated parking, seemed to work well. Whereas the Accordia and Charlton Down schemes, with a clear bias to allocated parking and a lack of obvious spaces for visitors, did seem to have the most problems with parking.

The parking scheme in Errol Gardens in Crown Street shows that to get on-street parking to work well, the scale of the street is important. Most of the cars there are parked in the centre of the street at right angles to the road. This means a large number of cars can be parked without dominating the street. It is clear where the parking is when you arrive in the street. This arrangement allows the spaces in the middle of urban blocks to remain pleasant private spaces rather than parking courts, which in this location might dramatically reduce residents' access to private outdoor space.



'On-street parking, particularly by visitors, will happen even if the design does not accommodate it easily'

² CABE (2007) *A sense of place*

³ Noble and Jenks (1996) and later work by Alan Young of WSP Group and Phil Jones of Phil Jones Associates



Crown Street shows how changing the scale of a street can allow parking to be accommodated

Elsewhere, the problem of on-street parking is dealt with less well, particularly in schemes where it wasn't easy to see if the street even provided on-street parking, such as at Charlton Down. From the experience of this case study, on-street parking, particularly by visitors, will happen even if the design does not accommodate it easily. Many vehicles were parked half up on the kerb which obstructs pedestrians and people using wheelchairs or with pushchairs and creates visibility problems for other drivers.

In Upton, Charlton Down and Accordia residents feel they had a lack of control over unallocated street parking. There was a fear that, while it is flexible enough for different users it was also open to abuse either by residents with a lot of vehicles or by those who were seen to be 'breaking the rules' by not using their 'own' parking behind or to the side of their property. The problems this caused and the disputes between neighbours have led to each of these schemes proposing some form of on-street permit system to control parking.

Alongside ensuring the correct mix, the individual design and careful implementation of parking affects whether it is well used. The rear parking courts in the case studies showed significant flaws in their design and execution. In all schemes their status was ambiguous – even those nominally private such as in Upton and Gun Wharf were compromised by gates being left open. The courts at Charlton Down and to the back of the social housing in Accordia were large and poorly landscaped with large areas of tarmac and high fences between the space and the back gardens of properties. This failure to allow residents to easily see their vehicles from their properties discourages their use either for parking or for any other function, such as for children's play, which might compensate for the large land take.

Connecting neighbourhoods

Many new neighbourhoods are disconnected from established urban areas because they are in isolated locations, bounded by high speed roads, or because neighbours fear through traffic.

We know that streets have to function at different scales – as the public space outside our homes and as the way our homes are connected to the wider world. In this section we will look in more detail at the connections beyond the neighbourhood.

Streets exist as parts of wider networks with new developments adding to and connecting with existing streets. Such networks offer residents opportunities for shopping and working locally or further away. However, the cul-de-sac culture effectively cut easy links between neighbourhoods. One of the biggest recent changes in street design has been the attempt to get streets working as part of a connected network. This is beginning to happen within neighbourhoods. The challenge now is to connect beyond the neighbourhood.

One of the notable factors behind life on pre-war streets was the variety of uses within street networks – corner pubs, shops, service businesses, community halls and small industrial premises were common. Their closeness to each other meant more people walked through the neighbourhood and used the local shops and services.

Looking at the case studies there has been little in the way of local service provision that residents can access on foot. This is particularly true in developments on the edge of towns located near to large shops and services that rely on people using their cars. Charlton Down, even though it is three miles from the nearest town, has just one convenience store and a community hall for over 500 properties. Accordia has no other uses in the residential scheme even though it has over 300 properties. The original design included office space in the scheme but the site was sold to another developer and design changes led to the office space being built with separate access and a fence cutting off any links with the main residential scheme.

Only Crown Street has been able to deliver a range of uses, with a small supermarket, a very popular library and several smaller shops, including cafes, butchers, newsagents and chemists. The scheme was led by a regeneration company rather than a private developer. It is also in a more urban neighbourhood than any of the other schemes, where



A fear of through traffic by neighbouring residents has resulted in these crude barriers that prevent full movement between Upton and nearby estates

© Stephen McLaren

car ownership levels are lower, which may have helped support this range of uses. The evidence from residents is that the various shops and services draw in passers-by from other neighbourhoods.

The case studies also show a disconnection from surrounding neighbourhoods. This is partly due to objections from nearby residents or even residents in the scheme who fear through-traffic. In Upton and Accordia this has reduced each scheme to a large cul-de-sac in terms of vehicle movement. Other schemes have been built in close proximity to large high speed roads. In Crown Street we found the forbidding nature of the urban ring road that fringes the site has limited the potential for easy connections to surrounding neighbourhoods.

Local highway authorities set the design standards for new developments. If these are based on the old cul-de-sac culture, new developments are forced to turn their backs on the surrounding network. We need to learn lessons from the past where public transport routes were the focus for high density mixed use development, supported by lower density but connected hinterland.

Existing practice, based on the approach outlined in Manual for Streets, aims to establish shared ideas between the various parties involved in the development process. We must ensure that this happens if we are to deliver connected growth of our towns and cities.

‘Inclusive design for residential streets is about getting the basics right – clear accessible streets that support walking and encouraging social interaction between the whole community’



Inclusive design

Design teams have not consulted widely with the community and a lack of monitoring and evaluation during construction and after completion has allowed design flaws and barriers to appear.

None of the case study streets, all of which were designed before the Disability Discrimination Act 2005 came into effect, shows as much concern for inclusive design as we would expect today. Nor, except for Crown Street, did there seem to have been any significant consultation with disabled people, local access officers or their advocates during the planning stages. Today, we all have an obligation to deliver 'inclusive design'. Going forward, developers, designers and local authorities will need to develop the skills to consult and effectively represent the needs of a wide range of users. These discussions need to address both specific practical needs as well as how to create places that make all users feel welcome.

Inclusive design for residential streets is about getting the basics right - clear, accessible streets that support walking and encourage social interaction between the whole community so that everyone can move about and enjoy the space as they want. For example, the long, straight streets at Accordia provide good sight lines for users and help people moving about to estimate distances.

Crown Street shows the benefit of involving people with disabilities. They have been represented on the various committees involved in developing Crown Street and the overall design outcome has been commendably inclusive. Using central parking means vehicles are kept well away from the pavements, which are wide and comfortable for pedestrians to use and suitable for people with a range of mobility needs. The paving's colour, tone and texture works well together for people with visual impairments.

Although there wasn't significant involvement with the Gun Wharf development, the design outcome shows some real inspirational inclusive design. The public space at Gun Wharf in Plymouth is a great example. It provides a level area in the centre of the sloping site with access by steps with handrails, and well-designed slopes lead to level spaces. Popular as a children's play area, it is much more versatile than traditional grassed spaces. There is a clear contrast between the white seating and the grass borders to help partially sighted people. Also there is plenty of space for seating, and wheelchairs and children's buggies can be placed on the level areas next to the seating.

Alongside getting people with disabilities involved in the design process there needs to be attention to detail during construction. This will help avoid problems with design features such as a poorly placed bollard, and railing or handrails built at the wrong height. Unfortunately, each of the case studies showed these problems. For example, there is no disabled parking near the shop in Charlton Down and some blister paving in Accordia is poorly positioned. These problems could have been corrected if the build had been monitored and audited when finished.

It is too early after the passage of the legislation to see how those involved in designing residential streets will respond to the Disability Discrimination Act. Designers must consult and engage a wider representation of the community in the design process, including access groups and local access officers. These groups themselves will also need to be available to be involved in assessing schemes from the beginning. This may mean in design discussions with developers and also audits after completion to make sure design features are put into practice successfully.

Crown Street's easily understood layout and wide pavements encourage walking to local shops and services



Recommendations

The five case studies have pointed the way towards a new era in residential street design where people rather than cars are prioritised. Connecting beyond the site has proved universally difficult. Yet we believe these schemes are moving in the right direction as attractive and functional places to live. In order to improve the design of future residential neighbourhoods we make the following recommendations:

1 Think strategically about growth, avoid isolated sites, and connect new and existing neighbourhoods.

2 Rediscover the public transport-led model of suburban development. Focus higher densities and mixed uses at new suburban centres connected by viable public transport links.

3 Create a logical structure of neighbourhood streets and spaces, to aid navigation for all and to encourage walking and cycling.

4 Ensure space is clearly public or private – a space whose ownership is ambiguous is likely to be under-used and become a maintenance burden.

5 Use a range of parking solutions that are appropriate to the context. Design streets to accommodate on-street parking.

6 Avoid compromising on materials and quality at the construction stage. This is also often known as ‘value engineering’.

7 Establish inclusive design as a core competency within design teams. Engage those who represent the widest possible range of local people early in the design process.

8 Audit completed schemes.

Too many of the neighbourhoods where people live are structured around cars. This needs to change. This briefing investigates residential street design using examples from England and Scotland. It identifies common problems, explains how good design helps to connect and structure neighbourhoods – and makes recommendations for improvement. It is aimed at planners, urban designers and highways professionals. It will also be of interest to councillors, developers and anyone else concerned with the quality of new residential neighbourhoods.

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