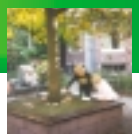


CHAPTER 1 INTRODUCTION

1.1 "Home Zone" is the UK term for a street where people and vehicles share the whole of the road space safely, and on equal terms; and where quality of life takes precedence over ease of traffic movement.

"Run–down and demoralised public services reduce people's quality of life, even though they may be getting richer. They are better off as consumers, but worse off as citizens. Improving the state of our schools and hospitals is a major part of this equation... But the one public service we use all the time is the streets where we live. And in too many places, streets and public spaces have become dirty, ugly and dangerous.

Britain needs to feel proud of its public spaces, not ashamed. We need to make it safer for children to walk or cycle to school in safety... Health, education, crime and the economy will continue to be people's top concerns... But that must go hand–in–hand with improving our local quality of life and strengthening our communities."

(Prime Minister Tony Blair, 24 April 2001)

1.2 These Design Guidelines have been written to provide practical advice on good practice to designers and others involved in planning, designing or approving Home Zone schemes in the UK. They are applicable to Home Zones in new developments and to Home Zones created in existing conventional streets – often referred to as "retrofit" schemes.

1.3 The guidelines include advice on highway design standards, as well as ways of enriching the quality of the place, which can be adapted by authorities to suit local circumstances.

CHAPTER 1 INTRODUCTION

The "Woonerf" concept used in shopping areas.

A London mews.

1.4 The guidelines are intended to assist local authorities to determine particular requirements for Home Zones in their area. Whilst a few local authorities have begun to develop design standards for Home Zones, the majority have yet to do so.

1.5 The Home Zone concept was first developed in the late 1960s in the Netherlands, where the term "Woonerf" is used – literally "living yard". Streets based upon the Home Zone idea are commonplace throughout the Netherlands, Denmark and Germany. In these countries the concept has evolved further and is now also applied to shopping centres and other mixed–use areas.

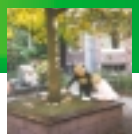
1.6 Home Zones are a relatively new concept in the UK, and the legislative framework needed to support their introduction has only recently been put into place. Practical experience of Home Zones in the UK will grow as they become more commonplace. However, there are already examples of successful shared surface spaces in the UK; an historic example is a London mews, which can be a very attractive and peaceful place.

1.7 These guidelines draw together current good practice ideas, and form the first step in learning how to make more civilised streets. Further guidance will be needed in the future to reflect the growing experience of Home Zones in the UK. Much of this will come from the Government's Home Zone Pilot Projects and Challenge programmes, which are expected to create around 70 Home Zone schemes by 2005; together with other schemes planned by local authorities in their Local Transport Plans; and created by developers in new–build schemes.

1.8 It is intended that this document will be revised and republished in 2006, after the completion of the Challenge programme, to reflect the experience that has been gained. Designers and others involved in Home Zone projects are invited to give feedback to IHIE on the content and application of these guidelines between now and the end of 2005.

1.9 One of the key requirements of Home Zones is that they are attractive and interesting places that reflect local needs and activities. These guidelines are therefore to be interpreted with some flexibility, and are not intended to limit the creativity of designers. There is no substitute for good design skills and professional judgement to make a successful Home Zone, which will be a marriage of functional and aesthetic considerations.

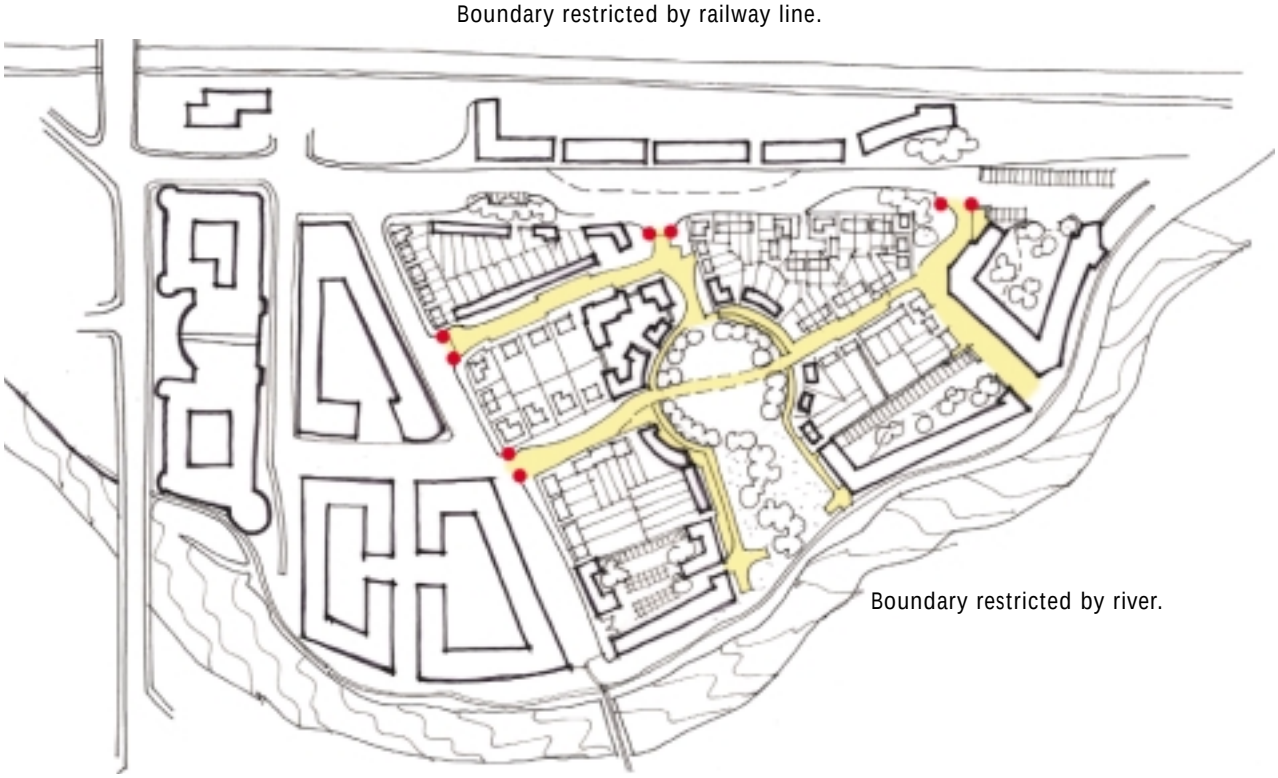
1.10 These guidelines focus on the physical design issues raised by Home Zones in both existing and new streets.



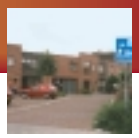
1.11 In existing streets, the design process must go hand in hand with community involvement and participation if the results are to be valued by the residents. In such "retrofit" schemes, the importance of extensive, creative and participative planning cannot be overstated.

1.12 Further advice on planning and designing Home Zones is available from a number of sources, which are listed in Section 5 of this document. In particular, *Home Zones – A Planning and Design Handbook* by Mike Biddulph provides more background on Home Zones in the UK, and shows how local communities can be encouraged to participate in their development. The Scottish Executive has also recently published draft guidance, for application in Scotland.

1.13 For more information on lessons being learned from the Home Zone Challenge programme, refer to **www.homezoneschallenge.com**



Indicative site layout showing how Home Zones can be achieved in a grid of streets within a site with one point of access.



CHAPTER 2 WHAT IS A HOME ZONE?

Basic Principles

2.1 The Department for Transport, Local Government and the Regions (DTLR) has given this useful definition of Home Zones:

> Home Zones are residential streets in which the road space is shared between drivers of motor vehicles and other road users, with the wider needs of residents (including people who walk and cycle, and children) in mind. The aim is to change the way that streets are used and to improve the quality of life in residential streets by making them places for people, not just for traffic. Changes to the layout of the street should emphasise this change of use, so that motorists perceive that they should give informal priority to other road users.

Using the street differently.

2.2 Home Zones are based on a change in the way that people perceive the street. Motorists should feel that they have left the normal highway and have entered an area where they can expect to find people who are using the whole of the street. In essence, the Home Zone should make motorists feel they are guests in a pedestrian environment, and should drive accordingly.

2.3 Home Zones are about promoting quality of life and removing traffic barriers to neighbourliness. Although the introduction of a Home Zone can contribute to road safety, the main benefit to local people is a change in how the street can be used. Introducing a Home Zone should encourage a wide range of activities to take place in streets that were formerly considered to be principally for vehicles.

A shared surface street in a new development.

2.4 Home Zones may consist of shared surfaces, indirect traffic routes, areas of planting, and features to encourage the use of the street, such as seating. “Gateways” and signing will be needed to mark the limits of the area.

2.5 In existing streets, the demand for a Home Zone should ideally come from the local community, and the design of the changes to the street should be developed in partnership with them. This will ensure that the scheme meets the needs of the community; and will encourage residents to use the street and to take a pride in its future maintenance.

2.6 The key benefit of a Home Zone is that it turns a residential street into valued public space, and not just a place for movement.

WHAT IS A HOME ZONE?

2.7 Successful Home Zones will also:

- Reduce or remove the dominance of the car in residential streets;
- Foster a sense of community;
- Encourage a greater diversity of activity and use of the street by residents;
- Reduce social isolation, particularly amongst older people;
- Increase opportunities for active and creative children's play;
- Increase natural surveillance, deterring casual crime;
- Reduce traffic speeds significantly – to around 10mph;
- Improve the safety of residential areas, and perhaps more importantly, residents' perception of safety;
- Enable all members of the community – including children, older people and disabled people – to reclaim their local environment from the car;
- Encourage people to walk and cycle within their local area, and to nearby destinations;
- Improve the quality of the built environment; and
- Help to increase the demand for urban living.

2.8 Home Zones must be designed to meet the needs of all members of the community. Disabled people will have particular requirements, which must be taken into account.

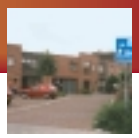
What a Home Zone is Not

2.9 Home Zones are not anti–car but they do offer a highly effective way of reducing the impact of car use in residential areas.

Extensive Community participation is essential to "retrofit" schemes.

2.10 A Home Zone is much more than a "typical" 20mph Zone. A 20mph zone usually has a traditional footway and carriageway. Traffic speeds are normally controlled by installing traffic calming features, such as road humps and chicanes. Within a 20mph zone, and unlike in a Home Zone, vehicles retain their effective priority over pedestrians.

2.11 Home Zones are not accident prevention schemes. Whilst there may be significant road safety benefits from converting a street into a Home Zone, this will not usually be the primary aim of the scheme. Where the objective is simply to improve road safety, it will normally be more cost effective to introduce measures such as traffic calming, or 20mph zones, to address the problem.



Encouraging ownership of the Home Zone design.

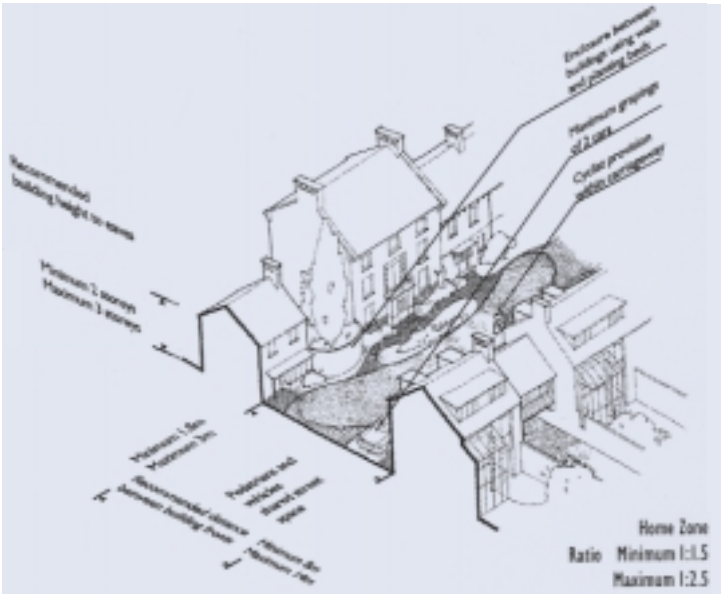
Existing and New Home Zone Streets

2.12 Home Zones fall into two distinct categories – they can involve the remodelling of existing streets to change how they are used (so–called "retrofit" schemes); or they may be delivered as an integrated part of new housing developments – "new–build" Home Zones.

2.13 Although there will be similarities between the two categories of scheme in design terms, there are important differences in the way that they are conceived, designed and delivered.

2.14 In existing streets, the sustained involvement of the community in the planning and design of the Home Zone will be essential. Extensive participation by local people in the planning and design process will enable the scheme to reflect local people's needs and aspirations for their street; and will encourage their "ownership" of the completed Home Zone.

2.15 Home Zone streets in new developments will normally be planned and designed by developers (including housing associations) and it will seldom be possible to consult with prospective residents. It will be the responsibility of the local highway and planning authorities to consider the suitability of the proposed Home Zone scheme – principally whether it will create attractive, accessible and safe spaces that will be used by the whole community.



An example of new build proposal.

2.16 Authorities are encouraged to use the detailed guidance contained in this document when assessing developers' proposals for new–build Home Zone schemes, within the development control process.

Hand made paving bricks in Methleys Home Zone – see Case Study 11.

Legal and Policy Framework

Details of the legal and policy framework for Home Zones are given in Appendix A.

2.17 In England and Wales the Transport Act 2000 makes provision for introducing Home Zones. These powers took effect on 1 February 2001, and give local traffic authorities a specific power to designate any road as a Home Zone, for which they are the traffic authority.

2.18 In due course, authorities will also be able to make orders covering the use of the roads (Use Orders) and speed reduction measures (Speed Orders) in designated Home Zones, subject to regulations to be made by the Secretary of State (for England) or the National Assembly (for Wales). Detailed guidance on the procedures for designating Home Zones and making use and speed orders in England and Wales will be issued alongside the regulations.

2.19 In Scotland, the powers to introduce Home Zones are contained in the Transport (Scotland) Act 2001. This Act received Royal Assent on 25 January 2001 and local traffic authorities may designate any road for which they are the traffic authority as a Home Zone with a view to implementing measures for securing any of the following purposes:

(a) to improve the safety of persons using the road or any area in the vicinity of the road;

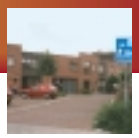
(b) to improve or preserve the environment through which the road runs;

(c) to improve the facilities provided on, or in the vicinity of, the road in such a way as to bring benefits to any persons using the road (not being persons using motor vehicles), and

(d) to any extent to implement their transport policies.

2.20 Where a road or roads have been designated as a Home Zone in Scotland, the local traffic authority is required to prepare and publish a report on the measures that they have implemented. Regulations which prescribe the procedures local authorities must follow when setting up Home Zones were due to come into force in Scotland in May 2002.

2.21 Traffic signs for Home Zones across the UK have been developed by the Department for Transport, Local Government and the Regions.



Start of Home Zone.

Variant of Home Zone start sign with name of scheme.

End of Home Zone.

2.22 These signs will indicate to road users that they are entering streets where drivers no longer have the right to expect people, including children, to relinquish priority to vehicles. In Home Zones there is a right to use the street for purposes other than passage, a right to drive and, for all road users, an obligation not to obstruct or deny reasonable access to premises.

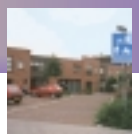
2.23 The appropriate Home Zone signs should be used to mark the start and end of designated Home Zones. It is anticipated that the signs will be included in the forthcoming revision of the Traffic Signs Regulations and General Directions, but in the meantime special authorisation for signs will be considered on a scheme by scheme basis. (In Northern Ireland, further legislative and procedural steps will be required before the signs can be used).

2.24 Usually, Home Zones will consist of adopted highways and the local traffic/highway authority will have an important role to play in guiding the design and construction of the Home Zone street. The "highway" in this context will normally include the carriageway and footways, and could also include street trees and planted areas, cycle tracks and any adopted parking areas.

2.25 Home Zone design principles can also be applied to unadopted streets. The Local Traffic Authority could still designate as Home Zones any unadopted streets that are public rights of way, even though there is no public responsibility to maintain these streets.

2.26 Home Zones are supported in a number of key policy documents, including *PPG13 Transport* and *PPG3 Housing*. Further details of current policies on Home Zones are given in Appendix A.

2.27 The next section of these Guidelines provides detailed guidance for designing Home Zones.



Within this, the main part of the document, text that is placed in numbered boxes is considered to be particularly important. Design Guidelines highlighted in this way should normally be regarded as an essential requirement of a Home Zone. These key points of guidance are drawn together in Appendix D for ease of reference.

3.1 Planning a Home Zone

G1. Home Zones must be tailor–made, and designed to fit the character of individual streets and spaces. Home Zones will work best when prospective residents recognise the benefits of living in a newly built Home Zone when choosing to live there, or when the existing local community has a sense of ownership of and commitment to the scheme.

New Build Home Zones

3.1.1 For new build schemes, prospective residents will need to be made aware that they are moving into a Home Zone, and that this will be an environment that is designed to turn the street into an active communal space. In some developments there may be responsibilities associated with living in the Home Zone, such as a commitment to the maintenance of planted areas or other features. Developers are encouraged to make the Home Zone a key marketing feature of the development.

3.1.2 Where residents of new developments can be identified in advance – in affordable or social housing developments for example – a dialogue between them and the design team can be established before the homes are occupied. The design of the streets can then be produced in consultation with the new community.

Home Zones in Existing Streets

G2. Home Zones in existing streets must have the support of the existing community from the outset, when the aims and objectives of the Home Zone are agreed. The concept and detailed design of a Home Zone must be developed with the participation of the local community, so that any potential conflicts and problems are resolved.

3.1.3 In many situations, the design and implementation of a Home Zone scheme will provide a focus for the physical and social regeneration of an area, empowering local residents to shape their neighbourhood.

Cannon Street/Cornwall Street Home Zone, Plymouth.

Home Zone scheme in Aldershot by Bryant Homes.

Developing the design of the Home Zone with the local community.

Local residents can make detailed decisions about their streets.

Putting residents and artists together.


BRABAZON STREET/ ALTON STREET/ ELLESMERE STREET

HOME ZONE

Leaside Regeneration, working with Poplar HARCA and the London Borough of Tower Hamlets, are planning a Home Zone covering Brabazon St, Alton St and Ellesmere St, Lansbury Estate. WE NEED YOUR VIEWS!

This map shows in yellow the streets that the Home Zone is planned to cover:

What is a Home Zone?

A Home Zone is a residential street where people's needs come before vehicles. In a Home Zone, pedestrians and cyclists have informal priority and cars are limited to a speed of around 10mph. The change in the status of the road is achieved through signing, traffic calming and features such as trees, planting and street furniture.

The whole road surface is usually level, and paved in blocks rather than tarmac. On-street parking is allowed, but spaces can be arranged in groups, end-on to houses, so that traffic has to weave slowly between parked vehicles.

Home Zones can help to develop a closer community, bringing local people together to improve their own environment.

Newsletter inviting community participation.

3.1.4 Developing good working relationships between design professionals and the community should be the aim, so that the support, energy and enthusiasm of local people are harnessed.

3.1.5 Designers should reach and communicate with as many residents as possible throughout the design process, by such means as "drop in" exhibitions, public meetings, practical "mock up" exercises, community representative committees, design workshops, newsletters, doorstep interviews and direct mail. Some Home Zone projects have successfully used community and social events to raise awareness and gain support, such as street parties and summer fetes.

3.1.6 Care should be taken to ensure that consultation processes are fully inclusive, so that all members of the community can participate. The specific needs of groups such as children; older people; disabled people; and those whose first language is not English will need to be considered.

3.1.7 Experience from the UK Pilot projects shows that effective participation can be a challenge. It involves:

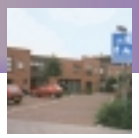
- handing over some power and control to residents;
- building trust, openness, constructive dialogue and responsiveness;
- using non–technical language, and
- providing adequate time and resources, to give everyone the chance to understand new ideas and approaches and to assist people through the process.

3.1.8 Home Zones in existing streets demand an approach to design that is profoundly different to that taken on many conventional highway projects. For this reason it is important that the project team includes people with expertise in working with communities.

Place–Making

3.1.9 An appreciation and understanding of the Home Zone "space" is very important. Public space is potentially one of the community's greatest assests. The best public spaces are those that not only cater safely for play, exercise and relaxation, but which also provide an area with a sense of identity and community.

3.1.10 It is recommended that the design team includes an urban designer, landscape architect or architect. Such a professional is well equipped to orchestrate the many different elements of the street design into a cohesive whole. An experienced highways/traffic engineer should also form part of the design team to ensure that the street functions well in engineering terms.



3.1.11 The design team will often need to work closely with other professionals and representatives of key groups to take account of particular issues including:

- Access Consultant/officer (see also 3.5.15);
- Police and other Emergency services;
- Housing officers, and
- Community Art Worker.

3.1.12 A positive relationship between the scheme's context and its layout is fundamental to any successful Home Zone design. An urban context analysis should be carried out to relate the design of the Home Zone to the buildings and their uses; and the proposed uses of the streets themselves. It is also important to consider local connections to ensure that the Home Zone is successfully integrated with the surrounding area.

3.1.13 This process, together with consultation with local residents, will establish the basic objectives and priorities for the Home Zone design. This will ensure that there is a clear vision and rationale to the emerging scheme.

3.1.14 Clear objectives, coupled with regular design reviews that bring together the design team and the local community, will play an important part in developing a holistic and successful design.

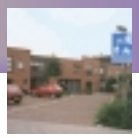
3.2 Location and Size of Home Zones

Sustainable Links

3.2.1 Home Zones should be integrated within the wider area, so that they are permeable and accessible to pedestrians, cyclists and local traffic. There should be a continuous network of routes for pedestrians and cyclists linking the Home Zone area with schools, public transport stops, green spaces, shops and other services.

3.2.2 Connectivity and permeability are important features within all residential areas – a grid of connected streets will provide direct and safe routes for pedestrians to local destinations. A grid layout will also disperse traffic more evenly than a poorly connected layout, which will tend to concentrate the environmental impact of traffic onto a small area.

Home Zones as part of a network of streets in a new build scheme.



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Home Zones as part of a network of streets in a new build scheme.

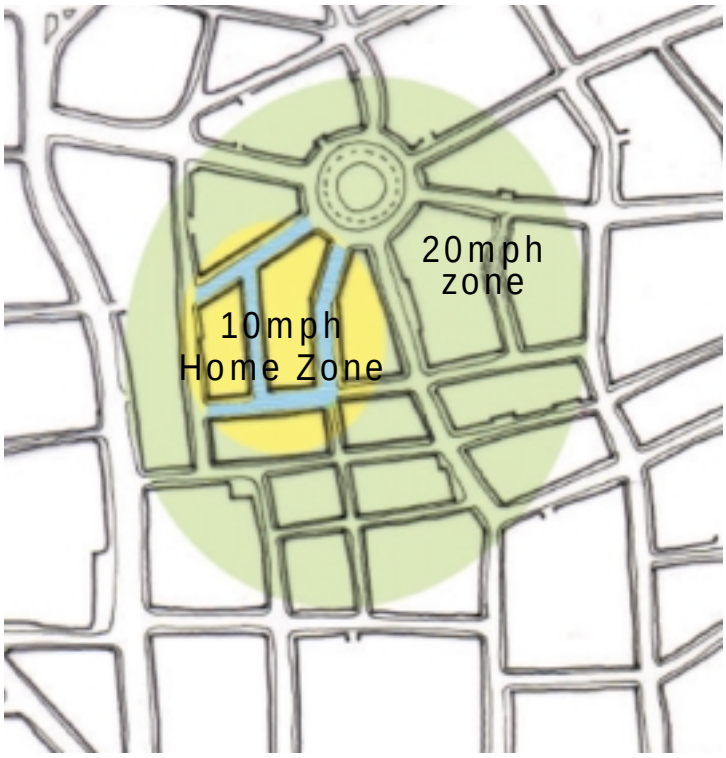
3.2.3 Home Zones on through–streets will provide an attractive alternative to living in a cul–de–sac, as the streets will be quiet and safe, with low traffic speeds and a strong sense of local ownership. However, culs–de–sac can make very good Home Zones in smaller developments where only one means of access for motor vehicles is possible.

Start of a 20mph zone.

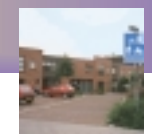
Home Zones in the Road Hierarchy

3.2.4 Reducing traffic speeds to the recommended design speed of 10mph will be achieved more easily where there is a stepped reduction in speed on the approach to the area. In many cases this will mean that Home Zones are situated within 20mph zones, so that they form the lowest tier in the local road hierarchy, in terms of motor vehicle movement.

3.2.5 However, where the start of the 20mph zone is too close to the start of the Home Zone, drivers are likely to relate the 20mph speed limit sign to conditions in the Home Zone. They might therefore presume that it is safe to drive at this speed limit within the Home Zone. Starting a 20mph zone at the same point as the Home Zone will also add to sign clutter, with signs forming a "totem pole" effect. The relationship between Home Zones and 20mph zones is set out in more detail in Appendix C.

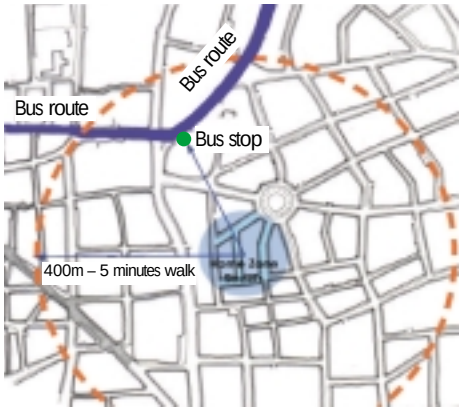


Lower speeds in Home Zones will often be achieved by a stepped reduction in speeds.



Cannon Street/Cornwall Street Home Zone, designed for high density living.

The Magor Village Pilot Project is centred around a variety of shops and businesses.



The size of a Home Zone must allow good links to local bus routes.

Land Uses

G3. Home Zones are appropriate in all types of residential area, including suburban, urban and inner city locations; and for all dwelling types including high–rise flats, terraces and semi–detached or detached homes.

3.2.6 Home Zones will enable higher density developments to be created as the space outside the home is more useful and the area given over to traffic is reduced.

G4. Home Zones can be suitable for use in areas that have a significant level of non–residential use, provided that the volume and type of non–residential traffic is not excessive or damaging to the quality of the residential environment. There must always be enough residents to form a viable community throughout the Home Zone.

3.2.7 Subject to these caveats, local facilities such as shops and schools will add to the vitality of the area and can be incorporated successfully.

Size of Home Zones

3.2.8 The following factors will limit the size of Home Zones.

3.2.9 Firstly, if drivers have to travel too far along Home Zone streets, experience in the Netherlands suggests that they may become frustrated, and will attempt to drive faster. This will undermine the aim of achieving low traffic speeds, to the detriment of other users of the space.

G5. Vehicles should not have to travel more than about 400m along Home Zone streets. This distance should be measured from any point within the Home Zone to the nearest point on a conventional street.

3.2.10 Secondly, people living in a Home Zone should not have to walk more than about 400m – about five minutes walk – to reach a bus stop. (Reference: *Providing for Journeys on Foot*, IHT).

3.2.11 Generally buses will not run through Home Zones and this will often be an important consideration in determining their size. However, good access to public transport should be provided, and this may require services outside the Home Zone to be improved. Further guidance on bus routes and Home Zones is given in Section 3.5 below.

Acceptable levels of traffic flow/number of dwellings

3.2.12 The key issue to consider in determining the maximum traffic flow in a Home Zone – which is related to the maximum number of dwellings – is the effect of traffic on the quality of life of residents.

G6. Home Zone streets should have traffic flows of no more than about 100 vehicles in the afternoon peak hour. This is usually the time of day when there is most conflict between vehicles and people, including children playing.

3.2.13 This criterion, which is based on current practice in the Netherlands, recognises that there could be slightly higher traffic flows in the morning peak, depending upon the particular (vehicular) trip generating characteristics of the area.

3.2.14 Where a Home Zone is served by more than one vehicular access, traffic flows will be dispersed more effectively. Therefore, the overall maximum number of dwellings in the Home Zone will rise as the number of accesses increases.

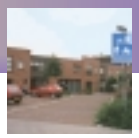
3.2.15 Table 1 relates the 100 vehicles per hour criterion to the number of dwellings. It is mainly applicable to new developments, where traffic flows have to be predicted. It indicates the maximum number of dwellings that could be accommodated in new build schemes, depending on the average number of vehicle trips per dwelling in the afternoon peak hour (the trip rate); and the number of vehicular accesses serving the Home Zone.

Vehicular Trip Rate*	**Indicative Maximum Number of Dwellings**		
	With 1 Vehicular Access to Home Zone Streets	With 2 Vehicular Accesses to Home Zone Streets	With 3 Vehicular Accesses to Home Zone Streets
0.50	**200**	**400**	**600**
0.66	**150**	**300**	**450**
0.80	**125**	**250**	**375**
1.00	**100**	**200**	**300**

*Number of motor vehicle trips to and from each dwelling during the afternoon peak hour

Table 1 – Indicative Maximum Number of Dwellings in a New Build Home Zone.

3.2.16 It is stressed that Table 1 is for guidance only, and assumes that traffic is distributed evenly between accesses. It makes no allowance for non–residential uses. The local trip rate will depend on many factors, including the type of dwellings, car ownership, the range of local facilities that can be reached on foot or by cycle, and the availability and quality of public transport services.



Home Zones should encourage walking and cycling trips.

3.2.17 Larger developments than those shown in Table 1 could still be planned to incorporate Home Zones, by sub–dividing the area into a number of distinct Home Zones, linked to each other and the wider network by more conventional traffic calmed streets.

3.2.18 New build schemes could offer the opportunity to design residential areas with reduced car ownership, for example through the establishment of residents' car clubs. Home Zones of this nature, that will generate very low numbers of vehicle trips, could accommodate higher numbers of dwellings than are indicated in Table 1.

3.2.19 Within existing residential areas, it has been found through the Pilot Programme that around 300 dwellings is a sensible upper limit for a Home Zone, or possibly one phase of a larger scheme. Above this number of dwellings it becomes more difficult to achieve consensus amongst residents on the design of the scheme.

Selecting Streets for Home Zone Schemes

3.2.20 Many local authorities will be faced with the problem of choosing between a number of potential sites for retrofit Home Zones, with limited funding. The criteria given in these Guidelines can be applied to assess possible sites.

3.2.21 An example of this process is contained in the report on Home Zones in Brighton prepared by Mike Biddulph of Cardiff University, which uses a combination of "Threshold" criteria – attributes which are regarded as essential – and "Priorities", which are used to rank possible schemes. (See reference in Section 5).

Home Zones as streets and squares.

3.3 Defining the Home Zone Space

G7. Home Zones can be streets, squares, courtyards, or culs–de–sac. It is the buildings, trees, planting and surface treatments that should define the Home Zone's spaces, rather than conventional kerb edges and carriageway widths. Each Home Zone space should be unique, depending on the building heights, setbacks, its overall architectural character and the community's use of the street.

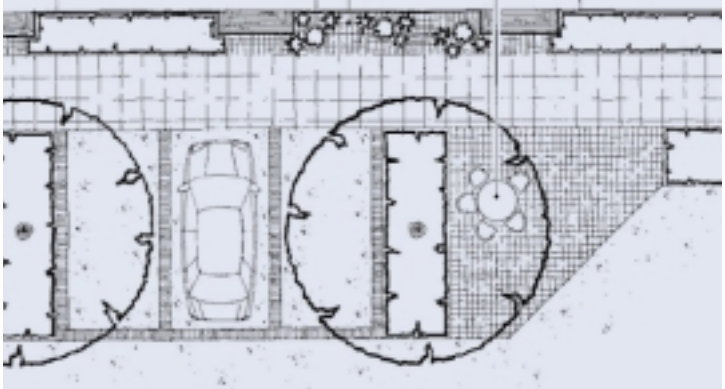
Buildings should overlook the street.

3.3.1 Designs should relate well to key existing features such as trees, main pedestrian links and open spaces.

G8. A high proportion of residential buildings in Home Zones should have active fronts to the street (ie, the windows of habitable rooms, doors and entrances) to provide good opportunities for natural surveillance and to foster a sense of local "ownership" of the street.

3.3.2 Front gardens in Home Zones could be absent or minimal, as the quality of the street will reduce the need for a "buffer zone" from passing traffic. The benefits of the Home Zone will be less significant with very long front gardens, as the street will be more remote.

Minimal front garden allows direct relationship of dwelling with street. Layout encourages flexible communal use of space and a degree of personalisation.



Typical arrangement of communal street space.

"Private" space in the street.

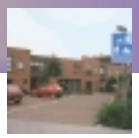
3.3.3 Very long front gardens could also reduce interaction between residents, making the street less likely to be used as communal space. High walls and fences that divorce dwellings from the street, should be avoided wherever possible. Within Home Zones the street should not be seen as a hostile place.

3.3.4 However, there should still be a clear distinction between public and private space, which can be achieved in various ways.

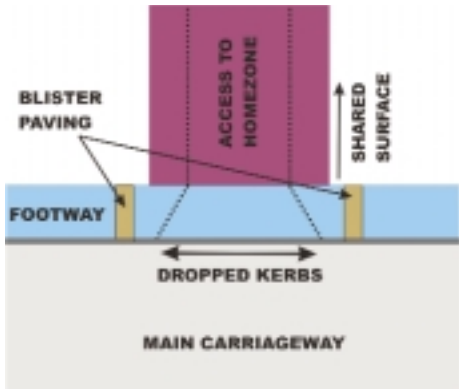
Marking the change in character

Gateway design for Morice Town – see Case Study 1.

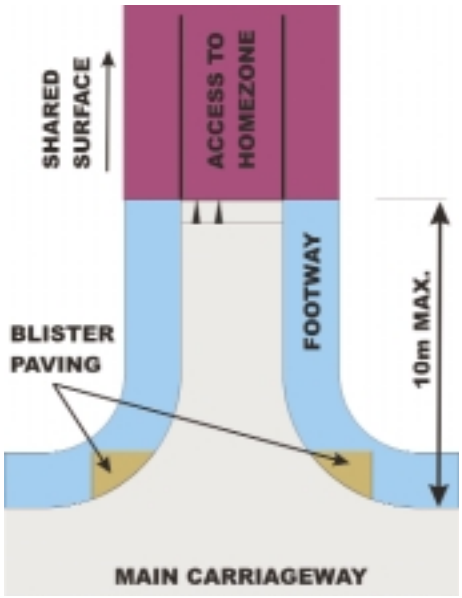
G9. Home Zones must be clearly marked at their entrances and exits to ensure that all street users recognise the different nature of the area. The new Home Zone sign should be used to provide a clear statement to drivers of the change in the operation of the streets. The use of this sign must be supported by the legal designation of the area as a Home Zone under the appropriate legislation; and the completion of the necessary physical measures.



A "gateway" marking the limit of the Home Zone space.



Home Zone entrance via dropped kerb.



Home Zone entrance via junction.

3.3.5 A textured ground surface should also be used to mark the entrance to Home Zones, to help visually impaired people to know when they are entering and leaving the area. This should not be blister paving – it is suggested that corduroy paving, which means "proceed with caution" may be used, following consultation with local visually impaired people. Details of corduroy paving are given in *Guidance on the use of tactile paving surfaces*. (See Section 5).

3.3.6 There should also be a visual statement created at the entrance to the Home Zone. At its simplest, this "gateway" could be a change in the surface materials on the carriageway, but more substantial features, including street furniture, sculpture or other works of public art could be considered.

3.3.7 Where a Home Zone starts at a junction with a conventional street, one option is for the entrance to the Home Zone street to be over a footway crossing, rather than a priority junction. This design is commonly used in the Netherlands. It is expected that drivers should give way to pedestrians at footway crossings, and this simple device will clearly signal the start of the shared space.

3.3.8 Another option, more suitable where the Home Zone street joins a busy or fast road, would be a raised road surface, starting no more than 10m from the junction with the main road, to clearly indicate the change in the status of the street. Junction radii at the entrance to the Home Zone street should be as small as possible so that vehicles have to slow down when turning into it.

3.3.9 Standard blister paving should be used at crossings at the entrance to the Home Zone, to warn blind and visually impaired people walking across the access point. This must be laid in accordance with DTLR Guidelines (see Section 5).

3.3.10 Where vehicles turn into the Home Zone from another road, the entrance to the Home Zone should be wide enough for two light vehicles to pass one another.

3.4 Designing for Activity

G10. Home Zones should be designed to encourage vitality in residential streets, with a high level of social interaction between residents.

3.4.1 Most of this interaction will be very informal in nature – simply people meeting one another and chatting for a while outside their homes. However, there may be a need and a place for features that are designed to encourage people to spend time in the street.

Robust communal street furniture.

Activity for all!

An area designed for children's play.

Children playing informally.

3.4.2 Well designed and robust communal features can play a large part in making Home Zones pleasant places to live. These might include:

- seating and tables so that people can gather and converse in comfort – particularly older people;
- games or activities that people of all ages can participate in – eg, a boules area or an outdoor table–tennis table, (which have been used in the Netherlands, where the climate is similar to the UK), and
- features that are used mainly for children's play, at various age ranges.

3.4.3 Features should be designed to be accessible to a range of users: for example, space might be left at outdoor tables suitable for people in wheelchairs.

Children's Play

3.4.4 Fears about safety, particularly the threat from traffic and from other people, leads many parents to restrict their children's freedom to play and get around on their own. The result is that children increasingly lead isolated and sedentary lives, which may have major health and social implications for future generations. Home Zones will help to address these concerns.

G11. Home Zones must provide children with a safe and attractive area outside their homes, which will provide a place to meet and play with their friends.

3.4.5 Children playing will generate greater adult presence on the street, through informal supervision, leading to more social interaction between residents of all ages – a virtuous circle.

3.4.6 Home Zones should be integrated within an overall strategy for play in a residential area, which should identify how the needs of different types of play are to be met. For example, ball games involving all but the youngest children may not be appropriate in Home Zone streets as they are often regarded as a nuisance to other residents and may damage buildings and vehicles. Routes should therefore be provided for children to get to places that are suitable for ball games on foot or by cycle.

3.4.7 These may be large areas of open space such as parks and playing fields. "Pocket parks" with ball games cages, which can be accommodated in smaller areas, could also provide an outlet for this kind of play.

The Morice Town pilot scheme has spaces to play – see Case Study 1.

Use the length of the street for games.

Space to play on bikes in the streets...and for cats to sleep!

Pocket parks in Northmoor were created by demolishing some terraced houses – see Case Study 9.

3.4.8 Unstructured and spontaneous street play is creative and does not need particular pieces of play equipment. Children in Home Zones will tend to use the whole length and width of the space and will use any physical features in the street – suitably designed public art for example – as part of their play. Children will also play extensively on bikes and other wheeled toys on the shared surface.

3.4.9 Hence it may not be necessary to install recognisable pieces of play equipment, such as climbing frames, slides or small ride–on items. Nonetheless, in some streets, items designed specifically for play may provide a worthwhile addition to the area and could be considered. The presence of play equipment in the street – a striking feature of some Home Zones in the Netherlands – is a powerful indication to children and adults of its changed function.

3.4.10 There are management, insurance and safety implications associated with the provision of play equipment that designers should be aware of. The agency responsible for the street (which could be the local authority or another agency) has a duty of care that extends to any fixed play equipment that has been installed.

Play equipment in a Dutch street.

Play equipment in Old Royal Free Square, Islington – see Case Study 4.

3.4.11 There are no statutory regulations specific to play equipment, although playgrounds are covered by statute, including the Health and Safety at Work Act amongst others. There are European Standards that cover the design, installation, siting and maintenance of fixed play equipment. These are not a legal requirement, although they embody good practice and may be taken into account in the event of legal action arising from an accident. In addition to the European Standards, there are published documents giving guidance on various aspects of playground design and layout (for instance the Six Acre Standard produced by the National Playing Fields Association). These are purely advisory, and given that they are written for conventional playgrounds are unlikely to be appropriate to a Home Zone context.

3.4.12 Legal action involving accidents on play equipment is less common than litigation concerning streets generally. It may well be that the key question is the stance of the insurer who provides public liability insurance for the responsible agency. Given the novelty of Home Zones and the lack of a body of experience, it is likely that practice and expertise on this issue will evolve over the coming years.

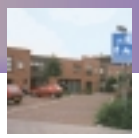
Detailed Issues

G12. Any communal features, including play equipment, must be located carefully so as not to cause nuisance to local residents.

3.4.13 Some residents may have serious reservations about placing features near their homes that will encourage people – particularly older children – to gather. One response to this concern might be to create informal play and recreational spaces initially, which could be modified after a few years once their role has become accepted. Another way of addressing this problem would be to locate seating and other communal features in areas that are well overlooked by a number of homes, so that several households can supervise their use.

3.4.14 Play equipment and other communal features should not be fenced off from the vehicle route, to make it clear that people have the right to use the whole of the space. However physical items such as trees, planting or bollards may be useful in creating and defining spaces intended for communal use.

3.4.15 All communal features should be robust and serviceable, so that they require as little maintenance as possible. Adoption and maintenance issues are dealt with in Section 3.9.



3.5 Designing for People and Vehicles

Introduction

G13. The design of the Home Zone should make motorists feel that they are a "guest" in the street, and must make it difficult for them to travel at speeds of more than 10 mph. Vehicles must be accommodated within Home Zones as an integral part of daily life, but must share the space with people on foot.

G14. Home Zones must be designed to be accessible to, and usable by, disabled people of all types.

3.5.1 The design of streets and intersections should be governed by convenience for pedestrian movement, visual attractiveness, and safety considerations, particularly for children, older people and disabled people.

3.5.2 Recommended geometric criteria for Home Zones streets are summarised in Table 3 in Section 3.7.

Shared Streets and Surfaces

G15. Drivers usually expect to have priority over any part of the street between raised kerbs and therefore a continuous raised kerb should not normally be provided throughout the Home Zone.

3.5.3 A raised kerb gives a powerful message to all road users that the street is divided into vehicular and pedestrian areas. Home Zones must not be segregated in this way.

3.5.4 Shared surface designs are the most desirable form of street and should be the aim. However, in some schemes, particularly those involving existing streets, creating a shared surface throughout the Home Zone may be unachievable due to cost constraints.

3.5.5 Designers will then have to take particular care to ensure that the street still reads as a space that is shared between vehicles and pedestrians. In new build situations, these constraints will not normally apply and shared surfaces should normally be provided.

3.5.6 A smooth relatively level surface throughout the area will allow ease of movement for all wheelchair users and remove any trip hazards; and will be more convenient for people with reduced mobility.

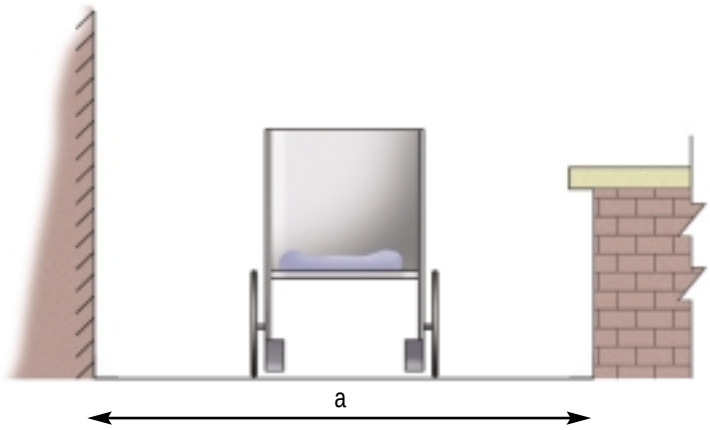
Shared surface in a Dutch Home Zone.

Conventional streets are segregated into vehicle and pedestrian spaces.

A safeguarded pedestrian area.

3.5.7 In many Home Zones it will be desirable to safeguard parts of the shared surface for pedestrian use only, for example at building entrances or to protect an area specifically designed for play. This could be achieved by using street furniture, trees or planting. All pedestrian routes through the area should be free of obstacles, at both surface level and above, for example by removing low branches.

3.5.8 The minimum width of any pedestrian–only areas will depend on local circumstances, but should not normally be less than 1.8m, which is the width required for two wheelchair users to pass. Any localised narrowings such as at planters or other vertical features, should not be less then 1m wide, and should extend for no more than 6m.



a = 1.80m desirable minimum.

a = 1.00m absolute minimum for short lengths (<6m)

G16. Home Zones must be legible to blind and visually impaired people.

3.5.9 Shared surface designs can present difficulties for blind and visually impaired people.

3.5.10 In conventional streets, visually impaired people use the kerb for orientation because it can generally be relied upon as a constant feature. Continuous kerbs will not be present in most Home Zones and this orientation clue must therefore be replaced by another means.

Street layouts should provide adequate space for two people to pass.

3.5.11 The edge of the route for pedestrians should be capable of discrimination by a cane or guide dog so that it can be followed safely and with confidence by visually impaired people using a mobility aid. This will often be provided by the building line or highway boundary, which should be clear and easy to follow by cane with no gaps, nor hazards such as overhanging trees at head height.

3.5.12 The use of a contrasting material (in both appearance and texture) along key routes and at particular locations can also assist visually impaired people to negotiate the streets.

3.5.13 However, care will need to be taken to ensure that this does not create a confusing design with too many surface types. Standard features with recognisable textures, such as dished drainage channels, may help to achieve a legible layout for blind and visually impaired people in an unobtrusive way, although this should be discussed with an access professional.

3.5.14 Measures such as blister paving, which are needed in conventional streets to indicate to blind and visually impaired people that they are about to cross the carriageway, have specific meanings and should not normally be required within a Home Zone. As noted in Section 3.3 above, "corduroy" tactile paving could be used as an indicator to visually impaired people when they are moving out of a shared surface area.

3.5.15 Local authorities' Access Officers are often available to give further advice on designing for disabled peoples' needs. An independent Access Consultant could also be engaged. Either could complete an Access Audit and appraisal of the scheme to identify potential barriers to independent mobility. Considerable written material on this issue is available to designers and the key references are given in Section 5.

Home Zones must be accessible to disabled people.

3.5.16 Whilst the elimination of raised kerbs will encourage freedom in the use of the space, care should be taken to avoid a "wall to wall" paving treatment that erodes street character. Ideally the paving of the shared surface should reflect the use of the space without the need for excessive use of bollards or other street furniture, which would create a cluttered and confusing layout.

Shared Surfaces and Street Character

3.5.17 In Conservation Areas, any development, including Home Zones, should preserve and/or enhance the character and appearance of the area, by reinforcing the qualities that make it special and which warranted the original designation.

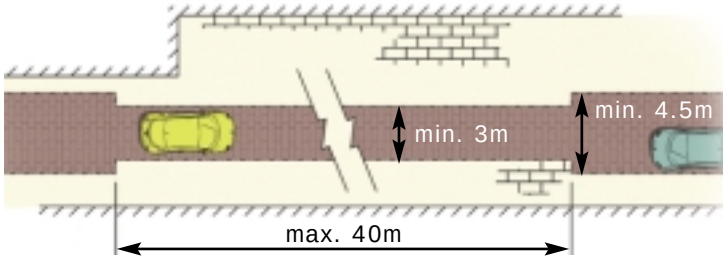
3.5.18 The presence of a kerb line and the use of particular materials for the carriageway and footway can be very important to the character of Conservation Areas and other historical areas. Footways can provide a plinth or apron to the buildings that reflect the scale of the street. In these cases it may be necessary to preserve the line of the kerb, possibly through a change in materials, so that this key feature is retained in visual terms.

The Vehicle Track

G17. The route for vehicles through a Home Zone should be as narrow as is practicable, with a minimum of width of 3m.

3.5.19 On two–way streets, some sections of vehicle track can be clearly designed for one–way "shuttle" use – ie, too narrow for two light vehicles to pass. This approach will help to reduce speeds and make drivers take particular care. In such layouts, standards in the Netherlands suggest that the track should be widened to 4.5m wide at least every 40m to enable two vehicles to pass.

Vehicular routes should be narrow.



Distances between passing places.

3.5.20 A driver waiting in such a passing place should be able to see through to the end of the narrow section. This will avoid vehicles meeting head on, and one of them having to reverse.

3.5.21 One–way streets can encourage higher traffic speeds, as drivers do not need to be alert to oncoming vehicles. They can also cause difficulties for cyclists. Traffic management systems involving one–way streets should only be used when necessary.

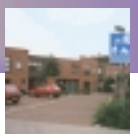
Creative design of a turning head.

3.5.22 Home Zones in culs–de–sac should be designed to enable light vehicles to turn around at or near the end of the street. These areas should form an integral part of the street and should not be laid out as traditional turning heads. This may require drivers to make more than a three–point turn.

Dealing with Large Vehicles

G18. Home Zones must be designed to cater for occasional use by large vehicles.

3.5.23 Designers should ascertain from local bodies the size of refuse and emergency vehicles that will normally require access in particular streets. Response times for fire and ambulance services may also have implications for the design of a Home Zone, but this should not compromise the target speed of 10mph.

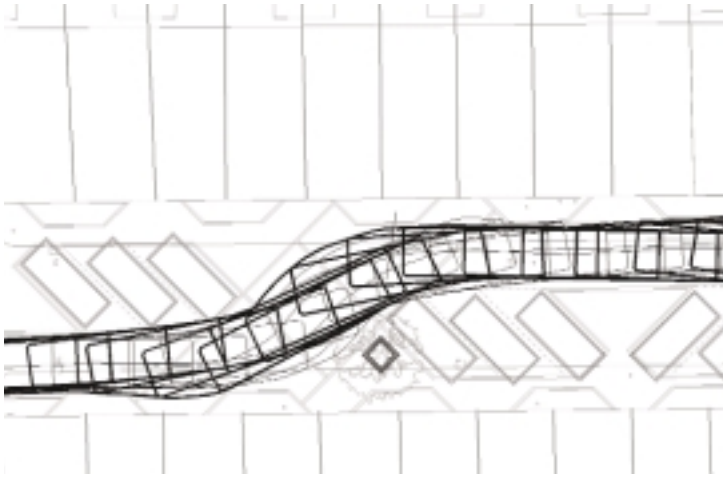


Magor Home Zone includes shops and pubs – see Case Study 5.

3.5.24 Where there are commercial premises operating within a Home Zone, consideration should be given to the frequency and types of service vehicles requiring access to these premises.

3.5.25 The ease with which large vehicles can pass through the street should depend upon the frequency and importance of those events. Refuse vehicles generally visit every week and the layout should readily accommodate them. Fire tenders and ambulances will need access only rarely, but adequate access for these vehicles must be maintained. A large pantechnicon/home removal lorry is a much less frequent visitor, and so the layout could be designed to require more care and effort from the driver of such a vehicle.

3.5.26 The ability of the design to allow large vehicles to pass through the proposed Home Zone layout should be demonstrated, ideally using swept path computer programs. These simulations should take into account the slow speeds within Home Zones, which will enable vehicles to make tight radius turns over short distances. Track testing of layouts is a critical task, which should be carried out by an experienced user.



A swept path analysis.

3.5.27 Overrun areas are surfaces that are difficult for cars to cross, but are easier for large vehicles. Overrun areas are one means of keeping the car vehicle track tight whilst making the street accessible to larger vehicles, but such surfaces must not present difficulties for pedestrians, including people with disabilities.

3.5.28 Where culs–de–sac are more than about 50m in length, regular large vehicles such as refuse vehicles should be able to turn around at or near the end of the street, but where space is limited, layouts could be designed that require such vehicles to make more than a three point turn.

3.5.29 Bus routes should not normally be planned to pass through a Home Zone. The low traffic speeds will add to bus journey times and may affect the commercial viability of bus routes. The regular use of the street by standard size buses, albeit at low speeds, will also reduce the quality of the environment. However, infrequent bus routes, and those using minibuses, would cause fewer difficulties.

3.5.30 Some schemes may involve existing streets that are on bus routes. Where the community considers that these routes are important assets, that should be retained, the design should accommodate the size of the largest buses using the route, together with any stops and shelters. At bus stops a vehicle track width of 3m will ensure that no vehicle can pass a stationary bus. This will reduce traffic speeds and improve safety for people getting on and off the bus.

3.6 Parking

Introduction

Car parking can be mixed with cycle parking and planting.

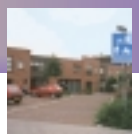
G19. Some on–street parking should normally be provided in Home Zone streets.

3.6.1 The everyday act of residents walking to and from their cars will create some street activity and provide regular chances for people to meet. On–street parking caters for visitors and thus provides some flexibility; it can also be used to create an obstacle in the vehicle track, reducing traffic speeds when spaces are occupied.

G20. On–street car parking should be arranged so that it does not dominate views of the street or impinge upon the other activities that will take place in a Home Zone.

3.6.2 Landscaped areas and features for use by the community should have precedence over parking spaces. Parking areas should be kept clear of pedestrian desire lines.

3.6.3 Providing vehicular access from the street to individual dwellings – ie, to driveways or garages – will have implications for the design of the street, including the provision and placement of street furniture and other features. Care must be taken to ensure that light vehicles can manoeuvre in and out of such accesses.



Parking Provision in New Developments

3.6.4 Parking standards for new residential developments, including Home Zones, should be agreed between the local planning authority and the developer. The aim should be to ensure that developers are not required to provide more car parking than they or potential occupiers might want, nor to provide off–street parking when there is no need for it.

G21. In new developments, the total amount (both on and off–street) of car parking to be provided in the Home Zone should be determined from the number and type of dwellings and the application of the appropriate parking standards.

Parking courts at Poundbury, Dorset.

3.6.5 In some new–build Home Zones, for example in lower density developments or where low parking standards are appropriate, it may be possible to provide all of the required parking on–street, but in other cases off–street parking will be needed. This will be particularly likely in high density developments, which can generate high demands for car parking in a small site. Providing some off–street parking may also be necessary to prevent parked cars dominating the Home Zone, even in less dense developments.

3.6.6 Off–street parking can be on–plot, in separate communal car parking areas or within buildings. On–plot front parking could provide opportunities to design front garden spaces more creatively, with well designed areas of hard surface treatment, but this will influence the layout of the street. Where parking is provided within individual dwellings, with integral garages at street level, there must be at least one habitable room at ground floor with surveillance of the public realm.

3.6.7 Rear or side parking courts can be an acceptable solution. However, they should not be so large that they draw communal activity, such as play, away from the street itself. All off–street parking areas should be secure and have good surveillance to avoid designing in problems of vandalism and crime.

In existing streets, the design team should go out and about with residents to discuss possibilities for parking.

Parking Provision in Existing Streets

3.6.8 Parking is often a key concern where Home Zones are formed from existing streets, as the scheme is likely to affect the layout (and possibly the number) of on–street spaces. This issue can dominate discussions with residents, particularly in areas where there is little off–street parking. Parking issues will need to be dealt with sensitively and thoroughly by the design team.

Planters and street furniture help prevent indiscriminate parking.

The Dutch "P" for a parking space.

Yellow lines can be unattractive and should only be used when necessary.

3.6.9 In many cases designers will be faced with a situation where there is a limited parking capacity and high demand for on–street spaces. This could be addressed by flexibility in the design, providing for longer term changes to the layout as car ownership increases or decreases.

3.6.10 Parking capacity problems can be addressed through the design, as Home Zones tend to increase the efficiency of on–street parking. Parking spaces can be arranged in blocks, in echelon (angled) or at 90 degrees to buildings; and the whole width of the street, including the former footways, can be brought into use.

Parking Design and Control

G22. Opportunities for indiscriminate parking should be removed through the design and location of street furniture, planting or other features, so that it is only possible to park within the designated on–street spaces.

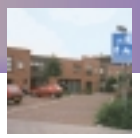
3.6.11 Individual parking spaces should be clearly indicated, for example by using different surface materials. Dutch practice is to indicate spaces with a "P" symbol set into the paving. Whilst this would have no legal status in the UK, it could still provide an effective way of marking spaces.

3.6.12 Where parking is only possible in marked spaces, yellow lines should not be necessary. Yellow lines should be avoided if at all possible as they are unattractive and imply traditional priorities of traffic over pedestrians and emphasise the linearity of the street.

3.6.13 Where the Home Zone is within a Controlled Parking Zone or Residents' Parking Zone, it can be made illegal to park outside the designated spaces. In these areas it is normally necessary to define spaces with a prescribed road marking, but white paving blocks may be an acceptable alternative.

3.6.14 It may be necessary to designate and design particular parking spaces for the use of disabled people. Such spaces should be wide enough to allow access for disabled passengers or drivers, including wheelchair users. Guidance on the design of parking for disabled people is available in DTLR Traffic Advisory Leaflet 5/99 and BS 8300 (see Section 5).

3.6.15 Requirements for disabled persons' bays may arise in any location, after the scheme has been implemented. One way of catering for this would be to make the spaces larger than the minimum dimensions, so that a disabled person's bay could be introduced by re–marking a row of spaces with one larger bay and the rest at minimum size.



Diversity in parking layouts will make more liveable streets.

Parking Layouts

3.6.16 Parking spaces should be arranged creatively as an integral part of the street design. Parking spaces can be arranged perpendicular, parallel or in echelon (angled) to the building frontages. Blocks or groups of parking spaces should be used to break up and divert the route for vehicles, at frequent intervals. Street furniture or other physical features should define the blocks of parking to ensure that this traffic calming effect is retained when the parking spaces are empty.

3.6.17 Uninterrupted parallel parking can be visually monotonous and tends to reinforce the linearity of a street. It can therefore encourage higher speeds and should not be in blocks of more than about 4–6 vehicles.

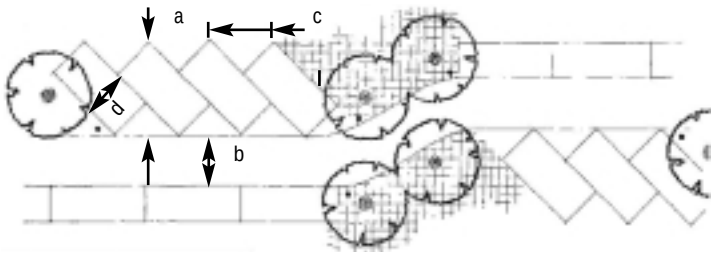
3.6.18 However, longitudinal parking spaces do have the advantage that they are able to accommodate longer vehicles, particularly if they are undivided. This may be important for servicing of small retail premises, or simply to cater for the occasional resident who drives a large vehicle.

Parking angle	30°	45°	60°
a	4.25	4.70	4.95
b	3.50	4.00	4.50
c	5.00	3.54	2.89
d	2.50	2.50	2.50

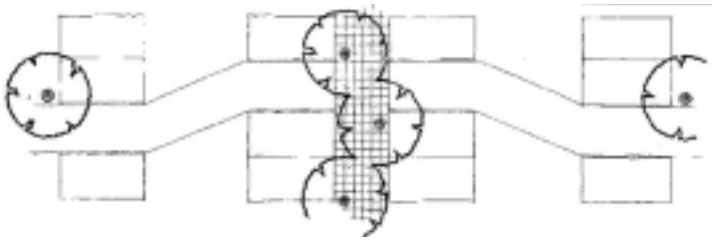
Note 1: Dimensions based on Dutch standards.

Note 2: Spaces in Controlled Parking Zones may have prescribed dimensions.

Table 2 – Typical dimensions for echelon parking.



Parking areas as part of traffic calming design.



3.6.19 There are some potential conflicts in designing the layout of spaces that designers may need to consider. Drivers reversing into echelon or 90 degree parking spaces will be able to see pedestrians more easily when pulling out of the spaces. However, where spaces are close to properties it may be better for drivers to drive forwards into them, as vehicles reversing near to dwellings may lead to pollution problems.

3.6.20 Vehicle tracking software could be used to determine the minimum size of spaces and the space needed to manoeuvre into and out of them, rather than rely on standard minimum dimensions.

3.6.21 Designs could be considered that require drivers to carry out several manoeuvres to get in and out of a particular space. Varying the size of spaces is the practice in some Dutch schemes, creating additional parking spaces for small vehicles in tighter areas.

Motorcycle and Cycle Parking

3.6.22 In some areas, demand for motorcycle parking is high and increasing, and some Local Transport Plans support the use of Powered Two Wheelers as an alternative to the car. Designers should therefore consider whether provision should be made for some motorcycle parking bays in the street. Guidance on the design of motorcycle parking bays is contained in DTLR Traffic Advisory Leaflet 02/02.

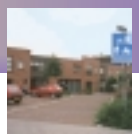
3.6.23 Similarly it may be necessary to provide cycle parking within the street, with suitable stands for security. Cycle storage for residents should be provided within new dwellings, in a location that is readily accessible, to encourage cycle use.

3.7 Designing for Safety

Safety Record of Home Zones

3.7.1 There is considerable evidence to show that any initiative that significantly reduces traffic speeds will dramatically reduce the number and severity of road accidents. Research in the Netherlands shows that Home Zones are particularly beneficial to pedestrian safety, whilst accidents between vehicles are as low as in conventional traffic calmed streets.

3.7.2 A UK study of accidents on residential roads completed in 1987 (see Section 5), found that there had been no recorded accidents on the shared surface roads studied in over 8,000 “house–years” (ie, number of houses multiplied by years occupied). The study also found that residential roads



with footways would have had around three accidents for the same number of "house–years". This suggests that shared surfaces are not inherently unsafe.

Speed and Forward Visibility

3.7.3 Visibility standards relate to traffic speeds, but in the past have not been applied to the very slow traffic speeds required in Home Zones. In other places such as car parks, where slow moving traffic shares space with pedestrians, no visibility standards are normally applied and highway authorities should consider whether visibility standards need to be applied throughout, or indeed at all, within a Home Zone.

3.7.4 However, adequate visibility should be maintained at junctions within Home Zones. At T–junctions and crossroads, drivers should be able to see the appropriate stopping sight distance (12m for 10mph) along the adjoining street, from a setback distance of 2m.

3.7.5 Moving the vehicle track forward from the building line, rather than forming a conventional visibility splay will often be the means of achieving this setback distance.

3.7.6 Guidance on stopping sight distances for conventional highways are set out in *DB32 – Residential Roads and Footpaths, Layout Considerations*. These distances are based on the assumption that there is a two second reaction time before a driver applies the brakes in response to a hazard. Dutch practice assumes a shorter reaction time of one second.

3.7.7 Using a two second reaction time a vehicle travelling at the recommended design speed of 10mph will be able to stop within a distance of 12m. This is made up of a reaction distance of 9m and a braking distance of 3m, so that an alert driver will be able to stop in an emergency in less than 12m.

G23. In locations where it is considered necessary to maintain visibility, a stopping sight distance of 12m should be applied. Significantly longer views will encourage drivers to increase their speeds and should be avoided where possible.

3.7.8 Where measured, the visibility envelope should be taken from the driver's eye position, defined as 1.5m from the nearside edge of the vehicle track; or taken directly from vehicle tracking plots.

3.7.9 At critical locations – for example near to play equipment – any items of street furniture, such as planters, that are more than about 0.5m wide and 0.75m in height should not be placed within 1.5m of the vehicle track, to

Planting can be used to restrict long views.

reduce the risk of a child stepping out unseen into the path of a vehicle.

3.7.10 However, when considering local barriers to visibility it should be remembered that these are present on all residential roads where parking is allowed. Even though there may be a residual risk of children being hidden by street furniture and parked cars in Home Zones, the risk will be much lower than on normal residential streets, due to the lower speeds and the greater degree of care required to drive through the area.

Northmoor Home Zone has achieved traffic speeds of around 10mph – see Case Study 9.

Achieving Low Speeds

3.7.11 To keep traffic speeds low, the design should require vehicles to negotiate sharp horizontal deflections in their route, around features such as parking spaces, trees, planting and street furniture; and/or pass over vertical deflections such as raised tables. Vertical features are uncomfortable for some people and should only be used where necessary – nevertheless they are a highly effective way of controlling vehicle speeds. Sections of vehicle track that are only wide enough for one vehicle will also help to slow traffic.

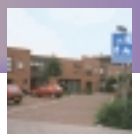
3.7.12 Generally, such measures should be designed as an integral part of the street, rather than simply as traffic calming obstacles.

3.7.13 The placing of these measures could relate to points along the street where key features – such as public art, seating or play equipment – are located, creating a series of linked events or places along the street.

3.7.14 There is little experience of successful speed control design within Home Zones in the UK at present. In the Netherlands, traffic calming "events" in Home Zones are spaced up to 50m apart, but experience in the UK suggests that this would not be adequate to achieve the target speed of 10mph.

G24. Until further experience is gained, it is advised that speed control measures within Home Zones should be provided at a spacing of up to around 30m.

3.7.15 All traffic calming features in the highway will need to comply with the current regulatory framework, which is summarised in Appendix B.



Design Speeds, Speed Orders and Speed Limits

3.7.16 Within the Home Zone, traffic speeds of around 10mph should be achieved through the overall street design, rather than by seeking to set speed limits of less than 20mph. There would be practical problems in enforcing limits below 20mph, as many vehicle speedometers are inaccurate at very low speeds.

Junctions with traffic calming features.

3.7.17 In England and Wales, a Speed Order under the Transport Act 2000 (See Appendix A) will authorise the local traffic authority to take the measures required to reduce speeds to the specified target level. A Speed Order should normally be made by the Local Traffic Authority to demonstrate commitment to the chosen design speed. Speed Orders do not replace existing powers governing traffic calming measures and cannot be used to impose speed limits.

3.7.18 The procedures for making Speed Orders will be defined by Parliament (for England) and the National Assembly for Wales in due course.

Junction priority

3.7.19 T–junctions, staggered junctions and cross roads will be the principal types of junction in Home Zones. In common with many minor residential streets, highway authorities should consider not indicating priority at junctions within a Home Zone. This approach is recognised in *DB32, Residential Roads and Footpaths – Layout Considerations* (Para 3.42).

3.7.20 This idea recognises the use of "perceived risk" at junctions and other locations in Home Zones as a positive design tool, which will encourage drivers to travel slowly and remain alert.

Gateway with low level signs.

Traffic Signs

3.7.21 Traffic signs in Home Zones should be kept to the minimum to avoid visual clutter. Signs will be needed at the start and end of the Home Zone; and for one–way streets, where the appropriate signs must be erected to control and direct traffic.

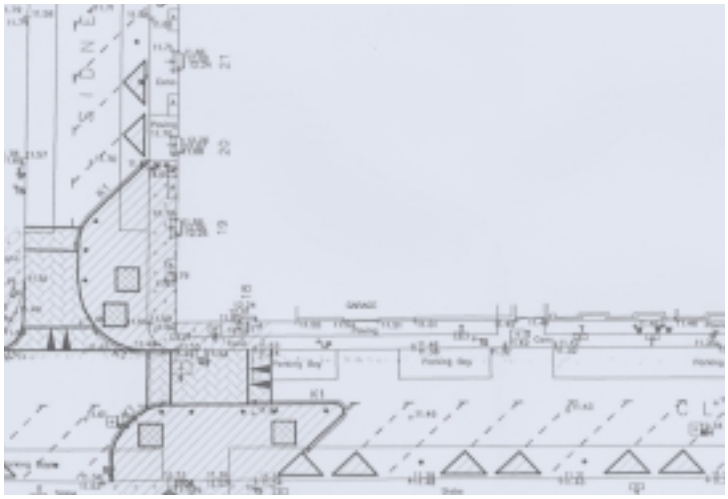
3.7.22 Signs can be mounted on gateway features, such as planters, or on low height poles. However, such designs should discourage people from standing or sitting in front of the signs, so that drivers can see them clearly at all times.

Safety Audits

3.7.23 Highway Safety Audits are normally carried out to review the design of highways and traffic management schemes before implementation. Safety auditors are trained to identify potential risks to road users and may recommend changes to a design to reduce these perceived risks. These recommendations are normally based on an auditor's experience – the Audit should not be a check that the design conforms to standards.

3.7.24 Whilst many authorities will require Home Zone schemes to be safety audited, it is unlikely that auditors will have extensive experience of the safety performance of Home Zones. Auditors should be aware that whilst Home Zone schemes may use the "perception of risk" as a tool to achieve reduced speeds – for example by introducing uncertainties for drivers – good designs that achieve low speeds and emphasise the special nature of the space will normally achieve a safe environment.

3.7.25 Table 3, opposite, summarises the geometric criteria of Home Zone streets, in highway design terms.



Detailed scheme layout suitable for safety audit.

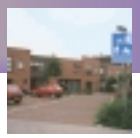


Table 3 – Summary of Geometric Design Guidance for Home Zones

Item	Criterion	Comments
Max Traffic Flow	100 vehicles per hour, weekday pm peak	
Max Number of Dwellings	No set upper limit	Depends on traffic flow criterion
Design Speed	16kph (10mph)	
Max spacing between traffic calming events	30m	Until further experience gained
Forward Visibility	12m	Forward visibility should not significantly exceed this value.
Minimum Width of Vehicle Track	3m	With passing places 4.5m wide every 40m
Junction Visibility Splay within Home Zone	12m x 2m	
Min Centre Line Radius Min Corner Radius at Junctions	No minimum	Limited by swept path analysis
Max Length	400m	Distance to any particular point in Home Zone, from nearest entry point

3.8 Designing the Elements

Protecting the Elements

3.8.1 Elements, such as street furniture, trees or public art, placed in or close to the vehicle route should be very robust – ie, capable of withstanding occasional impacts by slow–moving vehicles. Any vulnerable elements should be protected, or placed in areas that are inaccessible to vehicles.

3.8.2 Various items of street furniture may be required in Home Zones, such as seating, bollards, cycle racks or bin storage, depending on local circumstances. A common design style for such features will help to create a sense of place and reduce visual clutter. Street furniture that is colour contrasted from its surroundings will be more legible to blind or visually impaired people.

Lighting

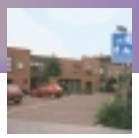
3.8.3 The ambience of the street at night is wholly dependent on the quality of the lighting, which should be appropriate to the domestic setting.

3.8.4 Lighting levels in Home Zones should be adequate to achieve good personal security at night. Particular attention should be paid to lighting obstacles – such as humps, planters or street furniture – that have to be negotiated by drivers and by people on foot. To reduce street clutter, lighting units could be mounted on buildings, although this will require easements to be secured from the property–owner. This may be less of a problem in newly–built Home Zones.

3.8.5 Even lighting levels, avoiding pools of light and dark, will make access easier for visually impaired people.

Lighting units mounted on buildings.

Well–designed lighting at Northmoor gives high levels of illumination during the evening, but reduces in intensity after midnight, see Case Study 9.



Paving Materials

Unique paving at the Methleys, see Case Study 11.

3.8.6 Home Zones should incorporate paving materials that emphasise the special nature of the street. The following factors should be acknowledged, which are common to the selection of paving materials in all streets:

- The regional and local context
- Technical requirements
- Appearance
- Ease of maintenance and replacement.

3.8.7 The palette of materials chosen should encompass the entire space, rather than being considered as a series of separate elements. The aim should be to create a clear arrangement, using a limited and complementary range of materials, so minimising visual clutter. Ideally any change in paving material, colour or texture should have a distinct purpose – for example to denote car parking spaces or to define a key pedestrian route – and thus avoid apparent whimsy.

3.8.8 The use of traditional, natural materials that harmonise with the local vernacular is encouraged. These are usually more successful if laid out in a simple and traditional manner that relates to the scale of the space. Small scale elements work well in confined or awkward spaces and larger units and in–situ paving suit larger spaces.

3.8.9 Artificially coloured materials are not ideal as they can fade over time and compromise the original design intent. Complicated pattern formation and excessive contrast between materials is generally to be avoided, not least because such an approach can confuse, and lead to maintenance problems. Consideration should be given to the effects of wear and tear on materials, particularly their ability to withstand long term vehicular use.

3.8.10 Many residential streets – particularly in Conservation Areas or other historic areas – retain features and materials of quality, often over–shadowed or hidden by years of unsympathetic change, street clutter or poor maintenance. Designers should evaluate the qualities, materials and form of existing streets and, where appropriate, preserve and enhance them as part of the Home Zone scheme. Where existing materials are being integrated within a scheme, the same material source and traditional laying methods should be used for new paving areas.

3.8.11 Paving parts of the vehicle track in "rumbly" materials, such as granite setts, can help to keep traffic speeds low. Tyre noise from such surfaces has been a problem in some traffic calming schemes, but the very slow speeds in Home Zones will reduce this problem. If rough surfaces are used, clear and adequate smooth paths through the space along desire lines will need to be maintained for disabled people and cyclists.

3.8.12 The choice of paving materials in adopted streets will need to be agreed with the Highway Authority. Further information on adoption is given in Section 3.9.

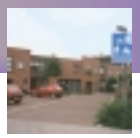
Services and Drainage

3.8.13 In new developments, designers will need to plan routes for services through the Home Zone that are suitable for Service Authorities' apparatus. Designs will need to allow for maintenance vehicles to gain access for planned and emergency works. Adequate space should also be made available in the development for above–ground equipment such as telephone cabinets, sub–stations and gas governor kiosks, again with adequate access.

3.8.14 Designers should consult with local Service Authorities at an early stage in the design process to reach agreement over their requirements.

3.8.15 The National Joint Utilities Group (NJUG) recommends that 2m wide footways are provided to accommodate buried services, but this will generally not be possible in Home Zones, where separate footways are not normally provided.

3.8.16 In shared surface designs, it may still be possible to provide adequate service strips off the vehicle track, so that maintenance can take place without disrupting vehicle access, which is particularly important in culs–de–sac. If the service strip has to be in the vehicle track, it should not present a problem if a grid street layout is adopted, as there will be alternative routes for vehicles and pedestrians in the event of a route being blocked by maintenance works.



Shared surface with central drainage channel.

Planting should be an intrinsic part of Home Zones; some of the planting could be very informal.

3.8.17 Services should be located in areas that are adopted by Highway Authorities to guarantee access for Service Authorities and to avoid conflict with residents' perception of land ownership.

3.8.18 Where Home Zones are created in existing streets, existing buried and overhead services can form a constraint to the scheme design, as relocating mains or covers can be very expensive. Again, designs must take the maintenance needs of the Service Authorities into account.

3.8.19 On shared surfaces, the drainage system must be considered carefully. Shared surfaces must drain at suitable falls away from dwellings, to gullies at low spots or to linear drainage systems, such as channels. Gully or channel gratings must be suitable for people on foot, cyclists and people in wheelchairs.

3.8.20 Gully and channel locations need not run along the edges of the vehicle track. Designing the cross–section so that the low points are in the centre of the space can create a subtle but effective distinction from a conventional street.

3.8.21 In new developments, designers should consider sustainable urban drainage systems (SUDS) that reduce the rate and volume of run off, through permeable pavements or storage systems. However, developers should check that the relevant authorities will be willing to adopt such systems, (see Section 3.9).

Areas of Planting

3.8.22 Trees and other planting will normally form a vital element in the design of Home Zones. Selecting the right species and size of tree for a particular location is crucial. Factors to be considered relate not only to the characteristics of the tree but also its surroundings. These factors include soil type; future growth potential, above and below ground; proximity to services, lighting and traffic signs; and leaf and fruit fall. It may be necessary to install an appropriate root barrier to protect the surrounding pavement or nearby services from potential root disturbance.

3.8.23 Guidance on trees and buried services is available in the NJUG Publication 10 *Guidelines for the Planning, Installation and Maintenance of Utility Services in Proximity to Trees.*

3.8.24 Future maintenance requirements should also be taken into account when selecting the species of any trees or plants, the types of container or in designing bedding arrangements.

3.9 Adoption and Maintenance

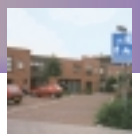
3.9.1 Most Home Zones will be adopted by local highway authorities as "streets that are maintainable at the public expense". This procedure follows Section 38 of the Highways Act 1980. Similarly the public sewers and drains beneath the surface of the street will normally be adopted by the local Water Company, in England and Wales; and by the local authority or Scottish Water in Scotland.

New shared surface streets on Castle Vale estate were adopted as public highway – see Case Study 8.

3.9.2 Many developers will be keen to use good quality materials and creative designs to create attractive and marketable developments. Adopting authorities are encouraged take a positive approach to such proposals, wherever possible.

G25. Where new Home Zone streets are to be adopted, developers should consult with the relevant authorities at an early stage in the design process to agree the materials and other design specifications that need to be met. Developers should also establish the agencies that will be responsible for the maintenance of each element in the street, as this will have a major bearing on the scheme.

3.9.3 Although the overall responsibility for the maintenance of an adopted street will normally remain with the Highway Authority, it may be appropriate that certain elements, such as planting or street furniture, are maintained by other bodies that are better suited to the task, such as the Parish, Town or District Council. This already applies in many towns and villages, where items of street furniture such as benches are maintained by the District Council under an agreement with the Highway Authority.



Adoptable areas (in green) agreed early in the design process.

3.9.4 Properly constituted residents' groups, Trusts, or maintenance companies, which can be set up by developers in new build schemes, could also have an important role to play in the care and maintenance of a Home Zone, particularly the planted areas.

3.9.5 In many streets in the Netherlands, and in some streets in the UK, residents plant and look after flowers and shrubs in large pots and planters in front of their homes to create a semi–private green space within the street with no formal arrangements.

First Saturday of every month...

...maintaining the Home Zone

Meet on Saturday at 11am by the Notice Board on Methley Drive

Methleys residents are invited to gather by the notice board on Methley Drive on the first Saturday of each month at 11am, **starting from March 2nd.** The primary aim is to carry out general maintenance of the shrubs and trees that are planted around the neighbourhood. We may well do a bit of sweeping the streets too!

Please come and join in, you only need to bring yourself; although you may want to bring a pair of gloves!

Residents' maintenance can involve everyone!

APPENDIX D SUMMARY OF KEY GUIDANCE

Planning a Home Zone

G1. Home Zones must be tailor–made, and designed to fit the character of individual streets and spaces. Home Zones will work best when prospective residents recognise the benefits of living in a newly built Home Zone when choosing to live there, or when the existing local community has a sense of ownership of and commitment to the scheme.

G2. Home Zones in existing streets must have the support of the existing community from the outset, when the aims and objectives of the Home Zone are agreed. The concept and detailed design of a Home Zone must be developed with the participation of the local community, so that any potential conflicts and problems are resolved.

G3. Home Zones are appropriate in all types of residential area, including suburban, urban and inner city locations; and for all dwelling types including high–rise flats, terraces and semi–detached or detached homes.

G4. Home Zones can be suitable for use in areas that have a significant level of non–residential use, provided that the volume and type of non–residential traffic is not excessive or damaging to the quality of the residential environment. There must always be enough residents to form a viable community throughout the Home Zone.

G5. Vehicles should not have to travel more than about 400m along Home Zone streets. This distance should be measured from any point within the Home Zone to the nearest point on a conventional street.

G6. Home Zone streets should have traffic flows of no more than about 100 vehicles in the afternoon peak hour. This is usually the time of day when there is most conflict between vehicles and people, including children playing.

Defining the Home Zone Space

G7. Home Zones can be streets, squares, courtyards, or culs–de–sac. It is the buildings, trees, planting and surface treatments that should define the Home Zone's spaces, rather than conventional kerb edges and carriageway widths. Each Home Zone space should be unique, depending on the building heights, setbacks, its overall architectural character and the community's use of the street.

G8. A high proportion of residential buildings in Home Zones should have active fronts to the street (ie, the windows of habitable rooms, doors and entrances) to provide good opportunities for natural surveillance and to foster a sense of local "ownership" of the street

G9. Home Zones must be clearly marked at their entrances and exits to ensure that all street users recognise the different nature of the area. The new Home Zone sign should be used to provide a clear statement to drivers of the change in the operation of the streets. The use of this sign must be supported by the legal designation of the area as a Home Zone under the appropriate legislation; and the completion of the necessary physical measures.

Designing for Activity

G10. Home Zones should be designed to encourage vitality in residential streets, with a high level of social interaction between residents.

G11. Home Zones must provide children with a safe and attractive area outside their homes, which will provide a place to meet and play with their friends.

G12. Any communal features, including play equipment, must be located carefully so as not to cause nuisance to local residents.

Designing for People and Vehicles

G13. The design of the Home Zone should make motorists feel that they are a "guest" in the street, and must make it difficult for them to travel at speeds of more than 10 mph. Vehicles must be accommodated within Home Zones as an integral part of daily life, but must share the space with people on foot.

G14. Home Zones must be designed to be accessible to, and usable by, disabled people of all types.

G15. Drivers usually expect to have priority over any part of the street between raised kerbs and therefore a continuous raised kerb should not normally be provided throughout the Home Zone.

G16. Home Zones must be legible to blind and visually impaired people.

G17. The route for vehicles through a Home Zone should be as narrow as is practicable, with a minimum of width of 3m.

G18. Home Zones must be designed to cater for occasional use by large vehicles.

Parking

G19. Some on–street parking should normally be provided in Home Zone streets.

G20. On–street car parking should be arranged so that it does not dominate views of the street or impinge upon the other activities that will take place in a Home Zone.

G21. In new developments, the total amount (both on and off–street) of car parking to be provided in the Home Zone should be determined from the number and type of dwellings and the application of the appropriate parking standards.

G22. Opportunities for indiscriminate parking should be removed through the design and location of street furniture, planting or other features, so that it is only possible to park within the designated on–street spaces.

Designing for Safety

G23. In locations where it is considered necessary to maintain visibility, a stopping sight distance of 12m should be applied. Significantly longer views will encourage drivers to increase their speeds and should be avoided where possible.

G24. Until further experience is gained, it is advised that speed control measures within Home Zones should be provided at a spacing of up to around 30m.

Adoption and Maintenance

G25. Where new Home Zone streets are to be adopted, developers should consult with the relevant authorities at an early stage in the design process to agree the materials and other design specifications that need to be met. Developers should also establish the agencies that will be responsible for the maintenance of each element in the street, as this will have a major bearing on the scheme.