Roads in Hertfordshire: A Design Guide

3rd Edition

Section 2: Highway Layout and Strategies
Synopsis

Section 2 contains information on all aspects of Highway Layout. The chapters highlight considerations for design such as Security, Structures, Mains Services and Frontage Access. However there is also information on longer term design considerations such as Environment and Landscaping; Safety, Place and Movement; and Maintenance.

1. General............................................................................................................................. 2

2. Local Character .................................................................................................................. 4

3. Environment and Landscape ........................................................................................... 8

4. Design for Security ............................................................................................................ 9
   4.2. Planning Policy Statement 1: Delivering Sustainable Development; and “Secured by Design” ................................................................................................................ 9
   4.3. Key Issues ............................................................................................................. 9

5. Design for Safety, Place and Movement ....................................................................... 11
   5.1. Traffic Speeds ..................................................................................................... 11
   5.2. 20 mph Zones, Shared Surfaces & Home Zones .................................................. 13
      5.2.1. 20mph zones .................................................................................................. 13
      5.2.2. Shared Surface roads ...................................................................................... 14
      5.2.3. Home Zones ................................................................................................... 15
   5.3. Casualty Reduction ............................................................................................. 15
   5.4. Safety Audits ...................................................................................................... 16
6. Design for Access ................................................................................................................. 17
   6.1. Access to Dwellings ................................................................................................. 17
   6.2. Access for Pedestrians ......................................................................................... 18
   6.3. Access for People with Limited/Impaired Mobility, Impaired Hearing and/or the Blind & Partially Sighted .......................................................................... 18
   6.4. Access for Cyclists ............................................................................................... 19
   6.5. Access for Buses ................................................................................................. 20
   6.6. Access for Emergency Service Vehicles ............................................................... 22
   6.7. Access for Cars ................................................................................................... 22
   6.8. Access for Delivery and Service Vehicles ............................................................. 23

7. Design for Maintenance .............................................................................................. 25
   7.1. General Principles ............................................................................................... 25
   7.2. Whole Life Costing .............................................................................................. 25
       7.2.1. Planned Maintenance – the long term maintenance, replacement or renewal of the asset – e.g. resurfacing a road or replacing a lighting column. ................. 25
       7.2.2. Routine Maintenance – ongoing regular operations required to keep the asset operating correctly – e.g. cutting grass or cleaning road gullies. ..................... 25
       7.2.3. Reactive Maintenance – unplanned interventions, usually for safety reasons, e.g. fixing a trip on a pavement or a bollard that has been knocked down. ..... 26
   7.3. Why is Designing for Maintenance Important? ................................................... 26
   7.4. Environmental Guidelines for the Management of Highways in the Chilterns ..... 26

8. Road Hierarchy ........................................................................................................... 27
   8.1. Primary Roads .................................................................................................... 27
   8.2. Main Distributor Roads ....................................................................................... 27
   8.3. Secondary Distributor Roads .............................................................................. 28
<table>
<thead>
<tr>
<th>Section</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.4.</td>
<td>Local Distributor</td>
</tr>
<tr>
<td>8.5.</td>
<td>Access Roads</td>
</tr>
<tr>
<td>8.5.1</td>
<td>Major Access Roads</td>
</tr>
<tr>
<td>8.5.2</td>
<td>Minor Access Roads</td>
</tr>
<tr>
<td>8.5.3</td>
<td>Shared Surface Streets</td>
</tr>
<tr>
<td>8.5.4</td>
<td>Shared Private Drives / Access</td>
</tr>
<tr>
<td>8.6.</td>
<td>Industrial Roads</td>
</tr>
<tr>
<td>9.</td>
<td>Permitted Road Connections and Frontage access</td>
</tr>
<tr>
<td>10.</td>
<td>Network Management</td>
</tr>
<tr>
<td>10.1.</td>
<td>Congestion</td>
</tr>
<tr>
<td>10.2.</td>
<td>Traffic Management Act 2004</td>
</tr>
<tr>
<td>10.3.</td>
<td>Network Management Policy and Delivery</td>
</tr>
<tr>
<td>10.3.1</td>
<td>TMP 001: Network Management Policy</td>
</tr>
<tr>
<td>10.5.</td>
<td>Network Impact (Permanent Impacts &amp; Roadworks)</td>
</tr>
<tr>
<td>10.6.</td>
<td>Permanent Works</td>
</tr>
<tr>
<td>10.7.</td>
<td>Road Works</td>
</tr>
<tr>
<td>10.8.</td>
<td>Permits</td>
</tr>
<tr>
<td>10.9.</td>
<td>Early Preparation and Forward Planning</td>
</tr>
<tr>
<td>10.10.</td>
<td>Managing Works on the Street</td>
</tr>
<tr>
<td>10.11.</td>
<td>Statutory Undertakers’ Works</td>
</tr>
<tr>
<td>10.12.</td>
<td>Other Works on the Highway</td>
</tr>
<tr>
<td>10.13.</td>
<td>Street Works Licences (Section 50 NRSWA 1991)</td>
</tr>
<tr>
<td>10.14.</td>
<td>Road Space</td>
</tr>
<tr>
<td>10.15.</td>
<td>Noticing</td>
</tr>
</tbody>
</table>
10.15.1. Major works
10.15.2. Standard works
10.15.3. Minor works
10.15.4. Immediate works
10.16. Traffic Sensitive Routes
10.17. Early Starts
10.18. Network Review
10.19. Co-ordination
10.20. Forward Works Programmes
10.21. Co-ordination Meetings
10.21.1. The Process
10.21.2. Current Status
10.21.3. Specific major works
10.21.4. Medium-term and annual works programmes
10.21.5. Co-ordination of works & opportunities for road space sharing
10.21.6. Forthcoming events
10.21.7. Street works licences
10.21.8. Complaints issues & public perception
10.22. Liaison with Others (Police, Passenger Transport, etc.)
10.23. Works Publicity
10.24. Operational Traffic management
10.25. Traffic Management Plans
10.26. Use of Portable Traffic Signals
10.27. Pedestrian Management
10.28. Restrictions (Section 58)
10.29. Avoidance of Unnecessary Delay or Obstruction
10.30. Licences & Enforcement
10.31. Restricted Routes
11. Structures ........................................................................................................................................ 50

11.1. Technical Approval Procedure ............................................................................................................ 50

12. Road Lighting ........................................................................................................................................ 51

12.1. Street lighting ...................................................................................................................................... 51

12.1.2. Lanterns ......................................................................................................................................... 52

12.1.3. Brackets ......................................................................................................................................... 52

12.1.4. Cabling ........................................................................................................................................... 52

12.1.5. Bollards & Signs ............................................................................................................................. 53

12.1.6. Design Documentation .................................................................................................................... 53

13. Provisions for Mains Services .................................................................................................................. 54

13.1. Risk of Damage .................................................................................................................................. 54

13.2. Routes, Location and Timing ................................................................................................................ 55

14. Parking .................................................................................................................................................... 56

14.1. Provision ............................................................................................................................................ 57

14.2. Curtilage Parking & Garaging ............................................................................................................... 57

14.3. Cycle and Motorcycle Parking ............................................................................................................ 58

15. Naming and Numbering .......................................................................................................................... 59

16. Rights of Way ....................................................................................................................................... 60
Roads in Hertfordshire: A Design Guide

3rd Edition

Section 2: Highway Layout and Strategies

Chapter 1: General
1. General

Manual for Streets (MfS) states “The key recommendation is that increased consideration should be given to the ‘place’ function of streets”. There is a “clear distinction between streets and roads. Roads are essentially highways whose main function is accommodating the movement of motor traffic. Streets are typically lined with buildings and public spaces, and while movement is still a key function, there are several others, of which the place function is the most important.” Even small changes in design can have a major impact on the quality of an area.

The design of any improvement to the highway network needs to take into account a series of sometimes conflicting elements. The design must facilitate access for movement by all modes, and it must also be safe for all users. The interaction between different modes – pedestrians, cyclists, cars and others needs to be carefully considered.

Highway engineering requirements should not be taken as the starting point for layout design. As MfS suggests, there should be a ‘context appraisal’ to identify the way in which an area has developed, in terms of the arrangement of buildings and the spaces between buildings. The demands for movement should then be checked against the highway engineering needs.

Photo 1-5-1-1 Making allowance for cars need not be detrimental to creation of pleasant streets
This section identifies the various elements that any development layout may have to consider, (such as local character, security, safety and access), explains the concept of road hierarchy, and also considers other general elements of development layout such as parking, naming and numbering, and rights of way.

Reflecting the approach set out in MfS, this section of the design guide aims to promote the view that requirements arising from the movement of motor vehicles need not be detrimental to the creation of good developments, and with care and commitment the requirements can be accommodated into most situations. Every effort should be made to prevent motor vehicles from dominating the visual and physical aspects of the surrounding landscape.

It is also important to provide Green Infrastructure within developments to influence the design, layout and management of roads and adjacent verges, and to reduce any ‘dead space’ that may be created.
2. **Local Character**

In designing new development, a primary aim should be to create a sense of ‘place’. A quality which, whilst difficult to define, is easily recognised by those experiencing environments which possess it. Creating a sense of ‘place’ should instil a sense of ownership in the residents or occupiers of the development.

Green Infrastructure is encouraged as a key element in maintaining and/or improving local character. This may reflect historic features of ecological value, such as trees, banks, hedges, verges, built structures, etc. which if cannot be retained, could be compensated or mitigated for.

Entrances to new developments can result in bland amenity spaces of little or no significance in terms of local distinctiveness, and more related to highway engineering requirements such as location, visibility splays, etc. Appropriate landscaping could contribute hugely to the impact and contribution of new developments.

MfS further states that ‘Planting should be integrated into street designs wherever possible. Planting, particularly street trees, helps to soften the street scene while creating visual interest, improving microclimate and providing valuable habitats for wildlife.’ ‘Care needs to be taken to preserve existing trees, particularly when changes to a street are planned’ but ‘Maintenance arrangements for all planted areas need to be established at an early stage, as they affect the design, including the choice of species and their locations.’

Establishing a “sense of place” had become less common as residential developments became increasingly uniform across the country. The rigid application of highway engineering standards is cited as one reason for this. With an increasing trend towards the redevelopment and reuse of land within existing urban areas, a degree of flexibility in interpretation of national and local standards, together with better integration with the local area are of greater importance in building high quality sustainable developments. The MFS states that “Streets should no longer be designed by assuming ‘place’ should be automatically subservient to movement”.

Careful design of the roads and footpaths can contribute to the way in which a development responds to the local character as much as the design of the buildings themselves. The choice of street furniture and materials play a key part in this. Particular consideration should be given to existing routes and movement patterns in an area when designing layouts for new developments. The way a new development connects with, and contributes to, existing routes and patterns is a significant factor in successful design. Layouts for proposed development should be designed to take into account future development, which could adjoin it, as well as linking well to any existing development.

Other elements to be considered when designing a development to be responsive to the local character include:

- the local topography and boundaries;
- the shape of existing development;
- the use of landscaping in integrating old and new development;
- access for all to sustainable modes of transport, buildings and public spaces;
- soft landscaping; and
- ecological issues.

Scheme promoters and designers are directed in particular to MfS and also the table of references for further advice.
New development can have a significant impact on the existing local character of an area. Designers should therefore review the key elements of character early in the development planning process.

HCC, in association with District/ Borough Councils and other interested local organisations, has published a Landscape Strategy for Hertfordshire. Landscape Character Assessments have also been undertaken to enable the creation of policies to protect and enhance the landscape, and enable better advice on improvements to highway infrastructure. Community involvement in this process is assisting in the development of design statements for many villages and towns in Hertfordshire. The aim of such statements is to ensure that future development and change reflect the qualities and character of an area that are valued by its residents.

Scheme promoters and designers will be expected to consider any relevant information regarding Local Landscape Character Assessments and Village Design Statements. The Local Planning Authority will be the first point of contact for such matters. Character Assessments and Design Statements, as they are developed, are expected to form Supplementary Planning Guidance in support of Local Development Frameworks (LDFs) and the consideration of such statements is encouraged by HCC.

The Chilterns was designated as an Area of Outstanding Natural Beauty (AONB) in 1965 and covers 833 sq. km. Parts of this area are in the Hertfordshire districts of Dacorum and North Hertfordshire. Specific guidance for the management of roads in the area is given in the document *Environmental Guidelines for the Management of Highways in the Chilterns* which can be downloaded at [http://www.chilternsaonb.org/downloads/Environmental%20guidelines%20for%20the%20management%20of%20highways%20in%20the%20Chilterns%20FINAL.pdf](http://www.chilternsaonb.org/downloads/Environmental%20guidelines%20for%20the%20management%20of%20highways%20in%20the%20Chilterns%20FINAL.pdf)
Roads in Hertfordshire: A Design Guide
3rd Edition

Section 2: Highway Layout and Strategies
Chapter 3: Environment & Landscape
3. Environment and Landscape

As part of environmental and landscape provisions, attention should be paid to ecological issues relating to:

- Statutorily designated sites;
- Local sites and features; and
- Legally protected species or locally important species issues.

Volume 11 of the Design Manual for Roads and Bridges lists the main potential impacts on nature conservation which need to be considered as ecological components of highway EIAs. They provide a sound set of principles for consideration:

- Direct loss of habitats through land take;
- Severance;
- Wildlife casualties;
- Disruption to local hydrology;
- Pollution of local watercourses by road run off;
- Road structures causing problems for certain wildlife;
- Effects of road lighting;
- Effects of air pollution from vehicle emissions;
- Road spray; and
- Disturbance during construction.

Protection, mitigation, compensation and enhancement opportunities should be sought where appropriate and could also contribute to the Biodiversity Action Plan for Hertfordshire objectives. Specific examples may include habitat translocations, the provision of crossing points for species such as badgers or toads, or the design of opportunities for species such as bats or swifts in structures such as bridges. The timing of works is also a key consideration, particularly in respect of nesting birds, mammals, amphibians and reptiles.

It is important to avoid fragmentation of existing habitat resources where possible. The presence of Key Biodiversity Areas – ‘landscape’ scale areas of higher biological significance – should be highlighted where these may be affected. Otherwise, the general context of ecological resources and the need to retain connectivity where possible should be identified.

The Chilterns was designated as an Area of Outstanding Natural Beauty (AONB) in 1965 and covers 833 sq. km. Parts of this area are in the Hertfordshire districts of Dacorum and North Hertfordshire. Specific guidance for the management of roads in the area is given in the document Environmental Guidelines for the Management of Highways in the Chilterns which can be downloaded at http://www.chilternsaonb.org/downloads/Environmental%20guidelines%20for%20the%20management%20of%20highways%20in%20the%20Chilterns%20FINAL.pdf.
Roads in Hertfordshire: A Design Guide
3rd Edition

Section 2: Highway Layout and Strategies

Chapter 4: Design for Security
4. **Design for Security**

4.1. **Crime and Disorder Act 1998**

The Crime and Disorder Act Section 17 makes it a requirement for Local Authorities, the Police, and other partners to take account of community safety in all aspects of their work. The Police, together with other partners and the community, develop local strategies to tackle crime and disorder issues. Scheme promoters and designers should be aware that Local Authorities have a statutory obligation to consider this legislation in the development of land within their boundaries. All designers should make efforts to address known crime and disorder problems, and seek measures to minimise the possibility of highway infrastructure increasing the opportunity for such problems.

4.2. **Planning Policy Statement 1: Delivering Sustainable Development; and “Secured by Design”**

Planning and Policy Statement 1 sets out the overarching planning policies on the delivery of sustainable development through the planning system. It sets out to promote communities which are inclusive, healthy, safe and crime free, whilst respecting the diverse needs of communities, and the special needs of particular sectors of the community.

Secured by Design (SBD) is a Police initiative, endorsed by the Association of Chief Police Officers (ACPO), to encourage the building industry to adopt crime prevention measures in development design to assist in reducing the opportunity for crime and the fear of crime. SBD, which has the backing of the Home Office Crime Reduction Unit, focuses both on building design and security and anti-social issues for development layouts.

In Hertfordshire, the Crime Prevention Design Advice Service of the Hertfordshire Constabulary, (formally the Architectural Liaison Service) strongly recommends the use of the advice contained within the ACPO approved ‘Secured by Design Scheme’. This advice has been proven to reduce crime dramatically and is contained within ‘Design Guides’, which can be viewed and downloaded free of charge from their website [www.securedbydesign.com](http://www.securedbydesign.com). The force’s Crime Prevention Design Advisors are able to discuss and interpret this guide with all interested parties.

Scheme promoters and their designers are encouraged to seek early engagement with the Police Crime Prevention Design Advisor, preferably at the pre-application stage. This will afford the opportunity to share knowledge and best practice, and can potentially reduce costs in the long term.

4.3. **Key Issues**

A key issue to consider in the design of developments is the clear definition of ‘public’ and ‘private’ space. Whereas private space is likely to be defined by boundaries such as walls, fences or hedges, layouts for public space should provide a high degree of natural surveillance, together with clear sense of ownership or responsibility by occupiers. Locating dwellings to face most stretches of road will assist in enhancing security through natural surveillance. Scheme promoters are directed to MfS as the initial source document for advice on these issues.
Road and footway layouts that encourage a high degree of pedestrian and cycle activity, as well as reduced vehicle speeds, will assist in the deterrence of criminal activity and encourage their use.

Parked cars are often a target for crime and vandalism. Parking areas should thus be open, overlooked and lit to an appropriate level. Lighting generally can assist in reducing crime and an appropriate level of street lighting for all areas (footpaths and cyclepaths as well as roads) can both increase safety and reduce the need for residents to install their own security lighting, which can be intrusive. New SBD advice allows for much lower, but uniform levels of lighting.

As part of the SBD initiative, the British Parking Association operates the 'Safer Parking Scheme', which is an initiative by the Association of Chief Police Officers aimed at reducing crime and the fear of crime in parking facilities. Park Mark®, is awarded to parking facilities that have met the requirements of a risk assessment conducted by the Police Accredited Assessor. These requirements mean the parking operator has put in place measures that help to deter criminal activity and anti-social behaviour, thereby doing everything they can to prevent crime and reduce the fear of crime in their parking facility. Further details are available from HCC’s Principle Crime Prevention Design Advisor, or by visiting the website www.parkmark.co.uk.
Roads in Hertfordshire: A Design Guide
3rd Edition

Section 2: Highway Layout and Strategies

Chapter 5: Design for Safety, Place & Movement
5. Design for Safety, Place and Movement

Road safety is a key issue to be addressed in layout design. Personal injury collisions often occur at junctions and interfaces between adjoining highway links of different status (e.g. at the start of a residential area on a rural road). For this reason it is important that proposals incorporate robust designs (in terms of road safety principles) for access to the existing highway network.

It has been found that fewer accidents occur in cul-de-sacs and short loop roads functioning only as residential access roads, where traffic flows and speeds are usually low. The aim must therefore be to design residential road layouts so as to exclude, or at least discourage non-access traffic, to reduce traffic flows generally and in particular to restrain vehicle speeds. However a balance has to be struck that also encourages walking and cycling by creating permeable town centres and residential areas.

The County Council has set out its approach to speed limit setting, review and enforcement in the Speed Management Strategy. This can be downloaded at http://www.hertsdirect.org/envroads/roadstrans/transplan/ltp/.

5.1. Traffic Speeds

Research supporting MfS found that lower vehicle speeds are associated with reduced road width and visibility distances. Speed is known to be a key factor for road safety. The results of this research is available in the Transport Research Laboratory report TRL661, which can be downloaded at 


Low speeds can help to reduce the dominance of motor vehicles, thereby providing a greater degree of safety and security for more vulnerable users such as pedestrians and cyclists. The road layout should suggest to the vehicle driver that low speeds are appropriate, and that to travel at higher speeds would be both dangerous and anti-social.

Design which addresses how drivers perceive the road they are using – the avoidance of open aspects and long, wide straight or slightly curving roads – will assist in reducing vehicle speeds. Building close to the road can make the road appear ‘narrower’, which may assist in speed reduction, but can also conflict with footway width requirements. Controlled on-street parking can assist in some situations, as can the use of planting or different road surface finishes.

In appropriate areas, the use of less formal carriageway or footway relationships, through the use of shared surfaces, can assist in reducing speeds. Restricted visibility in the absence of other precautions cannot however be considered a safe means of reducing vehicle speeds. Visibility distances must therefore be adequate for expected vehicle speeds. Detailed advice is given in Section 4, Chapter 1 Road Design Criteria.

Restricting the distance between speed-reducing features has a direct effect in keeping maximum speeds below ‘target maximums’. Speed control measures at appropriate intervals are a suitable method of speed ‘restraint’. Such measures include:

- short straights linking small radius bends (with mountable shoulders);
- chicanes (although not normally the first option);
islands, with mountable shoulders for use by larger vehicles;
short cul-de-sacs; and
kerb build-outs, with or without grouped parking bays.

Detailed guidance on the appropriate lengths of unrestrained road for different road types is given in Section 4, Chapter 1: Road Design Criteria.

Other traffic calming methods can encourage drivers to make their speeds appropriate to local conditions, through measures that are self-enforcing. Vertical deflection methods such as speed humps or tables are more commonly used on existing roads as speed reduction measures and should not normally be considered in new estates unless desired speeds cannot be produced by the road layout alone.

If circumstances dictate the need for humps or tables they should be incorporated into the overall design concept from the outset and should be of a 'flat top' design, and positioned where they will be of benefit to pedestrians crossing the road. Design of such elements should take into account the needs of cyclists and should be avoided on bus routes or roads used regularly by ambulances. Guidance on consultation with the Hertfordshire Fire & Rescue Service regarding traffic calming measures is available to download at www.hertsdirect.org/infobase/docs/pdfstore/cfs_r12v1.pdf.

Referring back to Section 2, Chapter 2: Local Character, measures to reduce or restrain speed should be in keeping with the local character. In an urban situation, shorter, straight
lengths of road with features such as junction treatments and central islands may be in keeping with the existing road layouts in the vicinity. In a more rural setting, elements such as sharper bends, increased use of planting or verge areas, etc. may be more appropriate.

The County Council has set out its approach to traffic calming in chapter 4 of the Speed Management Strategy. This can be downloaded at [http://www.hertsdirect.org/envroads/roadstrans/transplan/ltp/](http://www.hertsdirect.org/envroads/roadstrans/transplan/ltp/).

Traffic calming must comply with the Highways (Traffic Calming) Regulations. The Traffic Advisory Leaflet 7/93 offers relevant guidance on the use of traffic calming measures. A series of further Traffic Advisory Leaflets giving more comprehensive guidance on traffic calming devices are available from the Traffic Advisory Unit or at [http://www.dft.gov.uk/pgr/roads/tpm/tal/](http://www.dft.gov.uk/pgr/roads/tpm/tal/). A list of Advisory Leaflets that may be of interest to designers is given in the table of References.

5.2. 20 mph Zones, Shared Surfaces & Home Zones

5.2.1. 20mph zones

The designation of 20mph zones is an increasingly important tool in controlling traffic speeds in residential areas (See Photo 2-5-2-1). It may be appropriate to design, from the outset, complete estate layouts that could be designated as 20mph zones. Circular 5/99, 20mph Zones, describes the current systems for applying 20mph speed limits and zones. Traffic Advisory Leaflet 9/99 gives advice on where and how to implement 20mph zones, together with guidance on the types of speed controlling measures that may be most effective to sustain speeds at or below 20mph through the area.

Previous government advice was that 20mph zones were not permitted if any part of the zone was more than 1km from the boundary of the zone. Whilst this no longer applies, it remains sound general advice. Ideally speed-controlling measures should be designed into the overall layout of a scheme rather than treated as a later addition.
5.2.2. **Shared Surface roads**

Shared Surface roads are distinguished by having no separate segregated footway. As their name implies, they operate with all users sharing the space and interacting in a civilised way. This has led to concerns in some quarters that they will be more dangerous for pedestrians and cyclists. Recent research ([DfT Shared space project - Stage 1: Appraisal of shared space](#)) showed that there is no evidence that shared space schemes, including those with shared surfaces, as implemented in the UK have more casualties than conventional layouts, or that particular groups, including disabled people, are injured more frequently following their introduction.

Shared surface arrangements can allow more flexible use of public space, with reductions in overall highway space being a potential benefit. They will be acceptable in most cul-de-sac situations, although the absence of a segregated footway may be inappropriate where it is anticipated that residents will be predominantly elderly or mobility impaired. The design of such roads must aim to restrain target maximum speeds to well under 20mph and be self-enforcing, through the use of horizontal deflection, for example. Unrestrained road lengths of no more than 40m are recommended.

However, the use of Shared Surface roads calls for greater attention to the details of finishes and landscape at an early stage. Such roads need to be clearly differentiated (perhaps by texture or colour) from the roads to which they are joined, so as to clearly indicate to road users the change in road function. Additionally, a “gateway” feature at the entry to a shared space is essential.
The logical extension of the ‘Shared Surface’ concept is to introduce wider ‘living’ areas where pedestrians and cyclists have freedom to use the whole street space in safety. This concept is now being established in the UK as a Home Zone.

It is recognised that the reduction in hard visual clues and kerbs between footways and carriageways can be intimidating to blind and partially sighted people. Such issues can be addressed with reference to the booklet Inclusive Streets: Design principles for blind and partially sighted people produced by Guide Dogs for the Blind Association. It can be downloaded at www.guidedogs.org.uk/inclusivestreets. Existing users should be involved in the design process where possible.

5.2.3. Home Zones

The Transport Act 2000 makes provision for Local Authorities to designate Home Zones and Quiet Lanes. DfT published its Quiet Lane and Home Zone Regulations in August 2006. Authorities can now make Use and Speed Orders which determine the way the road is used. The regulations can be read at:


These Use Orders allow roads to be used for "purposes other than passage" allowing local residents to define how they want to use their streets (ball games, parties, etc.). Similarly, the Regulations allow Authorities to introduce "Speed Orders" to set an advisory (lower) speed - 20mph or less – albeit less than 20mph would not be enforceable.

Scheme promoters are urged to liaise closely with the Local Authority so that draft orders can be ready to publish as soon as the home zone is authorised. Buyers should be fully aware of the implications and advantages of living in a home zone.

Physical measures to assist in reducing speeds to well below 20mph such as non-parallel kerb lines, horizontal deflections, speed tables, pinch-points, extended pavement areas and planting can be introduced.

Designers should be aware that under current legislation, 20mph is the lowest mandatory speed limit. Below this value, speed limits can be advisory only.

5.3. Casualty Reduction

The Road Traffic Act 1988 (amended by the Road Traffic Act 1991), placed a statutory responsibility for road safety on highway authorities. The Act requires local authorities to “prepare and carry out a programme of measures designed to promote road safety”, and enables “contributions to be made towards the cost of measures for promoting road safety taken by other authorities or bodies”.

The Road Safety Plan is HCC’s response to that challenge and forms part of the LTP. It contains the Highway Authority’s national targets for achieving reductions in casualties and collisions. The Plan can be downloaded from http://www.hertsdirect.org/envroads/roadstrans/transplan/ltp/.

To achieve these reductions the authority applies the principles of casualty reduction and casualty prevention. Casualty reduction seeks to reduce a known casualty problem and casualty prevention seeks to intervene to before a collision occurs.

HCC seek to reduce the incidences of projects that may lead to increases in collisions and casualties. One of the methods used to achieve this policy is the safety audit process.
5.4. Safety Audits

HCC has a longstanding commitment to promote road safety. All proposals for the provision, significant improvement and maintenance of roads in the County will be subjected to independent road safety audit.

Road safety audit comprises a series of formal safety checks applied to the proposals by independent safety audit engineers at appropriate stages in planning, design, construction and initial use. The audits take into account the physical features of the proposals, all expected users of the road, and the interactions between these elements.

The detailed requirements for Road Safety Audit are set out in Section 3, Chapter 6: Design Checks & Safety Audits.
Roads in Hertfordshire: A Design Guide
3rd Edition

Section 2: Highway Layout and Strategies
Chapter 6: Design for Access
6. **Design for Access**

HCC seeks to encourage, promote and provide more facilities for modes of transport other than the car, particularly walking, cycling and passenger transport services of all kinds. Whilst it accepts that major changes in travel habits are unlikely to occur in the short term, there are a variety of factors that may affect car use including increasing congestion, concerns over air quality (as recognised in the Road Traffic Reduction Act (1997) and MfS, and fiscal measures instigated by the UK Government.

The transport strategy of HCC is thus one aimed at not only influencing travel patterns directly (through its own policies and by working with others) but also at ensuring that people will be able to access the places and services they require, even when cars can be used with less freedom than they are today.

6.1. **Access to Dwellings**

In accordance with the principles in MfS, every effort should be made in design to ensure that street layouts directly serve dwellings and contribute to the functional success of a neighbourhood. Street networks should be connected to encourage walking and cycling. They should be designed to minimise the distances travelled by vehicles between dwellings and other facilities within the area and to locations outside it.

There will be a general presumption that not more than 300 dwellings (or equivalent size of development) should be served from a single point of access to the wider road network. However, this is just a starting point and each case should be assessed against local circumstances. In accordance with paragraph 6.7.3 of Manual for Street the local fire service should be consulted at an early stage to allow them to carry out a risk assessment against their requirements and response times. If circumstances prevent the provision of more than one point of access to serve more than 300 dwellings, special approval must be agreed and obtained in writing from the highway and planning authorities.

The hierarchy for Hertfordshire’s road network and the permitted connections between different types of road are discussed in Chapters 8 and 9 of this section.

Ideally, culs-de-sac should be kept relatively short and serve no more than 25 dwellings. This will assist in keeping speeds low, promoting a neighbourhood spirit, and creating permeable neighbourhoods which encourage walking and cycling.

In designing all road layouts, consideration should be given to minimising difficulties in access for all users (residents, emergency services, maintenance vehicles, etc.). Incidents such as vehicle breakdown, road maintenance or access to underground services, whilst infrequent, can obstruct access and consideration should be given to providing alternative means of access. Footpath / cycle track links that could be used by vehicles in an emergency are one solution which can at the same time help to provide direct and convenient routes for pedestrians and cyclists.

Designers should take into account the possibility of future development when designing road layouts. For example, on larger development sites, locations may be identified for specific uses in the future, such as schools and local centres. The design of roads in the vicinity of such locations should allow for adequate access by all vehicles that such uses might reasonably be expected to generate.

For example, a site identified for future school development may be expected to generate a number of vehicle and school bus movements should a school be constructed. Residential
roads in the vicinity of such a site should be of adequate design to accommodate these anticipated movements satisfactorily, and with minimal disruption to local residents.

6.2. Access for Pedestrians

As part of the draft third Local Transport Plan HCC produced a draft Walking Strategy in September 2010. This is available at http://www.hertsdirect.org/envroads/roadstrans/transplan/ltp/ and gives the policy direction of the authority in this area.

Provision for pedestrians has too often been overlooked despite the fact that it is the principal form of travel for trips under 1 mile. Footways (alongside carriageways) and footpaths (located away from carriageways) must be safe, convenient, secure, attractive and nuisance-free. MFS also emphasises that access should be provided for those of all ages and all abilities. Footways and footpaths must be well aligned, follow a direct route from point to point, have reasonable and practicable gradients and be sufficiently wide to enable different users (pedestrians, prams, wheelchairs, etc.) to pass each other freely. Detailed design advice is given in Sections 4 and 5.

Routes should be carefully positioned so as to maximise their use. If routes are segregated from passing traffic they will need to be well-connected and overlooked by dwellings or other buildings - people generally prefer to walk along streets where they can be seen by drivers, residents and other pedestrians.

Designers should create links with the wider pedestrian network, both existing and planned. Particular consideration should be given to connecting pedestrian routes with local centres, healthcare facilities and schools. In addition, opportunities to link to the existing rights of way network for sustainable leisure pursuits should be taken up where safe and practical.

Designers should avoid using existing paths and Rights of Way as the alignment for new vehicular access roads, and should design their developments to accommodate these safely alongside new roads or through landscaped areas.

When considering width and alignment of footpath and footway facilities, consideration must be given to the need for ramped crossings to garage drives or parking spaces, and to providing for statutory and other services underground (see also Section 2, Chapter 13: Provision for Mains Services).

6.3. Access for People with Limited/Impaired Mobility, Impaired Hearing and/or the Blind & Partially Sighted

'Limited Mobility' is a term that can refer to a range of users: those laden with shopping; the elderly; people with physical disabilities. The access problems they may encounter, however, are the same – long walking distances, inappropriate gradients, surfaces and the differentiation of surfaces, obstructions on footpaths, cluttered street furniture, etc.

Blind and partially sighted people will be particularly affected by inappropriate gradients, surfaces, poor differentiation of surface types, obstructions on footpaths and structures including safety measures. All improvements to the highway must be designed to minimise these conditions.

Access to and within any development must be available to all sections of the community. Within development design, the provision for motor vehicles should never be to the detriment of the access requirements of pedestrians, including those with limited mobility.
Whilst it may be technically impossible to meet all the needs of the mobility impaired, there are a variety of practical arrangements that will be of benefit. Advice can be found in Traffic Advisory leaflet 6/02: Inclusive Mobility: A Guide to Best Practice on Access to Pedestrian and Transport Infrastructure.

Since October 1999 all new housing has had to meet certain requirements to ensure it is accessible for disabled / mobility impaired people. These requirements are specified within the Building Regulations Approved Document Part M. The approach to a dwelling from the point where a disabled person would get out of a car should be level or ramped. In exceptional circumstances on steeply sloping plots a stepped approach would be acceptable. The approach should be at least 1200mm wide.

In common with other public sector organisations, HCC has to carry out mandatory equality impact assessments on its services to comply with the law as set out in the Equality Act 2010. This legislation is designed to ensure equality of access to services. The Act requires the authority to mitigate negative impacts and, where possible, improve outcomes.

6.4. **Access for Cyclists**

The layout of cycle routes should adhere to the DfT’s five core principles, as set out in LTN 1/04 ‘Policy, Planning and Design for Walking and Cycling’. These principles are that routes should be Convenient, Accessible, Safe Comfortable and Attractive. They should be designed to encourage cycling as part of multi-user routes, along with pedestrians and passenger transport. Scheme promoters will be expected to provide measures to assist cyclists in conjunction with the HCC Cycling Strategy, available on the HCC website at [http://www.hertsdirect.org/envroads/roadstrans/transplan/ltp/ltp2/newcyclestrat/](http://www.hertsdirect.org/envroads/roadstrans/transplan/ltp/ltp2/newcyclestrat/).

Where traffic speeds are low, the need for segregated cycle paths is reduced, although where space allows, segregated routes can be a major incentive to encouraging cycling by people who may otherwise be intimidated by traffic. Although speed restraint measures can assist in reducing the need for segregated cycle tracks, any such measures need to be designed with cyclists in mind.
Clear, coherent and attractive routes are needed. Cycle links, both between roads within an estate layout, and to connect new roads with existing and other proposed development areas, should be included. This is particularly important where such links provide routes that are significantly shorter than by way of the estate roads. Routes should reflect the desire lines for movement through the development and ideally should be visually overlooked.

In providing for cyclists, designers should create links with the wider cycle network within the County, both existing and planned. Information on the current and planned cycle route network in the County can be obtained from HCC and District / Borough Councils.

Consideration should also be given to providing carriageway crossing points for cyclists within new development and across adjacent roads.

Cyclists and pedestrians can share the same space but careful design is required. Users of this guide are referred to Local Transport Note 2/08 ‘Cycle Infrastructure Design’ available at [http://www.dft.gov.uk/pgr/roads/tpm/ltnotes](http://www.dft.gov.uk/pgr/roads/tpm/ltnotes).

### 6.5. Access for Buses


In 2008, HCC adopted an Intelligent Transport Systems (ITS) Strategy as part of the LTP. ITS is a term used to describe the use of a wide range of technology to assist people whilst they
travel using all types of transport. ITS solutions help travellers make best use of existing transport networks by making them operate more efficiently, and help users make more informed choices about the best type of transport or route for a particular journey.

The following table indicates the minimum application size for different development types for which PTU would expect to be consulted. PTU will be able to assist in identifying any opportunities and difficulties in serving the site by passenger transport, and whether the existing passenger transport provision is adequate and appropriate for the type of development.

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Minimum application size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>20 dwellings</td>
</tr>
<tr>
<td>Employment (office)</td>
<td>1,000 sq. m (GFA)</td>
</tr>
<tr>
<td>Employment (other)</td>
<td>2,000 sq. m (GFA)</td>
</tr>
<tr>
<td>Retail</td>
<td>1,000 sq. m (GFA)</td>
</tr>
<tr>
<td>Leisure or community</td>
<td>All</td>
</tr>
<tr>
<td>Other</td>
<td>All</td>
</tr>
</tbody>
</table>

Targets may be set for non-car use in new development and scheme promoters may be encouraged to make a commitment to these through the planning process, generally by means of planning obligations under Section 106 of the Town and Country Planning Act (Section 3, Chapter 1: Legal Aspects). Scheme promoters may be requested to contribute towards bus services and/or infrastructure improvements in order to assist in the promotion of the use of bus services.

Assessment of the existing bus services should be undertaken by the scheme promoter as part of the Transport Assessment (TA) or Transport Statement (TS), if one is required (see Section 1, Chapter 7: Transport Assessments).

For other developments the PTU will make the assessment. A minimum service provision level of 4 buses per hour peak / 2 buses per hour off peak (06:30 to 22:00) is considered as appropriate for most development.

There are a series of basic design principles applicable to all development where a key aim is to make passenger transport an attractive mode (relative to the car) and to promote and encourage its use.

All occupied parts of development should be within 400m walking distance of a bus stop. In a town centre location, areas with a significant proportion of elderly residents and commercial and industrial developments the maximum walking distance is reduced to 200m

Bus stops and associated facilities should not be treated separately from road infrastructure and should be installed prior to first occupation of any development.
Roads that are to be used by buses should be identified at an early stage and designed to the appropriate standard and without vertical speed-reducing features. Development layouts should be designed such that all occupied areas are no more than 400m walking distance from a bus stop. Consideration could also be given to the provision of bus only access points to a development to give priority to bus services entering and exiting a site.

For a development to be suitable for passenger transport, delay to buses at junctions within the development, at entries to it, and en-route should be avoided if at all possible. Cars should be discouraged from parking on the carriageway on bus routes. Early consideration of priority measures for passenger transport vehicles at junctions will allow sufficient space to be allocated to accommodate such features. Minimum widths for different road classes are given in the detailed design advice in Section 4, Chapter 1: Road Design Criteria.

Where the need for a bus stop is identified, the location of the stop should be considered in relation to the footpath / footway system and road crossing facilities to ensure direct, safe and convenient access.

An area of hard standing connected to the footpath / footway should be provided at all bus stops. Shelter provision should also be considered. Easy access kerbs will be required where the location of the bus stop allows buses to use them effectively. Green coloured surfacing, together with a bus stop clearway order and cage marking, will also be required to assist in preventing illegal or obstructive parking. Specific design guidance is given in Section 4, Chapter 10: Passenger Transport Facilities.

6.6. Access for Emergency Service Vehicles

MFS states that requirements for emergency vehicles are generally dictated by the needs of the fire service. As providing access for large fire appliances will suitably cater for Police and Ambulance vehicles. Layout designs should ensure that the access needs of emergency services can be met without difficulty and in accordance with required attendance times. Specific instruction on design requirements can be found in Building regulation B5 (2000) Access and Facilities for the Fire Service and also from the Association of Chief Fire Officers.

Vehicle access routes and hard standings that are to be used by fire service vehicles must comply with the criteria set out in The Building Regulations Approved Document B Section B5 Access and Facilities for the Fire Service.

Scheme promoters should keep in mind that emergency routes need not necessarily follow vehicular routes, and that pedestrian only areas can be designed to accommodate emergency service vehicles.

6.7. Access for Cars

It is accepted that for the foreseeable future the car is likely to remain the dominant mode of transport. However, the need for travel by car can be reduced through locating and planning development in such a way that fewer and shorter journeys by car are required. MFS states that in some locations, “a development may be based on car-free principles”.

Car free residential development may be considered in suitable locations, subject to satisfactory site covenants, on street parking controls and provision of alternative means of transport.

The design of all development should ensure the maximum degree of safety for all users. Following the guidance in Section 2, Chapter 5 Design for Safety, Place & Movement development should also seek to minimise the environmental disbenefits arising from motor
vehicle use and assist in the provision of convenient and attractive routes for the more vulnerable users (pedestrians and cyclists).

Careful consideration should be given to car-free layouts and layouts that provide direct access to dwellings. Provision should be made for accommodating visitors, taxis (which residents will want to come to their door), services such as ‘Dial-a-Ride’, and other door-to-door services, which may be used by the mobility impaired, for example. Detailed design criteria for the different classifications of road type are given in Section 4, Chapter 1: Road Design Criteria.

6.8. Access for Delivery and Service Vehicles

The needs of service vehicles, such as refuse collection vehicles, are important considerations in development design but should not dominate the shape of an area. Considerations include:- provision of direct routes between different parts of a site to minimise distance travelled; adequate access and egress, including space to turn and reverse; and room for other vehicles to pass when a service or delivery vehicle is stationary.

Refuse collection vehicles must be able to stop within the ‘maximum refuse carry distance’ specified by the Local Planning Authority or within 25m of any bin storage area, whichever is the lesser distance. Residents should not have to carry their rubbish more than 30m to a storage point. (Sources BS5906:2005 and Schedule 1 Part H Building Regulations)
The Freight Transport Association has produced a guide Designing for Deliveries (latest edition July 2006) which gives guidance on truck turning and manoeuvring. MfS includes design guidance for turning areas and manoeuvring such vehicles. When siting turning areas, careful consideration should be given to the location so as to minimise the likelihood of vehicles using the area for parking.
7. Design for Maintenance

A detailed Maintainability Strategy is being prepared by HCC as part of its Transport Asset Management Plan (TAMP). The concept behind the guidance is to provide the designer with an insight into maintenance requirements. This will drive focus in the detailed design to consider usability and functionality not only in relation to the design and build objective, but also in the maintainability of the constructed asset.

This interim guidance sets out the principles that should be considered and provides a few examples.

7.1. General Principles

When designing new highways or implementing improvements or other changes to existing highways, it is important to consider the impact on the ease, frequency and cost of future maintenance that the design will have.

The designer’s objective should be to provide a design that is fit for purpose, while keeping the future maintenance liability to a minimum.

A scheme or development that uses unusual techniques, expensive, hard-to-maintain or hard-to-resource materials may become unattractive and cease to serve its intended purpose due to maintenance difficulties.

7.2. Whole Life Costing

In addition to the initial cost of the project, it is necessary to consider the planned, routine and reactive costs that are likely to be incurred over the typical lifecycle of the assets concerned. Elements within the design that are likely to create an unusually high level of maintenance requirement within one or more of these whole life cost areas should be reconsidered.

7.2.1. Planned Maintenance – the long term maintenance, replacement or renewal of the asset – e.g. resurfacing a road or replacing a lighting column.

Factors to consider here include the likely life of the chosen material before replacement or substantial maintenance is needed, and the cost of such an operation. A material that can have its life extended by an interim maintenance treatment is likely to offer a better whole life cost than a material that has to be removed and replaced. It has been shown that systematic planned preventative maintenance work can significantly reduce reactive works and delay the need for replacement.

7.2.2. Routine Maintenance – ongoing regular operations required to keep the asset operating correctly – e.g. cutting grass or cleaning road gullies.

The need for routine or cyclical maintenance should be ‘designed out’ as far as possible. Where such maintenance cannot be eliminated, it should be kept to a minimum and, if possible, limited to generic operations that can be included in a general works programme rather than needing specialist or bespoke maintenance (which is usually more expensive and much less likely to undertaken). For example, when designing drainage for a carriageway, standard highway gullies are preferable to the various types of proprietary drainage channel as they are easier to clean as part of a routine programme.
7.2.3. Reactive Maintenance – unplanned interventions, usually for safety reasons, e.g. fixing a trip on a pavement or a bollard that has been knocked down.

Reactive maintenance is disproportionately expensive compared to planned work but is often needed to keep the highway safe and prevent / reduce accidents. It is therefore important to select designs and materials that look to reduce, as far as practicable, the need for reactive maintenance. For instance, experience shows that bituminous footway surfaces are much less likely to need urgent maintenance than paving slabs, which often cause trip hazards.

7.3. Why is Designing for Maintenance Important?

Effectiveness - An asset or scheme that can be maintained cheaply and simply is much more likely to be maintained, meaning that the scheme or project will stay in good condition for much longer and continue to fulfil its purpose.

Cost - HCC has limited resources and a duty to make the most of them. Future maintenance liabilities should be eliminated or reduced as far as possible through careful and effective design. Consideration should be given to whole life-cycle costs, including design, construction, operation and maintenance.

Disruption - Frequent repeat maintenance is disruptive to residents and the travelling public. An asset that will last a long time with little or no maintenance will help to minimise disruptions.

Environment - Maintenance works, like any works, have an associated carbon footprint, whether it’s from the vehicles and plant used to cut grass or clean drains, or the energy and raw materials used in producing, transporting and laying asphalt. Reducing the need and frequency of future maintenance will help to reduce the impact on the environment.

Improved Service – A reduction in the need for future maintenance due to good design will translate into a better service for the public. Using good practice and designing with maintenance in mind will lead to an asset that needs less work to keep it in good operating condition in the future.

7.4. Environmental Guidelines for the Management of Highways in the Chilterns

The Chilterns was designated as an Area of Outstanding Natural Beauty (AONB) in 1965 and covers 833 sq. km. Parts of this area are in the Hertfordshire districts of Dacorum and North Hertfordshire. Specific guidance for the management of roads in the area is given in the document Environmental Guidelines for the Management of Highways in the Chilterns which can be downloaded at http://www.chilternaonb.org/downloads/Environmental%20guidelines%20for%20the%20management%20of%20highways%20in%20the%20Chilterns%20FINAL.pdf.
Roads in Hertfordshire: A Design Guide

3rd Edition

Section 2: Highway Layout and Strategies

Chapter 8: Road Hierarchy
8. Road Hierarchy

Figure 2.8.1.1, at the end of this chapter, gives an illustrated example of the road hierarchy.

The Highway Authority maintains and develops a hierarchical structure for its roads, the hierarchy being based on the road’s intended function. The aim of this approach is to assist in ensuring traffic is concentrated onto roads appropriate to its journey purpose. Development should be designed to fit into and strengthen this approach. This will improve safety, discourage the use of residential roads for through traffic, and create safer conditions for all users of residential roads. This is also particularly important for vulnerable users such as pedestrians and cyclists.

The hierarchy of roads adopted by the HCC, the primary journey purposes and functions that they should fulfil, and the type of standards and character appropriate for them is outlined below. Further information on road hierarchy is given within the Long Term Strategy document of HCC’s Local Transport Plan (LTP).

HCC is developing a Route User Hierarchy to assist in its network management duties. This is described in more detail in Section 2, Chapter 6: Design for Access.

8.1. Primary Roads

These roads form the Primary Route Network (PRN), providing the links between the most important traffic origins and destinations. They consist of motorways, trunk roads and the most important County ‘A’ roads. Other than motorways, primary roads can be identified by their green backed signs. They will usually be built to 70mph (120 km/h) standard, and avoid urban areas and other settlements. Wherever possible, through traffic is encouraged to use these routes, and they form the HCC’s advisory lorry route network.

Primary roads will rarely be modified as a result of development proposals. In any such cases, early consultation with HCC, and the HA in the case of motorways and trunk roads, will be required to determine design requirements. Any work would be the subject of a legal agreement.

Limitations to direct access on to a primary route apply for new and existing developments.

8.2. Main Distributor Roads

These roads consist of the County ‘A’ roads which do not form part of the PRN. There are two types:-

Rural main distributors connect the main towns with the PRN and link neighbouring towns within the PRN grid.

Urban main distributors are the main roads that distribute traffic within towns, around town centres and link town centres and main industrial areas to the PRN.

Main distributors can be identified by their white-backed signs and a single carriageway standard will usually be adequate. Through traffic that could use the PRN will be discouraged from using main distributor roads.

New access onto these roads would not normally be allowed. If access to or improvement of a main distributor is required as a result of a development proposal, early consultation with HCC will be necessary to obtain agreement and to determine design requirements.
8.3. Secondary Distributor Roads

Rural secondary distributors connect the important rural settlements to each other and to the Main Distributor network. They are the main access roads to rural areas.

Urban secondary distributors connect important urban neighbourhoods to each other and to the Main Distributor network. They also form the distributor routes through large residential areas.

In both rural and urban areas, these routes will normally be designated ‘B’ roads and signed as such. It is appropriate for these to be bus routes.

If access to or improvement of a secondary distributor is required as a result of a development proposal, early consultation with the Highway Authority will be necessary to determine design requirements.

8.4. Local Distributor

Rural Local Distributors are generally country lanes that give access to adjacent land, or roads that connect minor settlements.

Urban Local Distributors generally provide routes through residential areas and are often estate roads. They provide the link between the Secondary Distributors and residential roads. Local Distributors do not have signed numbers and are likely to be bus routes.

Development layouts should seek to encourage walking and actively manage residential parking on Local Distributor roads. A balance needs to be struck between the expectation of car owners to park as near their homes as possible and the avoidance of undesirable on-street parking, particularly if it is likely to block footways.

The location of points of access and the layout of residential development should seek to ensure that all roads within the development serve well under 300 dwellings in order to evenly distribute traffic flows.

The planning of development must take account of environmental factors associated with the road, such as noise, light pollution, etc. and provide suitable hard or soft landscape screening where necessary.

8.5. Access Roads

Access roads provide direct access to housing and other developments. They consist of all roads not falling within the Primary Road, Main, Secondary or Local Distributor categories. Access roads are sub-divided into three main types for the purposes of design requirements. These are:

- Major Access Roads;
- Minor Access Roads; and
- Shared Surface Roads.

8.5.1. Major Access Roads

A Major Access Road is a residential road with footways that serves between 100 and 300 dwellings or equivalent development (see the dwelling units table in Definitions). Two points of access to a higher category road (usually a Local Distributor) are preferable. If only one access point is provided, the Major Access road must be looped and the connection to
8.5.2. **Minor Access Roads**

A Minor Access Road is a residential road with footways which gives direct access to dwellings and parking spaces but serves no more than 100 dwellings.

8.5.3. **Shared Surface Streets**

A Shared Surface Street is a residential road without footways. Subject to making provision for disabled people it should have the following features:

- be short in length or be a short cul-de-sac;
- carry a volume of motor traffic below 100 vehicles per hour (peak); and
- have actively managed parking.

*Shared Surface roads should differ in colour or texture (preferably both) from that of adjoining roads, and must always be entered via a gateway feature.*

‘Mews Courts’ and ‘Housing Squares’ are generic terms for higher density developments grouped around a Shared Surface road. ‘Mews Courts’ generally serve dwellings which have individual garages or allocated parking; as such, a turning head is required within a ‘Mews Court’.

‘Housing Squares’ serve dwellings which generally do not have individual garages or allocated spaces. The ‘Housing Square’ can provide up to 20 car parking spaces. Parking for dwellings does not have to be related to a specific ‘Housing Square’, but the total parking provided by a number of ‘Housing Squares’ must be in line with the Local Planning Authority guidance.

8.5.4. **Shared Private Drives / Access**

Shared Private Drives / Access ways are unadopted paved areas that may be built to a lower standard than minor access roads. They should serve no more than 5 dwellings. Where a shared private drive connection to a road serving more than 100 dwellings is unavoidable that access should serve no more than 3 dwellings.

Detailed design requirements for private drives (widths, gradient, and visibility) are set out in **Section 4, Chapter 1: Road Design Criteria**. Requirements for accesses serving parking areas and garage courts for up to 5 dwelling units will be the same as those for private drives.

The provision and geometric design of accesses should be sufficient to ensure that the drivers of vehicles intended to use them are not discouraged from doing so, as this can result in parking in inappropriate areas. Insufficient attention to detail in the design of accesses can result in damage to highway and adjacent private surfaces, as well as obstruction of carriageways and footways.

The design of an access will be dependent upon the anticipated traffic use. A single lane access will normally be sufficient to serve up to 3 individual dwellings or equivalent. Accesses should be as far as possible aligned perpendicular to the road alignment and no access should be at an angle of more than 10 degrees from the perpendicular in a road with the higher category road should be the shortest practicable length. The connection should always form the stem of a T-junction with the higher category road.
footways. More oblique angles may be permitted in a shared surface road if the access is less than 30m from a turning place.

Accesses are best located on the outside of curves to avoid any associated on-street parking interfering with forward visibility. They should not be provided within, or closer than 6m to the tangent point of a bellmouth radius of any junction or to the priority road opposite a bellmouth, unless on-street parking space within additional carriageway width is provided.

Certain sections of road may be required to link different parts of a development, i.e. to provide a link between a local distributor road and major / minor access roads. A road linking an access road (major or minor) and back land development via a gap in the existing frontage development on the access road is a common example.

Such road sections should not have junctions within their length, nor have direct access to dwellings. They should be kept short, but should be not less than 25m in length. The design should aim to achieve the same target maximum speed as the roads it connects. The design of all roads should be in accordance with the guidance given in Section 4, Chapter 1 Road Design Criteria.

8.6. Industrial Roads

Industrial roads provide access to premises within predominantly industrial or commercial areas and link such areas to distributor roads and the wider highway network.

Industrial roads are generally unadopted (i.e. private streets). Such roads, which serve commercial development, will normally only be considered for adoption by the HCC if the premises served are in at least two freehold ownerships and where there is a clear benefit to the public.

The boundary between private roads and public highway should be clearly delineated using a feature (such as a line of granite setts or brass studs) or a change in surface material.

Detail design guidance for Industrial roads is given in Section 4, Chapter 1: Road Design Criteria.
Figure 2.8.1.1: Illustrated example of the road hierarchy
Roads in Hertfordshire: A Design Guide

3rd Edition

Section 2: Highway Layout and Strategies

Chapter 9: Permitted Road Connections & Frontage Access
9. Permitted Road Connections and Frontage access

Table 2.9.1.1 below sets out the permitted connections and frontage accesses for different road types. This is based on the definitions set out in policy 5.15 of the Local Transport Plan Long Term Strategy.

Where a development proposal may result in road connections or frontage accesses which are outside of those normally permitted (i.e. those identified in Table 2.9.1.1 as 'not normally permitted'), the scheme promoter or designer should undertake consultation with HCC at the earliest opportunity. The scheme promoter will be expected to set out the particular exceptional circumstances which apply and reasons why any frontage access not normally permitted should be allowed in a written submission.

<table>
<thead>
<tr>
<th>Road Type</th>
<th>Takes Access from</th>
<th>Gives Access to</th>
<th>Vehicles</th>
<th>Pedestrians</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td>Other Primary routes</td>
<td>Main Distributor Secondary distributors (in exceptional circumstances).</td>
<td>Not normally permitted</td>
<td>Not normally permitted</td>
</tr>
<tr>
<td>Main Distributor</td>
<td>Primary Routes</td>
<td>Secondary Distributor Local distributors (in exceptional circumstances only)</td>
<td>Not normally permitted</td>
<td>Not normally permitted</td>
</tr>
<tr>
<td>Secondary Distributor</td>
<td>Main Distributor Primary route (in exceptional circumstances only)</td>
<td>Local Distributor</td>
<td>Vehicles should be able to enter/leave the highway in forward gear.</td>
<td>Permitted</td>
</tr>
<tr>
<td>Local Distributor</td>
<td>Secondary Distributor Main Distributor (in exceptional circumstances only)</td>
<td>Major or Minor Access Road</td>
<td>Vehicles should be able to enter/leave the highway in forward gear.</td>
<td>Permitted</td>
</tr>
</tbody>
</table>
### Table 2.9.1.1: Permitted Connections and Frontage Accesses

<table>
<thead>
<tr>
<th>Major Access</th>
<th>Secondary or Local Distributor</th>
<th>Minor Access Road, Shared Surface Road, Shared private drives / access ways</th>
<th>Vehicles should be able to enter/leave the highway in forward gear.</th>
<th>Permitted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor Access</td>
<td>Local Distributor, Major Access Secondary Distributor (in exceptional circumstances only)</td>
<td>Shared Surface Roads, Shared private drives / access ways and individual driveways.</td>
<td>Permitted</td>
<td>Permitted</td>
</tr>
<tr>
<td>Shared Surface Road</td>
<td>Major or Minor Access Roads</td>
<td>Shared and individual driveways</td>
<td>Permitted</td>
<td>Permitted</td>
</tr>
</tbody>
</table>
10. Network Management

The following chapter describes the areas of responsibility and interest of the main public authorities and organisations that may have either statutory or consultative input to the layout and design of new developments in Hertfordshire.

10.1. Congestion

There are a unique set of factors that makes Hertfordshire particularly vulnerable to congestion. It has a high level of economic activity and prosperity, population density and car ownership. Hertfordshire has a total road network of 4,900 km contained within a relatively small geographic area, leading to one of the highest road densities in Britain. This in itself provides conditions for high traffic flows, but the situation is further compounded by the settlement pattern. Hertfordshire does not have a dominant settlement unlike many counties (e.g. Cambridge in Cambridgeshire, Norwich in Norfolk) but instead has 25 significant settlements that have a high level of interaction.

Hertfordshire's proximity to the growth points of London as a world city and the airports at Stansted and Luton, and its location on the convergence of many national transport corridors (M1, M25, A1(M), East Coast, West Coast and Midland mainlines), brings traffic flows which are almost twice the national level on motorways and 'A' roads, as well as relatively high traffic flows on 'B' and 'C' roads.

Many people feel that traffic congestion is a big problem in Hertfordshire. Central Government has recognised the problem of traffic congestion in recent years, and has enacted legislation such as the Road Traffic Reduction Act (1997) and Traffic Management Act (2004).

At HCC, “Tackling the causes and impact of congestion” is one of the seven challenges set out in the Corporate Plan, where it is acknowledged that keeping the traffic on Hertfordshire’s roads moving is vital for the future of the county. Working with partner organisations in Herts Forward, congestion is emerging as a priority in the new Sustainable Community Strategy. The work in developing these documents has shown that traffic delays are also a major concern to local businesses.

Tackling congestion is also one of the key themes of the Local Transport Plan, which sets out targets and actions for addressing the problem. HCC’s success in meeting these targets will be assessed by central government, and will be a factor in determining future financial allocations for transport improvements.

At a regional level, the East of England Plan states that “demand management measures for highway use should be pursued to tackle congestion and provide more reliable journeys.” Across the regional border, the Mayor of London also has a congestion charging scheme and has recently introduced a Permit Scheme to manage works on its network.

All of this suggests that congestion is now a high priority at all levels of government, and that serious consideration is being given to what measures will be required to tackle it over the next decade. Nowhere will it be harder to solve the problem than in Hertfordshire.

The information and detail contained in this chapter does not override any of the requirements of the New Roads and Street Works Act 1991, Traffic Management Act 2004 (TMA) or any associated regulations.
10.2. Traffic Management Act 2004

Making the best use of our current road network is important for both economic vitality and society in general. Roads facilitate the transport of people and goods, provide access to homes, businesses and other destinations, and can provide public space where people shop, socialise or relax. Under the surface of the highway, lies the infrastructure for communications and services that underpin a modern society.

The provision of additional road space, especially in our towns and cities, is impractical and undesirable. The local road network is a finite resource with equally legitimate competing pressures from those that use it, and as such needs to be managed effectively.

Road users have differing expectations. Reliable journey times are important to the majority of users. Both HCC and utilities providers have needs to occupy the highway in order to maintain and upgrade their equipment for the benefit of their customers. Potential conflicts need to be carefully handled and a co-ordinated, proactive approach is necessary to manage the network. For everyone, the ability to undertake activities in safety remains a priority.

HCC has a range of powers and duties under which they maintain and improve the network, and manage its use and the activities taking place on it. These include the Highways Act 1980 principally covering the structure of the network; the New Roads and Street Works Act 1991 covering utility street works; and the Road Traffic Regulation Act 1984 regulating the activities of road users.

The Traffic Management Act adds to these powers. It also adds the network management duty, which requires HCC to do all that is reasonably practicable to manage the network effectively to keep traffic moving.

10.3. Network Management Policy and Delivery

10.3.1. TMP 001: Network Management Policy

HCC shall ensure compliance with the network management requirements of the Traffic Management Act 2004 by following the guidance contained in the government publication ‘Network Management Duty Guidance’.

The Network Management Duty is a statutory duty which is primarily about dealing efficiently with the traffic presented on the network – both now and in the future – and the various activities that are causing or have the potential to cause congestion or disruption to the movement of traffic.

The Traffic Manager and Network Management staff shall provide a focal point within HCC for all staff to consider this duty in their day to day activities.

Functions of the Network Management Team includes amongst others:

- Making the best use of our current road network to deliver the expeditious movement of traffic;
- Having a clear understanding of problems on different parts of network and the needs of different road users;
- Identifying current and future causes of congestion and disruption, and to plan and take action accordingly;
- Consideration of anything that affects the co-ordination or regulation of the flow of traffic, not just the activities of the highways department and third parties;
- Identification of locations where congestion occurs on a regular basis, and establishing the most likely reasons for this congestion;
- Managing Road Works – minimising disruption;
- Working with local businesses, retailers and representatives of the freight and road haulage industry to develop means of ensuring economic viability;
- Dealing with planned and unplanned events;
- Gathering and considering information and sharing information with road users in order to influence journey choice;
- Provision of travel information to road users and the community.


The New Roads and Street Works Act 1991 (NRSWA), supported by relevant Regulations and Codes of Practice, provides a legislative framework for street works by undertakers and works for road purposes - to the extent that these must be co-ordinated by street authorities.

Photo 2.10.4.1 Road closure

The aim is to balance the statutory rights of highway authorities and undertakers to carry out works, with the right of road users to expect the minimum disruption from works. The provisions of NRSWA 1991 have been amended to include provisions made under the Traffic Management Act 2004 (TMA). The TMA tightens the regulatory framework within which undertakers dig up roads, giving authorities more power to co-ordinate, control and direct works effectively with the aim of minimising disruption.
The two most important elements in street works legislation are the duty of street authorities to coordinate all works in the highway (section 59 of NRSWA); and the duty of undertakers to co-operate in this process (section 60 of NRSWA).

10.5. **Network Impact (Permanent Impacts & Roadworks)**

All works will impact on the road network in either a temporary or permanent manner. Everyone working in the highway should take account of the needs of all road users, including those with disabilities - whether they are pedestrians, equestrians, cyclists or drivers - at all stages in the planning and execution of works in the street. This has implications for the timing, method and scheduling of works. It is inevitable that works in the street will affect road users, as well as nearby residential and business premises, to some extent.

10.6. **Permanent Works**

Additions to the network, such as installing advanced stop lines or adding cycle lanes, etc. may impact on the capacity of the road and have impacts on the way the network operates. The Network Management Team must be consulted on any works that will have impact on the expeditious movement of traffic or that makes a permanent change to how the network operates.

10.7. **Road Works**

Works by utilities, scheme promoters and HCC on the road network have a significant impact on traffic. The Network Management Team needs to ensure that works are carried out with sufficient urgency, given the congestion and disruption they cause. Works should not be looked at in isolation. Consideration will be given to the effect of concurrent schemes on the road network, how they may affect established contingency plans, and their impact on other known activities.

10.8. **Permits**

Permit schemes are managed and enforced by HCC and apply to all works (Utilities and HCC) within Hertfordshire. A Permit scheme is designed to control those carrying out works in specified streets in a specified area. A permit is an application to work in a street that needs approval by HCC. Permits can be varied or extended after agreement – but with additional costs and conditions (if applicable). To contravene a Permit condition will constitute an offence and attract fines and/or Fixed Penalty Notices.

HCC is in the process of implementing such a scheme which would replace noticing and would require the same notification as set out at topic 10.15 below.

10.9. **Early Preparation and Forward Planning**

Works within the Highway are an ‘advert’ for both the firms working on the street and the organisation for which the work is being done. Early preparation and forward planning pays large dividends by reducing disruption and inconvenience to highway users at the construction stage and careful design can reduce the need for subsequent intervention.
Early planning means that:

- Different options can be considered for carrying out the work safely but with minimum disruption. Forward plans can be refined in discussion with HCC and, if appropriate, with the contractor; more detailed and more complete information can then be provided for coordinating works across the network;
- Discussions can take place with the local community, so that their interests can be taken into account and plans adjusted accordingly. This is particularly important where work is likely to be widespread or to last a long time;
- The impact on other stakeholders can be identified, so that they can be consulted and mitigation measures incorporated;
- Actions required by other parties, e.g. in relation to parking, can be identified in good time so that works will not be delayed by last minute problems;
- Information on other organisations' apparatus can be collected and taken into account, reducing the risk of accidents and disruption caused by damaging that apparatus;
- A site check can be made to confirm that the plans are practical;
- Planning should take account of development and community plans for the area and, where possible, should make provision for future developments so as to avoid additional major works later to upgrade the infrastructure;
- Works should be designed for long-term durability to reduce the need for further works in subsequent years;
- Designs should enable both construction and future maintenance to be carried out in ways that minimise disruption for all highway users and the public, e.g. by locating new apparatus in highway verges.

This is also the time to focus all parties on minimising disruption and to look at innovative ways of working by engaging with suppliers and contractors to review and improve working practices, preferably in ways that produce benefits for them as well as for the public.

10.10. Managing Works on the Street

Local authorities need to consider their duty under the TMA when exercising any power that can affect the road network. Although the duty is framed by reference to a “local traffic authority”, it extends to the authority exercising its powers as highway authority and street authority under the Highways Act 1980 and NRSWA 1991 and in any power to regulate or co-ordinate the uses made of any road.

10.11. Statutory Undertakers’ Works

HCC Network Management Teams must be notified of the intention to work on the highway. All works carried out by Statutory Undertakers is to be carried out in accordance with:

- The New Roads and Street Works Act 1991,
10.12. Other Works on the Highway

NRSWA 1991 requires an authority to place information about its own works on the street works register in similar timescales to undertakers. HCC has decided to follow the noticing regime in order to comply and demonstrate parity with Statutory Undertakers.

All works promoters (including private individuals promoting a Section 50 licence, scheme promoters, District and Borough Councils, etc.) must register, or notice, all works that:

- Involve the breaking up or resurfacing of any street;
- Involve opening the carriageway or cycleway of traffic-sensitive streets at traffic sensitive times;
- Require any form of temporary traffic control as defined in the Code of Practice for Safety at Street Works and Road Works;
- Reduce the lanes available on a carriageway of three or more lanes;
- Require a temporary traffic regulation order or notice, or the suspension of pedestrian facilities;
- Require a reduction in the width of the existing carriageway of a traffic-sensitive street at a traffic-sensitive time.

Works promoters do not need to register the following works in advance. However, where reinstatement is carried out it must be registered within 10 days of completion:

- Traffic census surveys - disclosure prior to a census can encourage a change in normal traffic flows;
- Pole testing involving excavation - does not require registration in advance, unless one or more of the rules above apply (except for those only involving the breaking up or resurfacing of a street);
- Core holes - not exceeding 150 mm in diameter do not require registration in advance, unless one or more of the rules above, apply (except for those only involving the breaking up or resurfacing of a street);
- Road markings - that are not part of a larger set of works and do not reduce the width of the carriageway, as they do not involve breaking up of the highway;
- Street lighting - It is for works promoters to ensure such works are notified or registered, as appropriate. Responsibility for new connection works to the street authority asset resides with the street authority;
- Phases - Where the notice relates to work that may be completed in phases, the estimated end date is the estimated date of the end of that phase. A new notice will be required to start the next phase.

The protocols set out in the Technical Specification for EToN for notices should be followed.
10.13. **Street Works Licences (Section 50 NRSWA 1991)**

HCC can authorise a private individual to excavate within the public highway by means of issuing an applicable licence.

If the works promoter wishes to either access existing pipe work or to place any apparatus under the highway surface (excavation works / boring / tunnelling), on the highway surface (such as an inspection box) or over the highway (such as telephone wires) they will require a Section 50 licence. Works to apparatus that require no excavation, still require approval under Section 50.

HCC Network Management Team should be contacted, who will advise on the procedure under Section 50 of the New Roads and Street Works act 1991. Section 50 application packs are available online at [www.hertsdirect.org](http://www.hertsdirect.org).

10.14. **Road Space**

In order to carry out their duties effectively, HCC Network Management Team must consider all aspects of the proposed works, alongside any other influences that may affect traffic, which include:

- The normal day to day running of the network, including managing its own works and other activities on the road, as well as those of utilities providers and others;
- Managing where appropriate those users moving about on the network;
- Contingency plans to allow a rapid response to accidents and emergencies, taking account of the relative importance of different roads to the various road users;
- Regular or one off "events" such as carnivals, street markets, sporting fixtures and seasonal weather conditions;
- The road network capacity;
- The scope for collaborative working arrangements, including trench and duct sharing, between undertakers and the street authority;
- The optimum timing of works from all aspects;
- The effect on traffic; in particular the need for temporary traffic restrictions or prohibitions;
- Appropriate techniques and arrangements - particularly at difficult road junctions and pinch points;
- The working arrangements required in protected traffic sensitive streets, and streets with special engineering difficulties;
- The effect of skip and scaffold licences, any known special events and other licences or consents issued in respect of affected streets under the Highways Act 1980;
- Developments for which planning permission has been granted on streets affected by the works.

Road space must be booked for each individual scheme. This is generally done through the submission and acceptance of an appropriate Notice.

For major works, all works promoters are advised to contact the relevant HCC Area Network Management Team to discuss their proposed works as soon as possible in advance of the
works commencing and prior to the Noticing Regime being commenced. These works will then be included in the forward works programme and submitted for inclusion at the HCC Area Network Management Team coordination meeting.

A Road space Booking Guidance document is available from HCC Network Management Team or online at www.hertsdirect.org

10.15. **Noticing**

Notices are produced to give HCC advance notice of certain works (NRSWA, Section 54) and notice of the starting date of the works (NRSWA, Section 55) Notices also facilitate the provision of a record of the life cycle of all works and their inspection.

Works must be noticed in accordance with New Roads and Street Works Act 1991 (for further information refer to Code of Practice for the Co-ordination of Street Works and Works for Road Purposes and Related Matters).

Works are broken down into different categories:-

10.15.1. **Major works**

- Works that have been identified in a works promoters annual operating programme and are normally planned or known about at least six months in advance of the proposed start date;
- Works that require a temporary traffic order (not a temporary traffic notice) under the Road Traffic Regulation Act 1984;
- Any works other than immediate works that have a planned duration of 11 days or more.

HCC require three months notice of major works (Section 54) and a 10-day notice of starting date (Section 55).

10.15.2. **Standard works**

- Are works (other than immediate or major works) with a planned duration of between four and ten days;
- Standard works require a 10-day notice of starting date (Section 55).

10.15.3. **Minor works**

- Are works (other than immediate or major works) with a planned duration of three days or less;
- Minor works require a three-day notice of starting date.
10.15.4. Immediate works

Are either:

- Emergency works, defined in Section 52 of NRSWA, as works required to end or prevent circumstances, either existing or imminent, that might cause damage to people or property. The term includes works that do not fall within that definition but which cannot be severed from those that do.
- Remedial works to dangerous, defective reinstatements; and
- Urgent works as defined in the Regulations as street works:
  a. (not being emergency works) whose execution is required (or which the person responsible for the works believes, on reasonable grounds, to be required):
     (i) To prevent, or put an end to, an unplanned interruption of any supply or service provided by the undertaker;
     (ii) To avoid substantial loss to the undertaker in relation to an existing service; or
     (iii) To reconnect supplies or services where the undertaker would be under a civil or criminal liability, if the reconnection is delayed until after the appropriate notice period.
  b. includes works that cannot reasonably be severed from such works.

HCC is considering replacing the notice system with a permit scheme.

10.16. Traffic Sensitive Routes

HCC may make restrictions and direct timings on works in order to minimise disruption to road users and local residents. Most restrictions will be made under the New Roads & Street Works Act 1991. Specific legislation exists to restrict the duration and timing of works, and to protect the final surface. Legislation also exists regarding the cooperation of the promoter of works with HCC for the purposes of minimising traffic disruption.

A traffic sensitive street is defined as one on which any work will create unacceptable delays and disruption to highway users at specified times of the day. HCC may designate certain streets (or part of a street) as ‘traffic sensitive’. It can impose working times and conditions to work promoters, to direct and co-ordinate works on the highway. These restrictions can be at certain times of the day, days of the week or days of the year.

10.17. Early Starts

Works must not start before the expiry of the notice period, except where an early start has been agreed with HCC and any other interested parties.

All early starts are subject to the agreement of the HCC Network Management Team and no work is to commence without the explicit agreement of the early start, confirmed by the issue of a pin number. Permission for an early start will not be refused unreasonably.

Sufficient objective, justifiable and relevant information necessary to process Early Start requests must be provided with the submission. This should include;

- Proposed timing and estimated duration of the works;
- Details of any diversion routes that may be utilised;
10.18. **Network Review**

The requirements of the Road Network can change over time, often being affected by new developments and shifts in traffic patterns. The TMA 2004 requires HCC to ensure that the network and its infrastructure are well maintained and reviewed on a regular basis. HCC is currently undertaking such a Network Review and this is likely to impact on the Traffic Sensitive Network and Route User Hierarchy, etc.

10.19. **Co-ordination**

The efficient co-ordination of street works is one of the most important aspects of street works legislation. The Network Management Duty requires “a more pro-active approach to the management of the road network and the way authorities tackle the causes of congestion and disruption.”

Co-ordination enables differences between those competing for space or time on the street, including traffic, to be resolved in a positive and constructive way. Works where the traffic flow is close to, or exceeds, the physical capacity of the street will cause serious disruption.

Small scale works in a non-traffic sensitive street may only cause minimal disruption to residents and delivery vehicles, although this could still be an issue for residents. However, a cluster of small scale works close to a much larger scale one could cause serious disruption. Effective co-ordination needs to take into account proposals of every scale and duration. It is essential to minimise traffic disruption whilst allowing promoters the necessary time and space to complete their works. The disruptive effect of any work on the Highway will not be considered in isolation, but will take into consideration the combined effect of all the activities taking place on the network that will impact on its users.

There is an expectation in Hertfordshire that where there are works being proposed by different works promoters, in the same location, that works will be coordinated.

HCC Network Management Team will facilitate these co-ordination opportunities, but expect the works promoters to liaise with each other to ensure that there is scope for collaborative working arrangements, including trench and duct sharing, between both undertakers and HCC, these are explored and utilised.

10.20. **Forward Works Programmes**

Forward planning information on long-term programmes from all works promoters helps to co-ordinate works and timings and identify opportunities for joint working.

Works promoters should give information about road or street works in their long term programme, including those works in their annual operating programme and three or five year rolling programmes. This might include mains replacement programmes or reconstruction of main roads, which will be planned several years ahead, these may be in the form of “wish lists” subject to budget.
10.21. Co-ordination Meetings

The model of Local Co-ordination Meetings currently arranged in Hertfordshire places the emphasis on close working between the Network Management Team, Utilities, HCC Integrated Works Programme (IWP) Delivery Team as works promoters, local and strategic clients within Hertfordshire Highways, PTU and the police. Meetings are held every 6 weeks.

The Main aims of the meeting are to ensure that:

- Disruption is minimised and members of the public are advised of activities on the network;
- The traffic impacts of all works and planned events are considered and co-ordinated along with other planned activities that can temporarily take capacity from the network (e.g. skips and scaffolding, street fairs or sporting events); and
- Opportunities for joint working and scheduling small works in the shadow of larger ones must be considered.

10.21.1. The Process

The co-ordination process has four phases:

a) Information: Planned works programme to be provide 7 days prior to meeting;

b) Analysis: Clash detection and conflict resolution and consideration of potential disruption to take place prior to meeting;

c) Consideration: Changes and recommendations regarding planned works made prior to meeting where possible;

d) Co-operation: All planned works to be presented at the meeting allowing a programme to be published.

10.21.2. Current Status

Areas currently being discussed:-

10.21.3. Specific major works
- Temporary Traffic Management arrangements for planned works;
- Planned road closures (including diversionary routes).

10.21.4. Medium-term and annual works programmes
- Any exceptions or amendments to provided build programme;
- Temporary Traffic Management requirements.

10.21.5. Co-ordination of works & opportunities for road space sharing
- Identify possible clashes and any potential joint working opportunities.

10.21.6. Forthcoming events
- Details of upcoming events provided, information regarding potential effect on local highway network.

10.21.7. Street works licences
- Detail of any Section 50’s issued.
10.21.8. Complaints issues & public perception

Opportunity for local ADM/AE to raise any issues with ongoing works.

All works promoters planning any major scheme should submit their proposals for discussion at this meeting.

10.22. Liaison with Others (Police, Passenger Transport, etc.)

HCC and the Police have responsibilities for the management of traffic on the road network. The Police offer a valuable source of information used to manage the network and respond to events. However, it is for HCC to authorise works, and diversion routes, etc.

HCC PTU is not bound by the requirements of the TMA; however as the promoter and co-ordinator of public transport services they play an important role in the major conurbations. It is essential to ensure that PTU have accurate advance warning of works that could affect bus services, consulting them on future activity in order to minimise disruption.

HCC expects works promoters to be pro-active in engaging with PTU. The Network Management Teams will facilitate the flow of communication, however it is up to the schemes project manager to ensure that all parties are involved and kept up to date where it is likely that there will be disruption to a bus service.

Liaison with adjacent Highway Authorities must take place if works are likely to affect traffic flows across boundaries, and with the HA in the case of trunk roads.

10.23. Works Publicity

HCC will require a works promoter to consult and communicate with all appropriate organisations, and take appropriate action as a result of any consultation. They may be expected to carry out works publicity for any type of works in any location in order to publicise the works to Members, key stakeholders, local residents, and the travelling public.

All Major Works packages should identify their publicity ‘strategy’ (i.e. which of the Notification categories will be used) as part of the original design package. Unless agreed otherwise by the Network Management Team, a scheme letter or leaflet should be produced for all Major works. Scheme sign boards must be provided at all Major Works sites to advise the travelling public of the intended works. These should be placed at least two weeks prior to works commencing, however with agreement of the Network Management Team the absolute minimum period of advanced warning to the travelling public of the start of any scheme shall be 1 week.

The above requirements may also be required for standard minor and immediate works.

It is sometimes necessary to carry out construction related activities overnight. This may be to provide a safer working environment for construction personnel, where the traffic management required to carry out the works would not be allowed during the normal working day, to minimise the impact of congestion to the travelling public, or where restrictions have been placed by other authorities i.e. railway possessions, etc.

Where it is proposed or necessary through other restrictions to carry out construction works overnight or at any time between 9:00pm and 7:00am the works promoter must consult and agree the works and timings, etc. It is important that works promoters seek the early involvement of the Network Management Team to discuss their works proposals, including traffic management and road space availability and booking.
The works promoter will need to provide details of the activities proposed including noise levels, working hours, traffic management arrangements, an accurate programme of the works and operations proposed, and an explanation of why the works need to be carried out at night.

It is the responsibility of the Network Management Team to agree to overnight works and to detail any restrictions that may need to be imposed.

Having reviewed the proposed works and likely impacts on surrounding properties and the network, the Network Management Team will provide guidance on the appropriate level of consultation that the works promoter must carry out with other interested parties.

10.24. Operational Traffic management

Works on the Highway must be undertaken without undue delay. Where a site is not fully occupied valid reasons must be provided. Wherever practical the highway must be returned to normal use during any hiatus in works.

Effective traffic management is key to minimising the congestion and safety impact of a scheme. Road closures and traffic control should be considered to be a last resort and their need must be proven and will be assessed on minimising overall disruption and safety. All traffic management must comply with Chapter 8 and Safety at Street Works and Road Works.

Any works requiring temporary traffic control as defined in the Code of Practice for Safety at Street Works and Road Works must have the agreement of the Network Management Team. HCC expects the promoter of any scheme to share road closures and traffic management with other schemes or works that may be scheduled for the same time and location.

A works vehicle may be parked in a works site provided that it is necessary for carrying out those works. A vehicle entirely within the coned-off area of the site may require a larger coned-off area than would otherwise be the case and this will inevitably add to the disruption that the works will cause.

A works vehicle may be parked outside a works site provided that it obeys the parking rules that apply to any other vehicle in that street. Outside the works site, the vehicle has no special status and no exemption from parking enforcement.

When assessing the impact of a scheme the parking of works vehicles must be taken into account. This is a particular problem for works which would otherwise take place entirely within the footway but for the presence of a works vehicle. If a vehicle is parked adjacent to the works, in a place which vehicles could not normally use, then it must be part of the works site and must be signed and guarded appropriately. The works are then not wholly confined to the footway but encroach onto the carriageway. Noticing must reflect this.

The Traffic Regulation Order imposing parking restrictions on a particular street should already contain an exemption allowing works to take place in parking bays. Works promoters should check whether any further dispensation is required well before the works are due to start.

If there are occasions where traffic management is left in place with no works apparent on site, the works promoter may be required to provide information boards to inform the public as to why the Traffic Management is in place.
10.25. Traffic Management Plans

The purpose of a Traffic Management Plan is to identify the risks to traffic safety and congestion that may arise through highway works, and mitigate them as far as possible.

The Traffic Management Plan will describe:

- Scheme overview;
- Contact details;
- Construction method;
- Works schedule and programme;
- Traffic management measures;
- Collaborative working and diversionary works;
- Consultation and communication;
- Impact on bus routes;
- Advance warning, press releases, and responses to enquiries;
- HCC restrictions;
- Other works and events;
- Formal Notification of Works under NRSWA;
- Working on a strategic diversion route;
- Continual plan review and daily management;
- Handover processes.

A Traffic Management Plan is to be submitted for all Major Works proposed on the Strategic Network.

The Traffic Management Plan Protocol is available from the Network Management Team.

10.26. Use of Portable Traffic Signals

Hertfordshire County Council has a statutory obligation under the Traffic Signs Regulation and General Directions 2002, the Traffic Signs Manual and the Safety at Street Works and Road Works Code of Practice, for granting approval where the use of portable traffic signals or other temporary traffic management measures are required at Street Works and Road Works sites.

All work promoters carrying out works on the County’s highway network should complete and submit the relevant notification or application document when they wish to operate portable traffic signals.

Applications will only be accepted if they are completed by the Street Works Licence Holder, or the Principal Agent or Contractor appointed to carry out the works.

Approval is granted for traffic management operations by the Network Management Team by issuing a form of authorisation.

To operate traffic management operations without approval is considered to be illegal and may result in the works being suspended and further action being sanctioned.
Application forms and guidance notes can be obtained from the Network Management Team or online at www.hertsdirect.org.

10.27. Pedestrian Management

Section 31 of the TMA specifically states that the term “traffic” includes pedestrians. This means that HCC has a duty to consider the movement of all road users, such as pedestrians and cyclists, as well as motorised vehicles. Measures to secure the efficient movement of traffic should always be safe for all road users, particularly pedestrians, cyclists and motorcyclists.

Whilst considering scheme proposals both in planning and delivery phases, in order to meet the duty under the TMA, HCC Network Management Team need to consider their other responsibilities, such as those under environmental protection legislation, the Disability Discrimination Act, Health and Safety and planning legislation.

When giving permission for works to be carried out on the highway it is essential to ensure that inconvenience and obstruction to road users is kept to a minimum, taking particular account of pedestrians, cyclists, motorcyclists and people with sensory or mobility difficulties. It is essential that the needs of these groups are considered when planning work on the highway and that adequate provision is made in line with Safety at Street Works and Road Works, Chapter 8.

The Network Management Team need to be able to ensure that adequate signing and other information is provided, that any diversion arrangements are sufficient, and that the works will be completed within a reasonable, agreed period.

10.28. Restrictions (Section 58)

People often believe that road works take place without any thought to minimising disruption to residents and road users. It is often perceived that roads have been dug up repeatedly by different bodies with no apparent co-ordination, or within months of resurfacing. Provisions have been made in NRSWA to allow authorities to restrict works in all or part of a street following:

- Substantial Road Works (Section 58),
- Substantial Road Works are works affecting any part of the carriageway, footway, footpaths, cycle tracks or bridleways and include resurfacing, reconstruction, widening or alteration of the level of the street, and specialist non-skid surface dressing.
- Substantial Road Works that extend at least 30 metres continuously;
- Reducing the width of a footpath or cycle track by more than two-thirds;
- Prohibiting the use of the carriageway by vehicles; or
- Reducing the width of the carriageway by more than one-third.
- Substantial Street Works (Section 58A)
- Substantial Street Works means Major Works as defined in 7.5.2. of NRSWA 1991.

Durations of restrictions depend upon the type of works carried out and the impact they have on the travelling public and the local neighbourhood. Longer restrictions will apply where streets, or parts of streets, have been newly constructed, reconstructed or resurfaced.
HCC may exercise its powers to apply these restrictions to the length of a street on which such substantial road or Street Works have been carried out.

10.29. **Avoidance of Unnecessary Delay or Obstruction**

Section 66 of NRSWA requires street works to be completed as quickly as possible. If a street authority believes that a works promoter is causing an obstruction by occupying more of the street, or taking longer to complete the works, than is reasonable, it may issue a section 66 Notice. This notice can direct the works promoter, either to reduce the obstruction or to remove it altogether. The works promoter must comply within 24 hours, or a period specified in the notice.

10.30. **Licences & Enforcement**

HCC is under a statutory duty imposed under Section 130 of the Highways Act 1980 to assert and protect the rights of the public to the use and enjoyment of, and prevent so far as possible, the unauthorised stopping up of, encroachment or obstruction of, any part of the Public Highway.

The Network Management Team carries out practical works to maintain the Public Highway and when problems occur it will use advice and persuasion to deal with matters informally, and where necessary, direct enforcement action or prosecution proceedings. See also Section 3, Chapter 10: Traffic Regulation Orders.

10.31. **Restricted Routes**

The movement of goods within Hertfordshire is primarily by road, with around 2.35 million vehicle kilometres travelled by HGVs in Hertfordshire each day. Whilst the Primary Route Network is designed to cater for high HGV traffic flows, access to the final destination via local roads can have major impacts on the environment and on congestion in both town centres and rural areas.

There are routes with weight and height restrictions and roads where there is narrowing of the carriageway to a single lane with traffic controlled via priority signing or traffic signals. There are also areas across the County where there are environmental lorry bans in operation. Details of these restricted routes can be obtained from the Network Management Team or online at www.hertsdirect.org.
11. Structures

11.1. Technical Approval Procedure

Structures carrying, supporting, spanning or adjacent to a Public Highway require technical approval in accordance with standard: BD2 Technical Approval of Highways Structures, published by the Highways Agency via their website.

The structural design and checking of highway related structures shall be undertaken by a Chartered Civil or Structural Engineer, familiar with the design and construction of highway structures. The appointed person / company shall submit the design, drawings and Approval In Principle (AIP) form, in accordance with BD2 for consideration by the Technical Approval Authority.

HCC – Department for Environment and Commercial Services - Hertfordshire Highways - Structures section will act as the Technical Approval Authority. For structures affecting railways, waterways and trunk roads, technical approval may be required from a third party. HCC – Structures section should be contacted in the first instance to determine the relevant Technical Approval Authority.

HCC, acting in its role as Technical Approval Authority, shall oversee all relevant structural issues during the design, design check and works stages to ensure compliance with relevant standards and specifications. HCC may at its discretion use its appointed service provider for Transportation Consultancy Services, currently Mouchel Group plc, in these activities.

Before the technical approval procedure can commence, payment is required in advance to cover all costs likely to be incurred by the Technical Approval Authority. Upon receipt of preliminary structural details for the proposed scheme, HCC will provide an estimate of charges likely to be incurred. Cheques should be made payable to Hertfordshire County Council.

If at any stage during the development, design and construction of the scheme it becomes apparent that the advance payment is not sufficient to cover the final costs, then further payments shall be required. A detailed breakdown of costs to date and additional costs likely to be incurred will be provided to justify any increase in estimated charges.

From 1st April 2010 structural Eurocodes have been applicable to all designs. Further advice on the implementation of structural Eurocodes for highways structures is available from the Highways Agency – Design Manual for Roads and Bridges, via their website.

HCC also regularly update applicable information for scheme promoters, including information in relation to highway structures, on the www.hertsdirect.org website.
Section 2: Highway Layout and Strategies

Chapter 12: Lighting
12. Road Lighting

The following chapter provides a brief summary of basic street lighting information. Designers are directed to the Section 4 Chapter 15: Lighting - Detail for more information. Lighting strategies are under continuous review and emerging strategies and policies will help to improve the design process.

An overriding aim is to minimise street clutter which includes lighting and signs. Full information can be found in Roads in Hertfordshire Chapters:

- Section 4, Chapter 16: Traffic Signs and Road Markings
- Section 4, Chapter 17: Traffic Signals
- Section 5, Chapter 10: Traffic Signs and Road Markings (Series 1200)
- Section 5, Chapter 12: Electrical Work for Road Lighting and Traffic Signs (Series 1400)
- Section 5, Chapter 11: Road Lighting Columns and Brackets (Series 1300)
- Section 5, Chapter 13: Protection of Steelwork Against Corrosion (Series 1900)

Lighting design shall be to BS5489:2003 (BS EN13201:2003) unless superseded by another updated standard.

HCC is actively seeking to reduce the impact street lighting has on the environment. Installing energy-efficient equipment is a vital part of this process, and where possible providing the lowest levels of lighting will be preferred.

The Chilterns was designated as an Area of Outstanding Natural Beauty (AONB) in 1965 and covers 833 sq. km. Parts of this area are in the Hertfordshire districts of Dacorum and North Hertfordshire. Specific guidance on lighting roads in the area is given in the document Environmental Guidelines for the Management of Highways in the Chilterns which can be downloaded at [http://www.chilternsaonb.org/downloads/Environmental%20guidelines%20for%20the%20management%20of%20highways%20in%20the%20Chilterns%20FINAL.pdf](http://www.chilternsaonb.org/downloads/Environmental%20guidelines%20for%20the%20management%20of%20highways%20in%20the%20Chilterns%20FINAL.pdf).

12.1.1. Street lighting

For installations on residential roads, pedestrian streets, parking places, footways, i.e. ‘S’ lighting classes the Luminous intensity class (G rating) will be considered. Residential areas within towns and urban areas (E3 & E4) shall consider luminous intensity classifications of G3 or greater, low district brightness areas (E1 & E2) will use G5 or G6.

Columns should comply with BS5649, BS EN 40 and BD26, and all should be designed to carry a sign, rectangular in elevation, with a surface area of 0.3m² for columns up to 5m in height and 0.6m² for columns greater than 5m in height.

Column and lantern colour should be RAL 9007. Conservation areas should be RAL 9005. Town centres may specify different colours.

Columns are to be thermostatic or glass flake coated.

Columns should be located at the back, but within the footway wherever possible, or positioned in the easement strip where no footway exists.

Consideration should be given to mounting streetlights on buildings or structures to keep the footway or verge clear of obstruction.
Lighting columns may need to be designed to support and power festive lighting in town and village centre locations.

12.1.2. Lanterns

- The maintenance factor for design purposes should be 0.78;
- Lantern ingress protection rating of IP66, as defined in BSEN60529;
- Control gear is to be Electronic Dimmable;
- Central Management systems shall be used;
- For installations where remote monitoring is not practical, a ¼ watt UMSUG rated photocell is to be used, with a maximum of 35 lux on 18 lux off; and
- The choice of lamp type will be primarily a lamp with a Ra > 60 e.g. Cosmopolis (Cosmo)/fluorescent. High pressure sodium (SON-T) should be used for road lighting close to sites of high wildlife conservation value or near known populations of rare species. Permission for the use of high pressure sodium in other areas must be agreed with HCC.

12.1.3. Brackets

Brackets should be webbed and should either provide a tilt of zero or five degrees from the horizontal, the spigot should be in line with the bracket. The brackets are to have the same paint finish as the columns. Where applicable specialised brackets can be agreed after consultation with HCC. Table 2.12.1.1 gives the maximum bracket projection by lantern mounting height.

<table>
<thead>
<tr>
<th>Lantern Mounting Height</th>
<th>Maximum Bracket projection</th>
</tr>
</thead>
<tbody>
<tr>
<td>15m</td>
<td>2.5m</td>
</tr>
<tr>
<td>12m</td>
<td>2.0m</td>
</tr>
<tr>
<td>10m</td>
<td>1.5m</td>
</tr>
<tr>
<td>8m</td>
<td>1.0m</td>
</tr>
<tr>
<td>6m</td>
<td>Post Top (No bracket)</td>
</tr>
<tr>
<td>5m</td>
<td>Post Top (No bracket)</td>
</tr>
</tbody>
</table>

Table 2.12.1.1: Maximum Bracket Projection by Lantern Mounting Height

12.1.4. Cabling

- Street lights to be fed through Distribution Network Operators (DNOs) where possible. Supplies to signs and bollards should be obtained from the nearest lighting columns via a double pole sub-fuse unit;
- The private cables used should be XLPE/PVC/SWA/PVC either 2 or 4 cores (single and three phase supplies respectively). Two core cables should be 16 or 25mm². Where this size of cable cannot be used then four core 16 or 25mm² XLPE/PVC/SWA/PVC jointed
systems should be installed. The preference should be for single phase installations wherever possible;

- Private cables supplying bollards and signs on centre islands should have 24v slot cuts. The supply should be fed from the switch line of the nearest lamp column, using a double pole isolator and 6mm cable;
- Any other signs should be supplied via private cable from the switch line of the nearest lamp column, using a double pole isolator and 6mm cable;
- Earth rods should be installed at the end of each circuit of three or more columns, and at the feeder pillar or column.

12.1.5. Bollards & Signs

- Centre island bollards should be non-illuminated as per DfT guidelines. Transilluminated rebound bollards, with 3ms or equivalent retro-reflective material should be used;
- Where illumination is required for bollards further details can be seen in: (Ref) road lighting columns & bracket;
- Signs should not be illuminated were possible;
- Lit signs should use LED technology and meet the required BS standards.

12.1.6. Design Documentation

The following documentation should be provided for design approval:

- Location plan;
- Lighting design calculations including electronic calculation files, all input data and details of the software package that has been used – lighting plots alone are not acceptable;
- Details of any assumptions made;
- Details of all equipment proposed and supporting certification and documentation;
- Electrical cable calculations, where the scheme requires them;
- Scheme drawings – electronic file and hardcopy with 1:500 scale or greater;
- Details of power supplies, including any detailed supply cable calculations;
- CDM details (Designer Risk Assessment);
- EMS (Environmental Impact Assessment);
- As built drawings with grid references to be submitted after installation.

Two sets of the proposed lighting design should be submitted to HCC, in order to obtain the required lighting unit maintenance numbers.

The scheme promoter will be responsible for all energy charges until the date of adoption. The scheme promoter should obtain connection, unmetered and meter supply agreements for energy supplies.
Roads in Hertfordshire: A Design Guide
3rd Edition

Section 2: Highway Layout and Strategies

Chapter 13: Provision for Mains Services
13. Provisions for Mains Services

In the early stages of developing site layouts, full consideration must be given to the provision and disposition of the essential main services that will be needed to support the planned use. The scheme promoter should not underestimate the complexity of meeting the specific needs of the various Statutory Undertakers, in providing mains services within the site layouts.

Scheme promoter and designers are advised that the preliminary planning of mains services provision must be carried out prior to planning application stage. Planning Authorities can then be assured that adequate provision has been made for mains services within the layout. Such provision might include areas for electricity sub-stations, gas governors, regulators or valves, service strips, etc. that may prove difficult to accommodate at a later stage. Landscape proposals may also be constrained by the expected mains service layouts.

When considering service provision for development, a balance needs to be struck between the overall scheme design, needs of users and occupiers of the development, the minimisation of disruption caused by future maintenance access requirements and the needs of service providers. To this end, all parties need to work together to ensure service provision is an integrated part of the initial design process.

Requirements for statutory services should be met economically and efficiently and therefore adequate access for operational and maintenance purposes is essential both within the highway and elsewhere.

The scheme promoter’s attention is drawn to the document NJUG Guidelines On The Positioning Of Underground Utilities Apparatus For New Development Sites published by the National Joint Utilities Group and available at [http://www.njug.org.uk/category/3/pageid/5/](http://www.njug.org.uk/category/3/pageid/5/). This document gives advice on preliminary enquiry arrangements, supply application procedures and on-site liaison and co-ordination. Scheme promoters will be expected to follow the advice of this document.

13.1. Risk of Damage

The risk of damage to utility plant, apparatus, and underground services should be minimised.

All main cables and plant laid under carriageways and parking areas must be ducted for ease of withdrawal and replacement in the event of damage or the need for renewal.

The sitting of services within landscape and verges which within the highway must be co-ordinated with the planting proposals to ensure that root growth will not cause damage to services. Equally, the roots of plants should not be damaged by excavation to reinstall or inspect the services.
13.2. **Routes, Location and Timing**

When works to place a service under a highway prospectively maintainable at public expense are carried out, the provider of the service shall comply with the requirements of NRSWA.

Whilst service providers normally prefer to place their plant beneath the highway verge or footway, this is not always possible in modern estate layouts. Whilst innovative solutions to design problems are encouraged, the future accessibility of underground equipment with minimal disruption must be ensured otherwise adoption may be prejudiced. Reference should be made to MfS, Chapter 11.5.
Roads in Hertfordshire: A Design Guide

3rd Edition

Section 2: Highway Layout and Strategies

Chapter 14: Parking
14. Parking

HCC has delegated the function of Parking Authority to the ten Borough and District Councils. The Boroughs and Districts are therefore responsible for the enforcement of parking controls on the Public Highway. This is referred to as Civil Parking Enforcement (CPE). They also operate residents’ parking schemes and promote, determine and implement Traffic Regulation Orders for the purpose of parking management.

Parking restrictions for the purpose of ensuring safe and free flow of traffic are normally implemented by the HCC. Resident parking schemes and permitted parking areas are normally brought in by the Borough or District Council.

**Standards of parking to be provided in new development, or when changes of use of land are proposed, shall be in accordance with the requirements of the Local Planning Authority. These are usually set out as part of their Local Plan in the form of Supplementary Planning Guidance and are available to download via their websites.**

In all cases scheme promoters and designers are advised to enter into discussions with the relevant Local Planning Authority at an early stage for guidance on the level of car parking that will be appropriate.

![Photo 2.6.4.1 Parking in Letchworth Town Centre](image)

The PPG13: Transport sets out the government's general planning policy for car parking. It recommends maximum standards to be applied for trip destinations (for example,
commercial, leisure and retail parking). The aim is to provide restraint in parking provision and thereby encourage use of other travel modes. Over provision will be prevented and actual provision minimised with the use of non-car travel modes encouraged. For residential parking, government publication of PPS3 Housing (2006) and emerging PPS 4 gives flexibility for parking levels to be determined at a local level to reflect local circumstances.

The principle of commuted payments (in lieu of parking places) will be maintained but no longer with the aim to provide additional public car parking but to contribute towards additional passenger transport investment. The resulting passenger transport improvements should help to maintain the level of non-car accessibility necessary for the viability of new development as well as supporting HCC’s principles of sustainability in relation to land use and transport planning.

14.1. Provision

The following key principles (based on the English Partnerships publication Car Parking: What Works Where) should be followed when considering the design and location of car parking:

- The design quality of the street is paramount;
- There is no single best solution to providing car parking – a combination of on-plot, off plot and on-street will often be appropriate;
- The street can provide a very good car park – on-street parking is efficient, understandable and can increase vitality and safety;
- Parking within a block is recommended only after parking at the front and on-street has been fully considered – rear courtyards should support on-street parking, not replace it;
- Car parking needs to be designed with security in mind – advice on this issue is contained in Safer Places. See also the Safer Parking Scheme initiative of ACPO; and Consideration needs to be given to parking for visitors and disabled people.

Within residential development car parking allocated for individual dwellings (known as assigned spaces) will normally be provided off highway, within the curtilage of the dwelling. Communal assigned spaces will be acceptable in grouped garages or hardstandings.

Unassigned spaces are parking places not allocated to an individual dwelling. They are intended for use by visitors and casual callers and may be within the highway. HCC need to be satisfied that the location of both assigned and unassigned spaces will not result in parking which may be potentially obstructive to pedestrians, cyclists, the mobility impaired and other vehicles.

Unassigned spaces can in some situations be counted toward the planning authority’s required provision (see Section 4 Chapter 9: Vehicle Parking Facilities) but in all situations, a careful balance needs to be struck between the desire of residents to park as near to their houses as possible, and the need to maintain the character of the overall setting.

14.2. Curtilage Parking & Garaging

Requirements for off-street parking within individual domestic curtilages should comply with the guidance in MfS chapter 8. Research undertaken by CABE found that car parking remains a significant issue for residents and house buyers. Many people feel that the design
for a new residential development should accommodate typical levels of car ownership and that the level of parking in new developments is often inadequate for residents' and visitors' demands. There was a general feeling among buyers of new homes that apparent attempts to restrict parking in order to curb car ownership were unrealistic and had little or no impact on the number of cars a household would require and acquire. One way of encouraging reduced car ownership is to provide a car club via an effective Green Travel Plan.

Assigned spaces or garages when located on or near the frontage should not be allowed to dominate the street scene. If located to the rear of dwellings, the provision should either be in secure garages or in communal areas overlooked by the associated dwellings so as to reduce crime and vandalism.

Research shows that in some developments, less than half the garages are used for parking cars, and that many are used primarily as storage or have been converted to living accommodation.

In determining what counts as parking and what does not, it is recommended that the following is taken into account:

- Car ports are unlikely to be used for storage and should therefore count towards parking provision; and
- Whether garages count fully will need to be decided on a scheme-by-scheme basis. This will depend on factors such as:
  - The availability of other spaces, including on-street parking – where this is limited, residents are more likely to park in their garages;
  - The availability of separate cycle parking and general storage capacity – garages are often used for storing bicycles and other household items; and
  - The size of the garage – larger garages can be used for both storage and car parking, and many authorities now recommend a minimum size of 6m by 3m.

**14.3. Cycle and Motorcycle Parking**

Parking for bicycles should be in accordance with the HCC Cycle Parking Guide which can be downloaded from [www.hertsdirect.org/infobase/docs/pdfstore/cycleparkguide.pdf](http://www.hertsdirect.org/infobase/docs/pdfstore/cycleparkguide.pdf). This document gives links to the standards for cycle parking at new development set by each Local Planning Authority.

Provision for the adequate and secure parking of powered two wheelers should be as described in Traffic Advisory Leaflet 02/02 'Motorcycle Parking' (available at [http://www.dft.gov.uk/pgr/roads/tpm/tal/#roads2002](http://www.dft.gov.uk/pgr/roads/tpm/tal/#roads2002)) and the Institute of Highway Engineers (IHIE) 'Guidelines for Motorcycling', (available as part of a website with further resources at [http://www.motorcycleguidelines.org.uk](http://www.motorcycleguidelines.org.uk)).
15. **Naming and Numbering**

MfS gives general guidance on nameplates at paragraph 9.3.13. Key issues are that street names, dwelling or unit numbers should be taken into account when planning the layout configuration as a whole. Main dwelling entrances and numbers should be easily identifiable. The design should minimise the need for signposting so as to avoid sign clutter.

Street names must be agreed with the appropriate District or Borough Council. Street name plates must be provided and erected to the requirements of the appropriate District or Borough Council prior to any development being occupied.

Name plate signing will normally be required on both sides of a junction and facing the exit from the connecting road.

Name plates should be fixed to permanent structures abutting the highway wherever possible. If this is not achievable, and it is necessary to support them on posts, the back of the posts should be coincident with the highway boundary.

Where a road is private, the name plate should state this clearly below the street name.
Roads in Hertfordshire: A Design Guide
3rd Edition

Section 2: Highway Layout and Strategies

Chapter 16: Rights of Way
16. Rights of Way

HCC has a duty to “assert and protect” the right of the public to unimpeded access to Rights of Way (RoW). These routes are now widely used throughout Hertfordshire, particularly for leisure but also for many commuting and utility journeys, for example to and from schools and work places or as part of the National Cycle Network. HCC’s Rights of Way Service deals with the maintenance and improvement of the RoW network.

Development or road improvement which is undertaken without regard to its effect on the RoW network can cause serious problems. Scheme promoters should be aware that RoW are protected by the same legislation as all other highways and as such should be treated in the same way as existing highway. Statutory procedures must be followed where development requires the diversion or extinguishment of a RoW, or temporary closure to allow construction to proceed.

The effect of development on a RoW is a material consideration in the determination of applications for planning permission. Thus Local Planning Authorities must ensure that the effect on any RoW is taken into account whenever such applications are considered.

Planning applications should include information about RoWs on the site. Where a development does affect a Public Right of Way, the Local Planning Authority is required to make this clear, both by posting a notice on the site and in advertisements in a local newspaper. Department for Environment, Food and Rural Affairs (Defra) document Rights of Way Circular 1/09 (http://www.defra.gov.uk/wildlife-countryside/issues/public/index.htm) sets out useful information relating to Public RoW and development.

Where a RoW passes through or is within a site and either remains unaltered or is diverted as a result of a development, the amenity value of the RoW must, as a minimum, remain unchanged in terms of width, perceived safety, attractiveness and surfacing.

Temporary Traffic Regulation Orders to close and divert the RoW may be required during the construction of a development. The granting of planning permission does not entitle scheme promoters to obstruct a RoW. Development (in so far as it affects a RoW) should not be started and the RoW must be kept open for public use, until either:

- The necessary temporary order under S14 of the Road Traffic Regulation Act 1984 for temporary closures; or
- The necessary permanent order, under S247 or S257 of the Town and Country Planning Act 1990 for diversion or extinguishment to enable the development to take place, has come into effect.

See also Section 3 Chapter 10: Traffic Regulation Orders.

Early informal consultation between scheme designers and promoters, HCC and the Local Planning Authority is encouraged and will be appropriate to ensure that any potential disadvantages to the public in alternative arrangements for a RoW can be minimised and, where possible, the RoW network may be improved. Additionally, the formal consultation and statutory procedures associated with making and confirming the necessary order can be lengthy and therefore need to be started without delay once the details have been approved.

It may be appropriate for improvements to RoW both within the development site and on the adjacent RoW network. These improvements may be associated with increased usage of
the RoW as a result of the development, or to provide safe crossing points for RoW users, for example.

Pedestrians, cyclists, equestrians and vehicular users can all use a particular RoW, depending on the legal status of the route. The interaction between these users and their differing requirements must be taken into consideration when considering width and surface requirements. HCC has published guidance in the Rights of Way Good Practice Guide (http://www.hertsdirect.org/envroads/environment/countryside/walkingandriding/row/).

The rights of way network consists of:

- **Byways Open to All Traffic (BOATs)** – used by all modes of traffic but mainly used by walkers and horse & cycle riders;
- **Restricted Byways (RBs)** – for all non-motorised users below, including horse & carriage drivers;
- **Bridleways (BRs)** – for equestrian, cycle and pedestrian use only;
- **Footpaths (FPs)** – for pedestrian users only.

HCC has produced a Rights of Way Improvement Plan (RoWIP), which sets out detailed proposals for the improvement of the network. This is a statutory document linked to the Local Transport Plan and includes information on specific locations and opportunities for improvement. It is available at http://www.hertsdirect.org/envroads/environment/countryside/walkingandriding/row/.

Opportunities provided by new developments to bridge missing links and provide new or improved connections to the network will be encouraged.

The Chilterns was designated as an Area of Outstanding Natural Beauty (AONB) in 1965 and covers 833 sq. km. Parts of this area are in the Hertfordshire districts of Dacorum and North Hertfordshire. Specific guidance on managing points where rights of way meet roads is given in the document Environmental Guidelines for the Management of Highways in the Chilterns which can be downloaded at http://www.chilternsaonb.org/downloads/Environmental%20guidelines%20for%20the%20management%20of%20highways%20in%20the%20Chilterns%20FINAL.pdf.