



# Durham County Council Highways Design Guide For Residential Development

November 2014



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This document contains guidance for the highway development management and adoption process. It is not intended to be a definitive specification but is a compendium of supporting documentation and resource that should be read alongside this guidance. It has been prepared taking into account and should be read in conjunction with guidance offered in Manual for Streets.

This document does not contain the Council's policies for the development and use of land. In preparing proposals for new residential development, regard should also be given to the policies for the statutory development of County Durham (Durham Plan)

Users of this document please note that hyperlinks have been added to direct you to the relevant external reference. Press Ctrl and click when hovering over the reference e.g. [Transport and Streets](#)

Date	Revision	Amendment	Reference	Editor	Check	Approved
August 2013	Draft1			JMc		
December 2013	Draft 2	Various following DC consultation		JMc		
May 2014	Draft3	Various following full consultation		JMc		
August 2014	Final Draft			JMc	DJW	AJW
November 2014	Amendment 1	Parking bay size	Page 123	JMc	DJW	AJW
December 2014	Amendment 2	100 vehicle trips per day (approximately 12-15 dwellings)	Section 3.5	JMc	DJW	AJW



## 1.0. Foreword

Councillor Neil Foster:  
Cabinet Member for Regeneration and Economic  
Development.



Communities in County Durham wish to see a thriving county in which they can be proud of the rich heritage and public realm. Our transport needs, how we manage our highway network, and the physical structure which creates our public realm creates a sense of place for our communities. These matters are important to ensure we deliver a sustainable future for communities.

We wish to work to support and encourage sustainable development which provides an attractive environment to live in and an attractive place in which to invest.

This guidance has been prepared in consultation with practitioners and partners to offer advice to developers and their consultants on how we want our highway network to develop. Building roads to carry traffic is one aspect of our network, but more importantly the key to successful living for our residents will be building a public realm which provides a sense of place for the buildings surrounding it and the people passing through.

I commend the advice given in this guidance document to all those wishing to invest and develop a first class sustainable and thriving future for County Durham.



## 2.0 The Planning and development process

Whilst this guide has been prepared primarily to offer guidance on development of new residential areas within County Durham, the advice offered applies to all new development of any scale.

The Planning and development process can be a complex mix of regulatory requirements, design specifications, and statutory processes. This guide aims to assist developers in finding the answers they may need to ensure investment in County Durham is successful. First steps in any process are often the hardest to take and we would not wish developers to take them alone. We encourage all those considering development in the County to engage with County Council officers as soon as possible to enable us to assist in the development process.

Section 2.3 lists contact details of officers with whom early engagement will assist the process. This document does not intend to cover all aspects of planning and development but only those specifically related to Highways Engineering and Development. The County Durham Plan outlines the quantity and location of new development across the towns and villages of County Durham and the detailed planning policies that will be used to determine planning applications.

(see [www.durham.gov.uk/cdp](http://www.durham.gov.uk/cdp))





## 2.1 Pre planning application protocol

Ensuring any development is sustainable, meets the requirements for an attractive sustainable built environment, and can address the demand to travel is an essential element of a proposal. A comprehensive and systematic approach to transport impacts must be undertaken to demonstrate the acceptability of the development in transport terms. For many developments transport impacts are negligible, however, consideration should always be afforded to the safe and efficient use of the network and where appropriate the developer is expected to demonstrate this. If a proposal is likely to impact on the network, assessment of that impact will be required. The level and detail of the assessment will depend on the type and size of development.

It is essential that developers or their consultants engage with Council officers to determine the extent and scope of the transport assessment required. A scoping study in advance of a transport assessment will be required for developments likely to generate more than 30 two way vehicle trips in the peak hour or consisting of more than 80 residential units.

Before an application is brought forward an applicant may wish to gain advice about what is acceptable in highways terms. The Council's pre application protocol should be followed and can be found at

### [Pre application advice protocol](#)

All requests for formal written advice should follow this protocol. Highways officers will be available for informal discussion on potential applications.



## 2.2 Planning Process (General)

Durham County Council's development management, planning policy, appeals process and planning enforcement procedures is outlined on the County Council web site and can be accessed at

[Planning advice and guidance](#)

## 2.3 Development Management

Highways Development Officers are available to offer advice and support in bringing forward successful planning applications. Officers are afforded the opportunity to comment on all applications and the implications of highways safety and network operations.

Highways Development Management 03000 263578  
[Highways.Development.Management@durham.gov.uk](mailto:Highways.Development.Management@durham.gov.uk)

Public Transport Infrastructure 03000 263745  
[StrategicTraffic@durham.gov.uk](mailto:StrategicTraffic@durham.gov.uk)

Highway Drainage 03000 264647  
[ns\\_@drainage.durham.gov.uk](mailto:ns_@drainage.durham.gov.uk)

Street Lighting 03000 268112  
[ns.highwaysassetsadmin@durham.gov.uk](mailto:ns.highwaysassetsadmin@durham.gov.uk)

Travel Planning 03000 265307  
[travelplanning@durham.gov.uk](mailto:travelplanning@durham.gov.uk)



Public Rights of Way 03000 265331

[prow@durham.gov.uk](mailto:prow@durham.gov.uk)

Traffic Regulation Orders 03000 263690

Speed Limit Changes 03000 263681

Signs and Road Markings 03000 263681

Traffic Calming 03000 263681

[Ns.traffic@Durham.gov.uk](mailto:Ns.traffic@Durham.gov.uk)

Traffic Signals 03000 267088

[RED.Traffic.Signals@durham.gov.uk](mailto:RED.Traffic.Signals@durham.gov.uk)

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## 2.4 Transport Assessment

For larger scale development there will be a requirement for an applicant to undertake a Transport Assessment or produce a Transport Statement, and to support these with an appropriate Travel Plan. Applicants should follow advice given by the Department for Transport in their publication 'Guidance on Transport Assessments'. Indicative thresholds for different types of assessments can be found in Table 1 of the guidance.

### [DfT Guidance on Transport Assessment](#)

Developer's consultants will be familiar with an assessment approach that requires prediction of traffic generation, growth and distribution. These aspects of an assessment must be agreed through an approved scoping report before production and submission of a full assessment. Failure to meet this agreement will lead to delay in the process.

The County Council consider the trigger of 30 two way trips in the peak hour or 80 residential units or above to be appropriate for a transport assessment. The type of assessment will depend on development and location. It is therefore imperative that early engagement is made to identify the need for a Transport Statement or Transport Assessment. If the development is likely to impact on the local strategic network e.g A1M/A66/A19 then it is imperative that the developer or their consultant engage with the Highways Agency as part of the scoping exercise.

Generation can be predicted based on a first principles approach for larger developments, taking into account realistic mode share data where available. Mode share data in excess of 5 year old is not deemed



admissible for the purpose of transport assessment. <sup>1</sup>Strong evidence will be required to justify any assumptions made if such an approach is used.

Use of TRICS as a generation predictor is acceptable. If average rates are to be used surveyed sites should reflect as close as possible the scale and size of the proposed development. If scale and size are not clearly representative an 85%tile trip rate from a larger but less representative survey population should be used. Cross testing of mean/median rates must be reported in the transport assessment together with all assumptions used to derive the TRICS rate. (See TRICS Guidelines)

<http://www.trics.org/websystem/doc/TRGOODPR2013.pdf>

An approach to distribution can follow the principle of gravity modelling for larger developments. Alternatively, for less intense development it is acceptable to use existing distribution patterns of similar development in the locality to fairly reflect future distribution. This aspect must be discussed with officers before distribution is undertaken.

Developers representatives must note that a transport assessment identifying impacts 10 years after date of registration will be required (The DfT guidance advises no less than 5 years). The Highways Authority will reject an assessment of less than 10 years. A 10 year horizon is considered by this authority to be a reasonable projection for development impact.

For clarification on transport assessments contact:-

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<sup>1</sup> Mode share will be influenced by the economic environmental and social factors in an area. Predictions of mode share become less reliable as these factors change over the medium and longer terms.



John McGargill : Highways Development Manager 03000 263578

[john.mcargill@Durham.gov.uk](mailto:john.mcargill@Durham.gov.uk)

## 2.5 Travel Plans

Durham County Council expects Travel Plans to be produced for residential developments over 80 residential units. The essential aim of a Travel Plan is to minimise reliance on private car use, thus reducing the impact of a development on the local environment and the highway network. It is expected that Travel Plans give a strong commitment and clearly describe what will be done to achieve a shift away from car dependency and show commitment to sustainable transport. Residential Plans will be assessed against the National Specification for Workplace Travel Plans PAS 500:2008, to ensure the ethos of good travel planning has been followed. Consequently vague Travel Plans which show little commitment will not be accepted. Appendix B of this document breaks down the different sections of a Travel Plan and explains in more detail what it expected.

Appendix B of this document outlines the requirements of a good travel plan.



## 2.6 Highway Adoptions

The County Council may accept dedication of highways and accept future liability for its maintenance when a developer undertakes to construct a highway in accordance with the standards set out in this guidance. A legal agreement in accordance with Section 38 of the Highways Act will be entered into by both parties (see section 4.0). Details of the highway adoption process are set out below.

### Process and Procedure for Highway Adoption

The procedure for adoption can be split into four parts,

1. The Advanced Payment Code, Section 220(1) Highways Act 1980.
2. The approval of the engineering drawing submission,
3. The preparation of the various types of agreements and
4. The adoption process.

The adoption process follows the stages identified in the agreements. The stages are identified as a Part 1 certificate at which stage the bond can be reduced to 50% of the original. Part 2 certificate where the bond is reduced to 10% of the original and the development begins its 12 months maintenance period. Final certificate where the bond is released and formal adoption takes place.



### Approval of the Engineering Submission

It is intended that the Adoptions Engineer will have been involved with the design of the development at an early stage and therefore the general layout should be acceptable. It will be necessary at this time to provide greater technical details for approval; these will take the form of:

- a) Location Drawing
- b) Engineering Layout Drawing
- c) Drainage Layout Drawing
- d) Longitudinal Sections of all Roads
- e) Longitudinal Sections of all Drainage
- f) Construction Details
- g) Street Lighting Drawing
- h) Section 38 / 278 / 228 Agreement Drawing.

In some instances it may be necessary to provide drawings showing proposed structures, large scale details of areas, cross sections of the carriageway or contours and spot levels.

Please note it is important that, if dedication of the highways is intended, the developer must receive written approval of these drawings before works begin on site. All works on site will be inspected by the Council's Contract Supervisors. Developers must advise the Council of the planned programme of works and start date at least 4 weeks in advance of site commencement. Any works undertaken without having advised the Council may require proof of quality through insitu testing by the developer.

For advice on Section 38 arrangements please contact:-

John Collins: Highways Adoption Engineer 03000 267105





## 2.7 Records

The County Council have a legal responsibility in accordance with Section 36 of the Highways Act to keep a record of the adopted highway network. This record is available for viewing on the internet at [Adopted Highways map](#)

The County Council endeavour to keep all records of publicly maintained highways updated on a regular basis. Any queries concerning records should be directed to

Cara Thompson 03000 267096

Phil Thompson 03000 267106

Dave Smith 03000 267108

Richard Anderson 03000 267107



### **3.0 Defining Roads and Streets.**

It is important that developers, their consultants, planners and highway professionals share the same definitions when considering future management of the highway network. Understanding the use of the network will aid in designing and delivering a safe efficient system that reflects the needs of all users.

The strategic route network is managed by the Highways Agency and is not therefore subject to this guidance. This includes the A1M, the A19, and the A66. All other highways generally fall into the classifications provided.

The advice given relates to residential streets where the design speed will not be greater than 30mph (50kph). However, the object of the design of these streets will be to achieve a design speed of 20mph (32kph).



### 3.1 Local Distributor ( Type 1)

The strategic road network links to County Durham's centres of population through a network of principle class A roads. These higher standard roads in general carry higher volumes of vehicular traffic at higher speeds than the neighbouring network of other classified roads. (Generally above 40mph) These carriageways will be designed to a minimum of 7.3m wide. Footways may be separated from the carriageway with a grassed verge of at least 1.0m wide. These roads are designed in accordance with the DfT Design Manual for Road and Bridgeworks. These roads are of strategic importance for traffic movement. Historically they have routes through the existing suburban areas. The County Council would aim to maintain traffic flow and reduce congestion through these routes. As such direct access for residential development will not be accepted. An exception may be permitted where a transitional link or feeder to a residential area is taken within an urban setting or where existing side road accesses are present.

**Type 1: Local Distributor Roads**

Pavement Layer	Compacted Thickness (mm)	Allowable Materials	Highways Agency Specification Clause	PD 6691 Clause Reference
Surface Course	50	HRA 35/14F surf 40/60 des. 20mm pre-coated chippings.	911 915	8
Binder Course	60	EITHER AC 20 dense bin 100/150 rec.	906	5
	60	OR AC 20 HDM bin 40/60 des.	929	5
Base	110	EITHER AC 32 dense base 100/150 rec. Laid in one pass.	906	5
	90	OR AC 32 HDM base 40/60 des. Laid in one pass.	929	5
Sub-base		EITHER		



	230	Type 1 Unbound Material for Sub Base	803	5
	230	OR Type 4 Unbound Mixture for Sub Base (Asphalt Arising)	807	5

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### 3.2 Transitional links and feeders ( Type 2)

These roads link the principal network to residential access roads. They will provide a highway environment able to accommodate public transport and will have a minimum carriageway width of 6.75m with 1.8m footways on both sides. Consideration must be afforded to cyclist requirements on such routes, either within widened carriageways with cycle lanes or off carriageway on shared surfaces. Transitional links and feeders should be street lit and designed to carry lower speed limits of 40mph or less. Facilities for pedestrians to cross should be appropriately located to link areas with pedestrian demands. Direct individual residential accesses onto transitional links and feeders will be discouraged.

#### **Type 2: Transitional Links & Feeder Roads**

Pavement Layer	Compacted Thickness (mm)	Allowable Materials	Highways Agency Specification Clause	PD 6691 Clause Reference
Surface Course (1)	50	HRA 35/14F surf 40/60 des. 20mm pre-coated chippings	911 915	5
Surface Course (2)	30	AC 10 close surf 100/150 OR AC 10 close surf 160/220	912	5

		(Note 4)		
Binder		EITHER		
Course	60	AC 20 dense bin 100/150 rec.	906	5
		OR		
	60	AC 20 HDM bin 40/60 des	929	5
Base		EITHER		
	100	AC 32 dense base 100/150 rec. Laid in one pass.	906	5
		OR		
	90	AC 32 HDM base 40/60 des. Laid in one pass.	929	5
Sub-base		EITHER		
	260	Type 1 Unbound Material for Sub Base	803	5
		OR		
	260	Type 4 Unbound Mixture for Sub Base (Asphalt Arising)	807	5



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### 3.3 Residential Access Roads (Type 3)

These roads will provide direct access to residential areas, streets and community facilities. They ideally will have direct access in at least two locations to the Type 2 road identified above. They will be street lit and designed to a 30mph speed limit. They will be constructed to a Minimum width of 5.5m with 1.8m footways on both sides. Where no public or community transport provision is envisaged and the road is to serve less than 100 units, the width of the carriageway may be reduced to 4.8m and a single link provided to a Type 2 road. The designer should be mindful of permeability for all modes of transport when designing residential access roads.

#### **Type 3: Residential Access Roads.**

Pavement Layer	Compacted Thickness (mm)	Allowable Materials	Highways Agency Specification Clause	PD 6691 Clause Reference
Surface Course (1)	50	HRA 35/14F surf 40/60 des. 20mm pre-coated chippings	911 915	5
Surface Course (2)	30	AC 10 close surf 100/150 OR AC 10 close surf	912	8

		160/220 (Note 4)		
Binder		EITHER		
Course	60	AC 20 dense bin 100/150 rec.	906	5
		OR		
	60	AC 20 HDM bin 40/60 des	929	5
Base		EITHER		
	70	AC 32 dense base 100/150 rec. Laid in one pass.	906	5
		OR		
	70	AC 32 HDM base 40/60 des. Laid in one pass.	929	5
Sub-base		EITHER		
	290	Type 1 Unbound Material for Sub Base	803	5
		OR		
	290	Type 4 Unbound Mixture for Sub Base (Asphalt Arising)	807	5

### 3.4 Residential Streets (Type 4)

Traditional layout of new housing development in the County has followed a link road and cul de sac form. In essence these have provided the framework for new residential development over the past 50 years. The County Council recognise the desire for such residential layouts but seek a balance and new approaches to residential layouts which seek to discourage impermeable development that has become reliant on the private car for access.



Culs de sac development which provides an impermeable form for users is discouraged in favour of more permeable environments. Cul de sac development which provides permeability for pedestrians and cyclists and which can be demonstrated to link to the public transport network will be acceptable.

Residential streets should be designed such that the geometry and physical features within the street will limit vehicle speeds. Streets should be designed to 20mph design speeds with linked lengths between change of direction or features no more than 45 metres. Greater forward visibility may result in higher speeds and less safe pedestrian environments.



Carriageways must be a minimum of 4.8m wide to accommodate passing service vehicles and 1.8m wide footways must be provided.

Designers of such developments must take into account the requirements of servicing and emergency vehicles. Safe areas for turning without excessive need for vehicles reversing more than 25 metres must be included in a design. (See later chapter 5.12 for requirements for turning areas)

Consideration must be given to accommodation of service widths alongside the highway to accommodate public utilities and street lighting. A minimum serving width of 0.8m is required for street lighting and 2.0m for utilities apparatus. ( see section 5.5)



**Type 4: Residential Streets**

Pavement Layer	Compacted Thickness (mm)	Allowable Materials	Highways Agency Specification Clause	PD 6691 Clause Reference
Surface Course	30	AC 10 close surf 100/150 OR AC 10 close surf 160/220 (Note 4)	912	8
Binder Course	60	EITHER AC 20 dense bin 100/150 rec. OR AC 20 HDM bin 40/60	906	8
Base	60	des. EITHER AC 32 dense base 100/150 rec. Laid in	929	8
	70	one pass. OR AC 32 HDM base	906	5
Sub-base	70	40/60 des. Laid in one pass. EITHER Type 1 Unbound	929	5



		Material for Sub Base OR Type 4 Unbound Mixture for Sub Base (Asphalt Arising)		
	290		803	5
	290		807	5

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### 3.5 Shared Space (Type 5)

Residential development layouts that promote slower vehicle speeds, shared areas with pedestrians, and physically constrained vehicle movements are acceptable. Shared surfaces should be designed to accommodate less than 100 vehicle trips per day ( approximately 12-15 dwellings) and should have a maximum single link length of 35m. Lengths greater than 25m must be provided with a turning area for refuse vehicles. They should not provide for any through traffic but should be permeable for cycle and pedestrian use.

A design speed of 10mph should be adopted with forward visibility safe stopping distance of at least 12m. A minimum width of 6.6m is required between buildings which should include 1.8m as a service strip. The running carriageway must be able to provide for two vehicles to pass and must be a minimum of 4.8m wide. The service strip may be incorporated into the vehicular running area where sufficient room can be demonstrated for negotiating and passing openings or localised narrowing.

The shared surface should be constructed with materials that are visually and texturally different to the access roads to the development. Layout design should remove the need for vehicles to reverse in shared surface areas.





Design of shared surface areas must take into account surface water run off and ensure no surface water accumulates. The design should include a minimum 25mm kerb edge where surfaced levels fall towards buildings.

Careful consideration must be afforded to parking provision in shared surface environments. Parking areas should be used in a forward movement and should be located outside obvious desire lines for pedestrians. Minimum residential car parking provision is set out in the Council's Accessibility and Parking Guidelines.

It is extremely important that early engagement is made with the Council to discuss location of lighting columns to serve shared surface areas. All columns must be located and accessible within the dedicated highway.

The highway authority will accept dedication of shared surface streets for adoption purposes.

The DfT have published a Local Transport Note which can be referenced at [LTN Shared Space](#)



**Shared Surfaces**

Pavement Layer	Compacted Thickness (mm)	Allowable Materials	DMRB Specification Clause	PD 6691 Clause Reference
Surface Course	50	HRA 35/14F surf 40/60 des. 14mm red chippings coated with red pigmented binder	912	8
Binder Course	60	EITHER AC 20 dense bin 100/150 rec. OR	906	5
	60	AC 20 HDM bin 40/60 des.	929	5
Base	70	EITHER AC 32 dense base 100/150 rec. Laid in one pass.	906	5
	70	OR AC 32 HDM base 40/60 des. Laid in one pass.	929	5



Sub-base		EITHER		
	290	Type 1 Unbound Material for Sub Base OR	803	5
	290	Type 4 Unbound Mixture for Sub Base (Asphalt Arising)	807	5

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### 3.6 Private drive accesses (Type 6)

A private drive access is one which serves a maximum of five private residential properties and does not constitute part of the public highway.



Materials and design should be distinctive from the adjacent adopted highway. Vehicles should be able to enter and leave a private drive access in a forward direction and should not need to reverse into the public highway. Private drive accesses should be a minimum of 4.2m wide for a length of at least 12metres to accommodate two passing vehicles. The shared length must not be more than 25m to minimise the need for long refuse collection



trips, and should be designed such that refuse collection can take place safely from the public highway.

DCC Refuse Collection Policy should be considered in designing access for refuse collection.

Policy 3; states '*Refuse and recycling receptacles must be presented at the*

*kerbside by 7.00am and taken back within the property boundary the same day of collection. Where a development involves a private shared drive refuse collection vehicles will not access these drives and occupiers must place their bins at a point adjacent to the highway on collection day for emptying. The positioning of bins for collection can lead to complaints and disputes between residents and so new development involving shared private drives should clearly designate an area of hard-standing where bins will be positioned on collection day.'*



Policy 1 states *'Residents, who are unable to transport their wheeled bins/box to the required collection point, because of ill health, infirmity or disability, and without other occupants in the household able to assist them (16 years and over), will be placed on the 'assisted collection' register, upon request.'*

Shared lengths should not be more than 25 metres to avoid the need for long pull-outs by collection crews where an assisted collection is required. Access to shared drives should be designed to allow safe parking of refuse collection vehicles while emptying bins.

Gates, where used for private drives must not open into the highway. Private drives will normally egress onto residential access roads or shared surfaces. Suitable visibility to permit visibility for pedestrians and vehicle users must be provided. Longer private drive accesses may be accepted in circumstance where a developer can demonstrate safety and serviceability from the public highway. Developers wishing to depart from the recommended dimensions must discuss this with the council's Highways Development Section.

Individual driveways to residential properties must be able to accommodate a vehicle 1.8m wide (2.0 with wing mirrors) and allow space for door opening. It is recommended a minimum width of 2.7m should be provided for a single width drive and 4.7m where double driveways are provided.

Vehicles should be able to park on a private drive without overhanging the public footway. Driveways should therefore be a minimum of 5.0m in



length where a roller shutter garage door is provided. Where up and over doors are used this should be increased to 5.5m.

Driveway gradients must be useable by pedestrians and wheelchair users. A maximum gradient of 1:12 should be provided or 1:10 where exception is allowed over short distances.

Driveways must not be constructed on junction radii or turning head radii.

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### 3.7 Secondary access points

The operation of a safe highway network serving a residential development should be considered against all aspects of servicing and safety of the development. In particular designers must give cognisance to potential access for all types of emergency and service vehicles. The design of access into a residential area must consider if obstruction to the access can be caused either due to planned works such as those associated with highway maintenances and public utility undertakers , or unplanned obstruction such as road traffic collision. Appropriate general guidance can still be found in paragraph 2.20-2.23 of design bulletin 32. <sup>2</sup>

A plan should be prepared to accompany the transport assessment outlining what measures are required to address a situation if a secondary access point to the development is not to be provided. This may include widening of the carriageway to permit half road closures under temporary traffic signal control.

### 3.8 Home Zones

The concept of Home Zones is a welcome and appropriate solution for some residential areas in County Durham. Whilst being of a similar nature to a shared surface, the true home zone concept looks to change the functionality of street space and encourage its use for activities other than movement of traffic. Movement of traffic whilst desirable in a residential area is not the primary objective of a home zone environment. Introducing a home zone concept is a means of developing a social cohesion model where living space takes precedence over movement of traffic. The

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<sup>2</sup> <http://regulations.completepicture.co.uk/pdf/Planning/Design%20Bulletin%2032%20-%20Residential%20Roads%20and%20Footpaths%201992.pdf>



philosophy of creating living streets is encompassed in Manual for Streets (1&2) and Durham County Council welcome the principles outlined for its residential areas. In considering introduction of a home zone developers should refer to Manual for Streets (1&2) and the IHIE Home Zone design guide

[IHIE about Home Zones](#)

[Challenging the future](#)

[Manual for Streets](#)

For legal status of a home zone early reference must be made to 'The Quiet lanes and Home Zones (England) regulations 2006.

[The Quiet Lanes and Home Zones](#)

[Regulations 2006](#)

The streetscape for a home zone requires careful and planned consideration. The functions of the highway as a means to carry public utilities remains primary, however access and movement for vehicular traffic are designed to discourage vehicle use. Home zones should carry



less than 30 vehicle movements per hour and should not provide for through traffic.

The highway authority must make a designation and use order and consider a speed order to support a Home zone. An area of the highway cannot be designated as a Home Zone without the Highway Authorities consent and the making of a use order. Procedures for making an order



are regulated by the Department for Transport and include a period of consultation with users.

It is very important that early consultation on the design proposals and intent for user designation orders is made with the highway authority. It is recommended that a Home zone team is established for a development consisting of Developers, Planners, Highway Engineers, Architects, and Emergency Service representatives. A developer considering this process will be expected to lead consultation.

**Key principles in developing and introducing a home zone are:-**

**Distinctive Area:** A home zone can be designed for a street or group of streets and should be a public realm distinct from the surrounding highway network.  
**Speed reduction:** Design speeds should be for 10mph and self enforcing due to design of infrastructure.  
**Vehicle Impact:** The visual impact of vehicles within a home zone can be minimised through appropriately designed parking space interspersed between or segregated from pedestrian dominated areas.  
**Shared space:** people priority  
**Social areas:** Space for social and play activity is essential to a well designed home zone with space being designed to accommodate all sectors of society including the young, disabled and elderly.

Legal Designation

The designation of a street or group of streets as a home zone requires legal status in accordance with the Transport act 2000<sup>3</sup> and must be

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<sup>3</sup> S288 Transport act





supported by legal orders. Developers cannot declare a street a home zone and erect signs to indicate its existence without an order. A Designation order can only be made by the Highway Authority once the road is a public road and a consultation has been held with occupiers or prospective occupiers.<sup>4</sup> It is therefore essential that the developer produces and agrees a consultation strategy with the Highways Authority prior to application for designation as a Home Zone. The consultations and legal costs will be met by the developers.

Design should encourage very low speeds for vehicles moving through a home zone. It is not considered that speed orders will be required to support use, nor is it envisaged a speed limit order of 20mph will be required in such areas. Speed restraint will be intrinsic in the design and whilst the default 30mph speed limit would apply in street lit residential areas, the home zone is not designed for and should not be designated solely for 20mph<sup>5</sup>.

The first steps for developers wishing to consider the introduction of a home zone is the establishment of a design group consisting of their transport consultants, the local authority highways development officers and the local authority planning officers. The design group will inform and develop collaboratively to ensure a sustainable and sensitive design can be brought forward. The design group will consider the following:-

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<sup>4</sup> DfT The Quiet Lanes and Home Zones ( England ) Regulations 2006

<sup>5</sup> Ibid (20) (27)



Speed reduction:

An acceptable design for a home zone will introduce features that limit speeds below 10mph. This can be achieved through a combination of

- disjointed horizontal alignments interrupted by street features ( e.g. build outs and planted areas)
- horizontal design limiting forward visibility less than 40m with an absolute minimum of 12m
- reduced available running width for vehicles ( minimum 3.7m for operating fire tender)
- Single width running areas with a maximum inter-visible passing place at 40m intervals.
- T junctions at maximum 60m spacing.
- Traffic flow less than 100 vph at peak.
- Must not be a bus route but must be within 400m walking distance of a bus stop
- Must have entry and exit signing in accordance with TSRGD<sup>6</sup>

Any design must delineate clearly the boundaries between areas which are adopted highway maintainable at the public expense and those areas reserved for other functions. This can be achieved through use of appropriate materials.

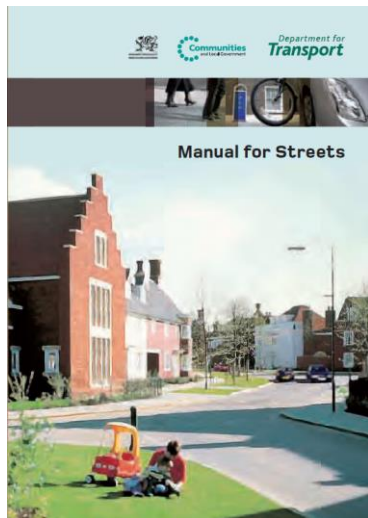
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<sup>6</sup> Traffic Signs Regulations and General Directions 2010

### 3.9 Manual for Streets for residential developments

#### General

[Manual for Streets](#) introduced a significant change and new approach to street design and together with the previous ‘Places, Streets and

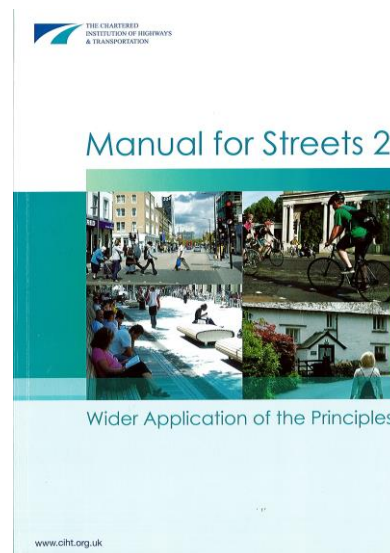


movement’ guidance, introduces the principle of establishing a sense of place and removing the dominance of motor vehicles. MfS initially focused essentially on ‘lightly trafficked residential streets with an important public realm function beyond the movement of traffic’<sup>7</sup> It is not intended to be adopted for high capacity distributor roads. We welcome the innovative approach adopted in MfS and MfS2 and are keen to engage with all practitioners to build areas

with distinct public realm and a sense of place and purpose.

MfS and MfS2 can have contradictory interpretation by practitioners charged with the development of streets and space.

For this reason it is considered important to define what we consider are acceptable and pertinent points from the guidance.



<sup>7</sup> Status and application : MfSt



Setting out our view of highways development will assist developers, their consultants and designers in bringing forward acceptable streets suitable for adoption.

A street is difficult to define and can be considered to be anything from a short residential highway with access to a low number of properties, to a major retail 'High Street' with a mix of residential, retail and commercial businesses. MfS principles can apply to all highways in built up areas<sup>8</sup>. However we would request all practitioners to pay particular cognisance to the **Place** and **movement** requirements of a street and to consider the differences between a street and its sense of place and a road whose primary function is to carry traffic. The hierarchy of movement with pedestrians placed ahead of all other users is an appropriate starting point for sense of place. Highways with little cross carriageway pedestrian movement and carrying flows of traffic in excess of 300vph are not considered suitable for MfS application. However, it must be emphasised that all situations are different and it is essential Highways Development officers are consulted as soon as possible to scope the 'Place' and 'movement' aspects of any proposal. We consider MfS should apply where public realm and pedestrian movement are at the heart of the street, where traffic volumes are not a significant concern and where vehicle speeds are not cause for concern.

A very important aspect of MfS and one which will potentially bring forward previously unsuitable sites is the aspect of safe stopping distances. DMRB safe stopping distances (SSD) have been used previous to MfS. However, evidence supporting MfS indicates SSD can be relaxed.

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<sup>8</sup> 1.1.7 MfS



We will support development where design speeds are below 30mph or where evidence from speed surveys can be used to calculate SSD below DMRB standards.

DMRB<sup>9</sup> will apply in instances where highways carry traffic with speeds in excess of 40mph. The difference in highways where application of MfS principles and those where more stringent design standards are applied can and will be blurred. Therefore it is essential that early discussions are held with the Highway Authority and a design code is established if necessary. The Highway Authority will always place movement of pedestrians and vulnerable road users as a significant factor on whether MfS applies. Highways with little public realm activity, where properties are set back from the highway with little direct highway frontage and low levels of public transport will not be considered suitable. Community function with streets as spaces for integration not segregation<sup>10</sup> will be an important consideration.

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<sup>9</sup> Vol 6 Section 1 Part1 TD9/93 Table 2/3

<sup>10</sup> MfS2 1.2



### 3.10 Sustainable Design in the Built Environment

In addition to the aims of Manual for Streets, the Council will take a positive approach to development which promotes well designed and accessible places that enhance local distinctiveness, contributes to regeneration of deprived communities and respects setting and character of place. The historic built environment plays a key role in County Durham but all development should conserve the quality, diversity and distinctiveness of County Durham's towns and villages, including designated and non designated heritage assets.

In addition to specific considerations that apply to the historic environment, the detailed guidance contained in this document respects the fundamental principles of good urban design. Development needs to be carefully planned to ensure valuable features and characteristics are protected and enhanced. The layout and design of new developments must be demonstrated to be based on an understanding of the site itself and its wider context, and seek to maximise its positive characteristics. Highway issues directly influence built design. Therefore this requires careful consideration in relation to –

- site layouts
- integration into the setting in terms of building plot layouts, built form, height, mass, scale, building line, plot size,
- elevational treatment, materials and streetscape

Creating an accessible and permeable public realm (i.e. places that connect with each other and are easy to move through), connecting



places and spaces, will help to ensure that many daily needs can be met within walking and cycling distance. The layout, form and mix of development should proactively encourage and support convenient walking, cycling and public transport provision. Opportunities should be taken to create or reinforce a logical and legible (i.e. places that are easy to find your way around and understand) hierarchy of routes, intersections and public spaces, the design of which will vary dependent upon relevant local activities, uses and longer term anticipated change where possible.

There are 93 conservation areas within towns and villages in County Durham. See :-

<http://www.durham.gov.uk/Pages/Service.aspx?ServiceId=511#CAMAP>

These are areas of special architectural or historic interest, the character and appearance of which it is desirable to preserve and enhance. Developers must be aware of the locality in which they are developing. Wherever possible in addition to the principles of good design, consideration should be given to the use of locally distinctive design features this could relate to but not be exclusive to surface materials, kerb and lighting options.

High quality development should be achieved through a robust and collaborative design process from inception to completion on the ground. The design process should go beyond the development construction phase and should also ensure suitable management arrangements and maintenance regimes are put in place. Early discussions are urged between an applicant the Planning Officer, Design Officer and Highway Adoptions Officer.



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#### **4.0 The Highway dedication and adoption process**

##### **4.1 Section 38**

Under Section 38 of the Highways Act, Durham County Council will enter into an agreement with a developer of land who wishes to dedicate highway for adoption. The Authority can agree to adopt the street as a highway maintainable at public expense when all the street works have been carried out in accordance with this guidance and associated approved standards. The County Council will prepare a legal agreement and the value of a bond required to meet costs to complete the highways to adoptable standards.

Once the Section 38 drawing has been approved as part of the engineering submission the preparation of the legal agreement can take place. At least 4 copies of each approved drawing will need to be submitted electronically in PDF format.

It is necessary to provide:

- The developer's name and business address.
- The developer's solicitor name and business address.
- Whether a bond or cash deposit is to be used as surety. If a bond is to be used the bondsman's name and business address will be required.
- Details of any third party landowner who will be party to the agreement if the developer is not the freehold owner.



On receipt of the required information the instructions for the County Council's Legal section will be prepared. As part of the instructions the amount of the bond required will be calculated. This is derived by production of an estimate based on the engineering drawings and the County Councils Term Contract Rates. These rates are not open to negotiation as part of this process.

A draft agreement will be forwarded to the developer's solicitor for approval. Once this draft is approved the final document will be sent to the developer and bondsman for signature. On return of the signed documentation, along with all required fees and costs, the agreement is sealed by the County Council and becomes a legally binding agreement.



#### **4.2 Section 37**

Section 37 of the highways act 1980 may be used for highway dedication and adoption should a section 38 agreement not be secured. Notice of dedication in accordance with section 37 must be served by a developer with the capacity to do so not less than 3 months before the date of the proposed dedication. The notice must be in accordance with legislation giving detail of location, dimensions, and intended use (carriageway/ footway/ verge) The developer must demonstrate to the County Council that the dedicated highway is of 'sufficient utility to the public'. Evidence will be required that the highway is designed and constructed in accordance with this guidance document and guidance given in the Design Manual for Road and Bridgeworks. This will involve excavating carriageways to demonstrate construction is acceptable. The County Council will apply a fee equivalent to 8% of the value of the works to assess and approve the dedication. A maintenance period of 12 months from the agreed date of dedication shall apply after which, should the dedicated highway be in an acceptable condition to the highway authority dedication is accepted and the highway will be entered into the Highway Authority adoption register.

Developers should note that should an application be made to dedicate under Section 37 and the highway authority do not accept the dedication due to a dispute, then an application will be made through the magistrates court seeking an order to justify that the highway is not maintainable at te public expense.



#### 4.3 Section 278

An agreement of this type covers works that need to be carried out on the existing highway network. It should be noted that no work can be carried out on the highway until this agreement is sealed and all fees and costs paid. Section 278 works will have been identified at an early stage of the development, usually at pre-planning consultation meetings. It is Durham County Councils policy to design and construct all works that fall into this category; this is at the developers' expense.

There are exceptions to this policy and they are as follows:

- The works are of a minor nature such as forming the bell mouth junction to a new development or resurfacing a short length of footway.
- The works involve a number of visits to site to carry out small amounts of work. An example of this is re-development of existing housing sites.
- Where the County Council cannot carry out the design and construction within a reasonable timescale due to the workload.

The process for producing a Section 278 agreement depends on who is to design and complete the works; it can therefore be split into two parts.

- 1 When the works are to be designed and built by Durham County Council the Section 278 drawing is produced internally and the required number are supplied for legal purposes. An estimate of total cost of works can be



provided to the developer. The developer will provide his name and business address and that of his solicitor. From this information the draft agreement can be prepared by the County Councils Legal Section.

- 2 When the works are to be designed and built by the developer the process is the same as that of a Section 38 agreement. Where the works are of a minor nature such as junction bell mouths or short lengths of footway the Section 38 and 278 agreement drawings can be combined.

For larger scale residential development in proximity of the Strategic Road Network there will be a requirement to consider the impacts of generated traffic at local strategic junctions. Should works be identified for the strategic road network guidance from the Highways Agency can be followed at [HA S278 Guidance](#)



#### **4.4 Section 228 Agreements**

This form of agreement is only used where there are areas of land within the development, which are to be adopted as highway, and the land owner is unknown. It is usually appended to a Section 38 agreement. The agreement allows the developer to indemnify the County Council against any costs incurred should any claims be made on the land after the road is constructed.

#### **4.5 Fees**

Fees will be charged for legal work, and supervision and inspection of section 38 and section 278 works to the value of 8% of the total cost of the project or as a minimum of £2000. Where a design is non standard special engineering measures the Council may apply increased fees and charges for approval of designs.

#### **4.6 Advanced payment code**

Durham County Council operates the Advance Payments Code and under Section 220(1) of the Highways Act 1980 it applies to all buildings on new or unmade roads. This section of the Highways Act makes it an offence for any developer to start work on a building before a bond or deposit is secured, or a bonded agreement such as a Section 38 agreement is entered into, thus ensuring satisfactory completion of the road works.

Within six weeks of the building regulations being approved the County Council will serve notice on the developer specifying the amount to be deposited or secured in respect of the street works charges for the



development. Where works are exempt from a Section 220(1) notice an exemption notice will be served within the same timescale.

Where a notice has been served no building work is to take place until the sum specified in the notice has been deposited or secured to the satisfaction of the County Council.

Developers may discharge their obligations under the Advance Payment Code by completing a Section 38 agreement. Even though it is confirmed by the developer that it is their intention to enter into such an agreement, it is still an offence to start any building work prior to the agreement being sealed. Building work may be allowed at the County Council's discretion but to guarantee no action is taken the developer should either:

- 1 make a cash deposit with the County Council as stated in the Section 220(1) notice. This can be reduced if the building is to be split into phases. Deposits made in this way will be returned, upon completion of the Section 38 agreement, to the developer with any interest accrued; or
2. Obtain a temporary bond for the sum stated in the Section 220(1) notice and lodge this with the County Council.

#### 4.7 Commuted sums

It has been recognised by Local Authorities and developers alike that providing better places to live with emphasis on improved design and a quality environment is desirable and can improve prospects and sales opportunities. Achieving this shared aspiration comes at a price to both the developer and the Local Authority particularly where enhanced materials which create a more attractive environment are used.

For development where non standard construction is proposed the Council will require a commuted sum payment for future maintenance.

This authority would not wish to be inflexible in its approach to development but would wish to reach a funding arrangement that protects the public purse. The maintenance and future liability of



enhanced environments over and above standard construction places a financial burden on the highway authority maintenance budgets. Normally such increasing pressures on budgets would mean the enhanced environments could not be maintained to an acceptable standard unless contribution is sought from the developer. Increased costs should not be borne purely by the Public Purse when the financial benefit of the enhanced environment is gained by the developer.





We aim to provide clarity to developers about required commitments and remove any uncertainty about acceptable highway assets. Therefore, a commuted sum capital payment will be required in excess of reasonable additional future costs of maintenance of a highway feature which is not considered standard. These features are likely to include enhanced street lighting and enhanced paving/ surfacing materials. But could also include, bridges, retaining structures, drainage soakaways, sustainable and urban drainage systems (SUDS). Traffic signals required to facilitate access to a development will require a commuted sum for future maintenance over a 15 year period.

The commuted sums will be secured through Section 38 and 278 agreements. Commitment to a commuted sum shall be made at the signing of the S38 or S278 agreement. The value of a commuted sum should be included in the bond required from the developer and be payable before issue of the Final Certificate.

The County Council will accept standard material specifications for highway to be adopted as set out in this guidance. Use of bituminous materials, concrete products and concrete block paved surfacing are considered standard. Street lighting which presently meets the County Council's published requirements (see link) is considered standard.

[http://content.durham.gov.uk/PDFRepository/Specification New Residential Roads and Industrial Estates.pdf](http://content.durham.gov.uk/PDFRepository/Specification%20New%20Residential%20Roads%20and%20Industrial%20Estates.pdf)

Where developers wish to introduce specialist surfacing, paving or lighting or structures the County Council will require a commuted sum calculated at a minimum of 3% of construction costs for each element of construction.



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The following formulae will be used to calculate specific commuted sums where the sum required is above the standard 3% of construction costs.

$\Sigma Mp/(1+D/100)^T$ , where

$M_p$  = estimated future maintenance cost 60 years from present based on present term contract rates

D = Discounted rate of 2.2% per annum

T = 60 years

More detail on requirements and calculation of commuted sums for development is provided by CSS at the following the link:-

[Committed sums for maintaining infrastructure assets](#)



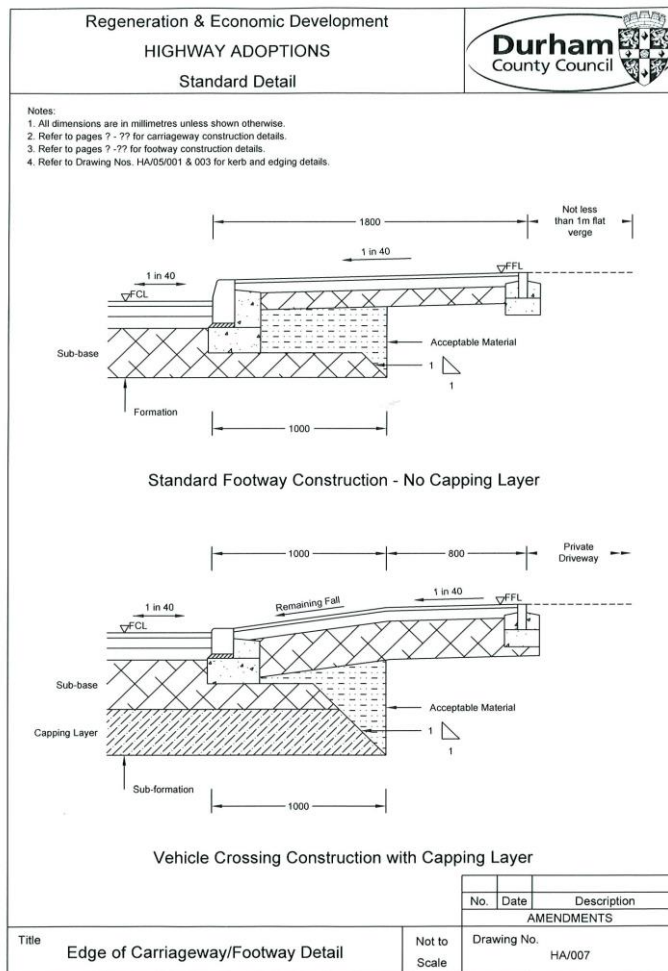
## **5.0 Engineering Requirements**

Delivering a safe efficient and maintainable highway network is an essential element of the County Council's forward plans and contributes directly to the aim of our Sustainable Communities Strategy to deliver an Altogether better Durham. Our role is to secure a highway network that does not place significant burden on the public purse. It is therefore essential that our infrastructure is well constructed to the highest possible standards and is maintainable at affordable costs to the County Council.

### **5.1 Road Constructions**

The principle parts of our highway network consist of the roads as described in section 3 of this document. Most residential streets can be designed to carry residential traffic with some carrying public transport and all able to carry service and delivery vehicles without detrimental impact on the highway infrastructure. Typical carriageway construction will be in accordance with the DfT Design Manual for Road and Bridgeworks unless otherwise agreed and confirmed by the Council's Highways Development Management section. A full set of standard details for highway construction is available from the Highways Development management section and is given in Appendix A.

**Example of Standard detail that can be provided**



Roads need to be constructed to our minimum standards to ensure an appropriate design life and reduce liability to this authority. Road dimensions need to be adequate to support the level of traffic expected to use the highway. The following details minimum road widths for different road categories.

The following details the minimum road width for different road categories.

Type	Description	Dimensions <sup>11</sup>
Type 1	Local Distributor	7.3m <sup>12</sup> . With 1.8m footways on both sides
Type 2	Transitional links and feeders	6.75m <sup>13</sup> With 1.8m footways on both sides
Type 3	Residential Access Roads	5.5m minimum With 1.8m footways on both sides
Type 4	Residential Streets	4.8m minimum With 1.8m footway on at least one side
Type 5	Shared Surfaces ( including Mews courts)	Minimum between structures 6.8m Minimum running width 6.3m to include a 1.8m service strip

<sup>11</sup> MfS

<sup>12</sup> Accommodates Public Transport (MfS 6.5.7)

<sup>13</sup> Accommodates Public Transport (MfS 6.5.7)

## 5.2 Junctions

For residential streets with speed limits of 30mph and above guidance as set out in DMRB should be followed for junction design. For Type 1, Type 2, and Type 3 roads spacing between junctions should not be less than 35m. Roundabout junctions are permissible in these types of roads when designed in accordance with DMRB TD16/93. However for the majority of residential areas where design speeds of 20mph or lower are adhered to, DMRB junction design is not appropriate and a relaxation of those standards is permissible. Guidance in Manual for Streets (7.3) is appropriate for junctions in residential areas.

Design of junctions will relate specifically to type of user and accessibility requirements. Designers must consider access for service and delivery and potentially public transport vehicles when designing safe junctions in residential areas. Standard T, Y and staggered junctions are acceptable. (Staggered right to left). A swept path analysis should be provided with all none standard junction designs. Kerb radii should be 10m at local distributor roads and 6m at residential access roads. 4.0m radii may be used in exceptional circumstance with the agreement of Highways Development Control. No private access driveways should be designed with junction radii. For different design layouts the designer must discuss variations in the first instance with Highways Development Management.

### **5.3 Visibility**

Acceptable visibility for operation of a safe highway network is essential. A development designed to Manual for Streets principles with design speeds of 20mph may relax Safe Stopping distances. Visibility standards at junctions set out in DMRB (TD 42/95) should be used on highways with 85%tile speeds above 40mph .<sup>14</sup>

Good design will follow established principles of highway design combined and outlined both in the TD 42/95 and, HMSO Design Bulletin 32 with its companion Places Streets and Movement.

Visibility and the ability to react to a situation within the highway will depend on unobstructed sight lines, the ability of the driver to react and the ability of the vehicle to perform. Vehicle design is such that their ability to perform is the one important factor that may have influenced and reduced safe stopping distances over recent years.

For the Type 1, 2 and 3 highway network it is considered appropriate that the visibility splays at junctions for varying speeds should be adopted from TD 42/95. No relaxation to these parameters will be accepted.

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<sup>14</sup> MfS 5.5.8/7.5.1



Design Speed of Major Road Kph/ (mph)	y' Distance (m)
50 (31)	70
60 (37)	90
70 (43.)	120
85 (52.)	160
100 (62)	215
120 (74)	295

(Extracted from TD42/95)

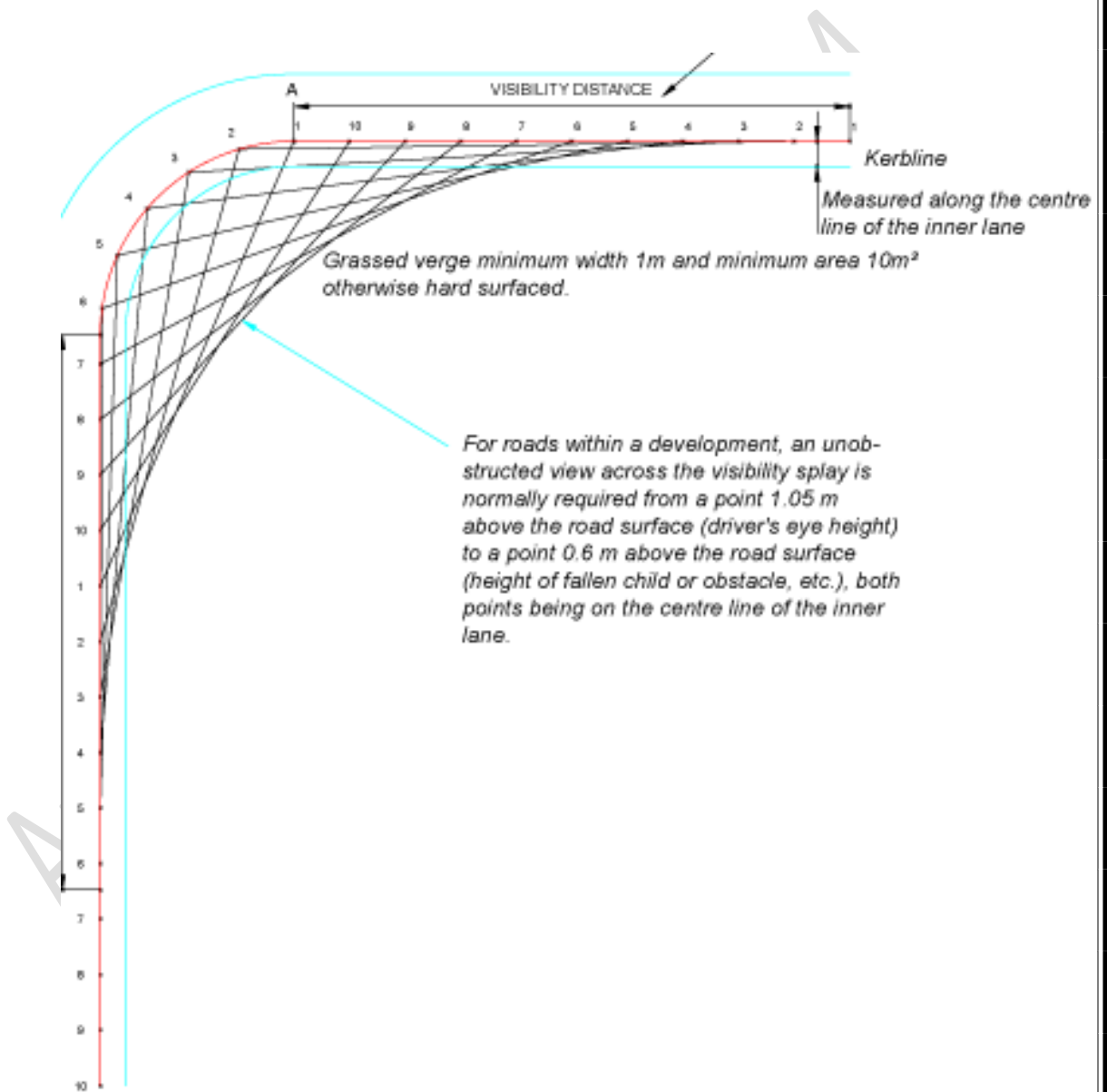
For classified Type 3, Type 4, and Type 5 streets it is appropriate that requirements for visibility are reduced below those specified above. Table 7.1 from MfS may be applied in streets of Type 4, 5, 6.

Speed	Kilometres per hour	16	20	24	25	30	32	40	45	48	50	60
	Miles per hour	10	12	15	16	19	20	25	28	30	31	37
SSD ( meters)		9	12	15	16	20	22	31	36	40	43	56
SSD adjusted		11	14	17	18	23	25	33	39	43	45	59

For development which joins the public highway via an existing Type 3 road, relaxation will only be accepted where it is demonstrated that existing 85% tile speeds can be accommodated. Designers should undertake surveys of existing speed and demonstrate through the use of the basic formulae for Safe Stopping Distances (MfS 7.5.3) that the junction can operate safely. (This authority will accept values from MfS



Forward visibility at bends must be considered at the design stage of a residential development. Under normal design conditions areas adjacent to bends should ensure forward visibility is retained in accordance with the following requirement. Forward visibility should be equal to the Safe Stopping Distance calculated under MfS or DMRB criteria.



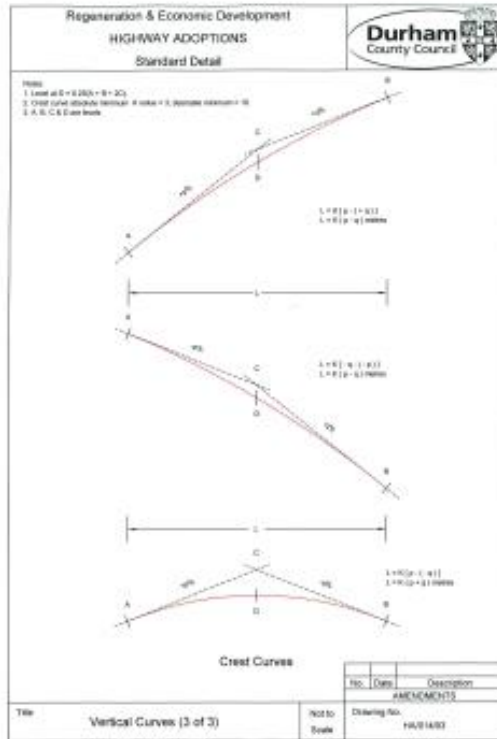


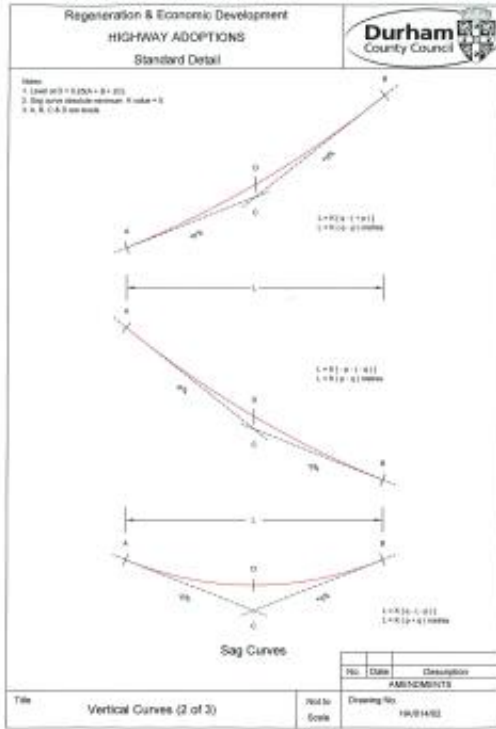
#### 5.4 Gradients and Crossfall

Flat spots in running surfaces should be avoided to allow adequate drainage of surfaces. A minimum longitudinal gradient of 1:150 (0.67) and a maximum of 1:25 (4%) are required. In exceptional circumstances a 1:15 (6.6%) gradient will be accepted subject to approval by Highways Development Management. In cases where no access is taken directly off the street the maximum longitudinal gradient of 1 in 10 (10%) is acceptable. The maximum approach gradient to a junction or turning head shall be 1 in 25 (4%); however, flatter gradients are preferred. At junctions the gradient length must be at least twice the radius of the junction. Where a street is 25 metres or less in length the gradient length must be at least 5 metres.

Where appropriate design to accommodate drainage can be demonstrated, the minimum gradient may be relaxed over discrete lengths subject to agreement with highways Development Management. Vertical sag and hog curves are set out in the diagrams overleaf:-

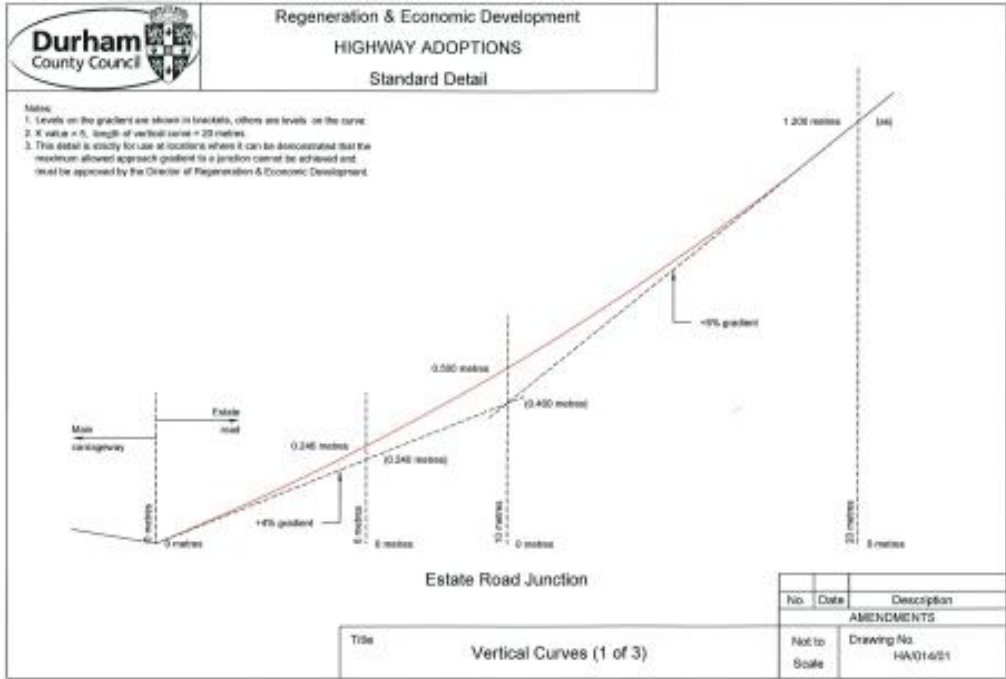
Crossfall is required for carriageway and footways in residential streets (30mph) at a gradient of 1:40. For standard carriageway design crossfall should be cambered to both channels. At the junction with existing streets the crossfall / camber of the new street shall be adjusted to suit the channel levels of the existing street.





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### **Minimum Centre Line Radii**

The minimum centre line radii on bends shall be as shown in the Table below, however, this shall be subject to the minimum stopping sight distance being achieved.

Where larger radii are used adverse crossfall must be eliminated, in some cases it may be necessary to apply superelevation. A maximum 5% superelevation will be accepted on local distributor roads and transitional links and feeders.

Road Category	Design Speed kph	Design Speed mph	Width	Minimum Centre Line Radius
Type 1	60	40	7.3	127
Type 2	48	30	7.3/6.7	60
Type 3	48	30	5,5	60
Type 4	32	20	4.8	30
Type 5	16	10	4.8	10



### **Direct Frontage Access**

Frontage access to residential driveways may only be taken off roads where the speed is designed to be 30 mph (50 kph) or less, and the number of vehicles is less than 2000 per day.

### **5.5 Vehicle Crossings**

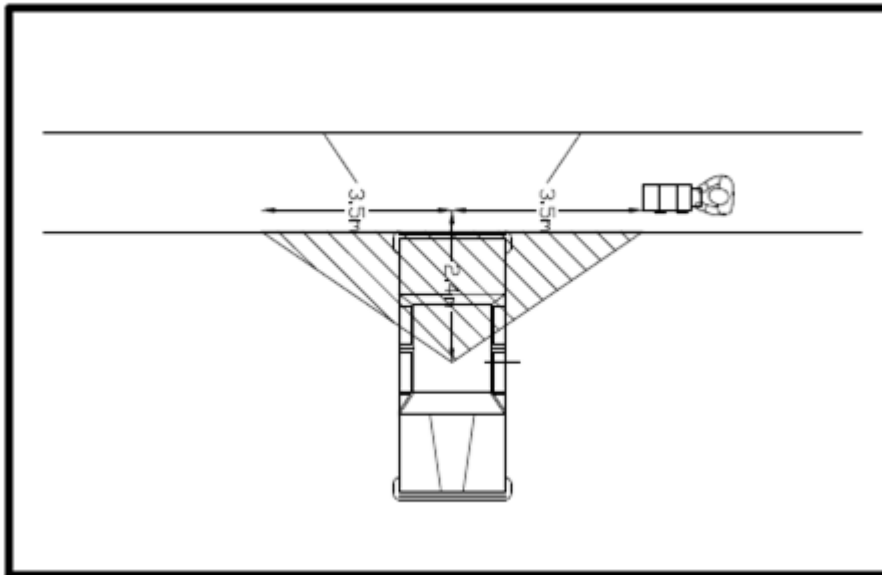
Vehicular access crossing pedestrian footways to residential properties should be constructed to a minimum width of 3 full 900mm kerb lengths (to suit a 2.7m wide single drive) with a maximum 25mm check purpose made bullnose kerb. The kerb line will include a transition kerb from 100mm to 25mm either side of the access. The footway will be constructed with a minimum of 225mm Type 2 sub base and 80mm of bituminous surfacing.

Vehicular accesses must be constructed with a maximum of 1:40 Crossfall for 800mm from the back of footway to permit wheelchair and pushchair use. Where multiple crossing points are created (3 or more) the edging kerb should be dropped to allow a constant gradient of 1 in 40 this is easier to walk on than the composite gradient on a single crossing

Where vehicular crossings lead to off highway parking areas the construction should be the same as that of the adjacent carriageway. Full road construction should be provided for 4 or more adjacent access points, or a width greater than 8 metres.

Access points to and from residential driveways and commercial development should be designed such that safe inter-visibility is afforded

between vehicle drivers and pedestrians. The following diagram illustrates the minimum requirement for visibility.



Single residential driveways should be a minimum 5.5m long and 2.7m wide. Details of parking requirements can be found in the Council's Parking and Accessibility guidelines 2014.



## 5.6 Sustainable Highway Drainage

Where developers have discharged surface water from a proposed adopted highway it has been normal to do so through a piped system connecting to the Water Authority system, ditch or watercourse following procedures set out in 'Sewers for adoption 7<sup>th</sup> Edition : a Design and construction guide for developers 'Water Authorities Association'.

The sewers for adoption guidance has been an indispensable guide for those involved in the planning, design and construction of sewers on new developments where these are intended for subsequent adoption by water companies in England and Wales through an agreement under Section 104 of the Water Industry Act 1991.

Recent and developing legislation will see the transfer to the water companies of responsibility for all existing private sewers and lateral drains that connect with the public sewer system. Until such time as developing legislation allows, Developers will be required to enter into a Section 104 adoption agreement covering all new sewers and laterals that will connect to the public sewer system. This will require major changes to Sewers for Adoption to cover the smaller sewers and lateral drains not previously included in such agreements.

Recent developments mean the use of Sustainable Urban Drainage systems (SUDS) will be an important and appropriate drainage solution in some environments and should be the first consideration of any designer. It is therefore important that early discussions are held with this highway authority regarding the discharge of highway surface water. Careful consideration should be given to the liability and maintenance of any



SUDS system. Where SUDS are to be used for highways they should discharge into public land. Soakaway drainage systems will be allowed for highway drainage subject to their location and design being agreed. The relevant ground investigation tests must be carried out by the developer. Approval for the developer's calculations and design must come from the highway authority. Where SUDS are used they will be subject to a payment to the County Council of a commuted sum for future maintenance.

Developers should note that highway surface water cannot be discharged into a privately owned drainage system or onto privately owned land. Where there is a requirement that the drain is located outside the limits of the highway a deed of easement will be required. The developer will be responsible for securing and providing proof of any easement.

If SUDS are not considered viable, highway drainage shall be disposed of into a piped system. If a piped separate system is used it shall discharge into a ditch or watercourse with Water Course consent from the Lead Local Flood Authority. The developer is responsible for securing permission from the Lead Local Flood Authority. (in this instance Durham County Council) Where discharge is to be made to a main river the Environment Agency must be consulted for consent.

Enquiries regarding drainage should be directed to the Highway Adoption Engineer or direct to the County Council's drainage and coastal protection team at \*\*

### **Piped systems**

If a piped system is used it should be of one of the following.

1. Concrete to BS5911



2. Unplasticised polyvinyl Chloride ( PVC-U)  
to BS4660 or BS 5481 or Plastic to BS 4962

All pipes used within the highway should be a minimum of 150mm diameter (100mm for footways only). Pipes must be designed and laid to an approved design level and gradient. The pipes will be fully supported on pipe bedding in accordance with DMRB HA40/01 see [Determination of Pipe and Bedding combinations for drainage works : HA40/01](#)

### **Gullies**

Collection of surface water into a piped system will be undertaken using road gullies designed in accordance with DMRB HA 102/00 see [Spacing of Road Gullies HA 102 00](#)

The following guide to spacing design may be adopted for a 7.3m carriageway:-

Longitudinal Gradient	Area to be drained per gully (m <sup>2</sup> )
1:150	78
1:100	96
1:80	108
1:60	123
1:40	150
1:30	171
1:25	187
>1:25	150

Where a low spot is designed within a vertical alignment a gully should be placed in addition to the above, with a gully 5 metres either side of the low spot. Existing gullies located in an access junction should be moved to the high tangent point at the junction radius.

Gully gratings and frames shall be Kite-marked to BS EN 124:1994. Either cast. Steel or Ductile Iron may be used. The frame shall be bedded on a gauged Class1 (3:1) sand/cement mortar and at least two but no more than four courses of Engineering Brickwork Class 'B' to BS EN 771-1:2003.

Units complying with BS EN 124 Class D400 shall be used for all estate roads. These shall be hinged and must be of the "captive" type and shall be installed on the side facing oncoming traffic. Minimum waterway area 1000cm<sup>2</sup> with frame at least 100mm deep.



Gully covers and any other carriageway and footway or cycleway ironwork shall not be installed until the carriageway binder course layer is laid. During the construction process protection shall be given to all gullies and chambers from the ingress of debris.

### **Chambers**

Manhole chambers must be provided at the head of drains, at changes of direction, at changes in pipe size or gradient and at the junction of main drains. Spacing shall not exceed 50m.

Upstream of the chamber at the head of a highway drain run each gully must be connected directly into the manhole and the length of gully connection must not exceed 25m.

Chambers should be constructed of Precast Concrete - Rings complying with BS 5911-3:2010 / BS EN 5911-1:2002 + A2:2010. The concrete cover slab must be Heavy Duty reinforced concrete to BS 5911-3:2002/BS EN 5911-1:2002

All chamber covers and frames intended for incorporation within the highway shall be kite-marked products to BS EN 124:1994 and badged S.W (surface water) and F.W (foul water). They shall be Heavy Duty: BS EN 124 reference D400 with a clear opening of 600mm and minimum frame depth of 100mm.

The frames shall be bedded on a Class 1 sand/cement mortar to SHW clause 2404 and BS EN 1996 above two to four courses of Engineering brickwork Class B to BS EN 771-1:2003. Alternative bedding materials



may be permitted but will require the approval of the Engineer prior to commencement.

Where small element concrete paving is to be used ( blocks) the Developer shall use specifically designed ironwork which permits blockwork and its laying course to be laid up to the frame of the gully grate or manhole cover.

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## 5.7 Street Lighting

The developer shall provide an approved form of street lighting as part of any development and this shall be in accordance with the County Councils Street Lighting policy see :-

[http://content.durham.gov.uk/PDFRepository/20\\_11\\_13\\_Street\\_Lighting\\_Policy\\_Consultation\\_Results.pdf](http://content.durham.gov.uk/PDFRepository/20_11_13_Street_Lighting_Policy_Consultation_Results.pdf)

If a developer elects to appoint a licenced (OFGEM) Independent Distribution Network Provider ( IDNO) to install and operate a network serving a development, details of the IDNO name address license and contact details must be provided to the County Council's Highways Adoption Engineer prior to the street lighting approval stage. This will be subject to a legal requirement under the S38 agreement. Failure to notify the authority of the IDNO may result in an invalid agreement and delay in the highway adoption process.

All street lighting will be subject to inspection and approval by the County Council's Street Lighting Engineer and included as part of the adoption process. Any decision of the Street lighting engineer should be considered final and will not be subject to arbitration. Street lighting shall be designed in accordance with Durham County Councils Street Lighting Design Guide which is available at

[http://content.durham.gov.uk/PDFRepository/Specification\\_New\\_Residential\\_Roads\\_and\\_Industrial\\_Estates.pdf](http://content.durham.gov.uk/PDFRepository/Specification_New_Residential_Roads_and_Industrial_Estates.pdf)

Any approved street lighting above the standards included in the standard specification will be subject to a commuted sum payment as outlines in section 4.6.



Street lighting installations on residential housing developments provided by developers for future adoption must comply with the current 'Specification for Street Lighting Installations - Residential and Industrial Estates', which was amended July 2011 and can be found at [http://content.durham.gov.uk/PDFRepository/Specification\\_New\\_Residential\\_Roads\\_and\\_Industrial\\_Estates.pdf](http://content.durham.gov.uk/PDFRepository/Specification_New_Residential_Roads_and_Industrial_Estates.pdf)

Designers should note that all street lighting and associated cable works and ancillary equipment shall only be installed within the area which it is proposed will be adopted as highway.

Every lighting unit and underground cable, on completion and before being energised shall be inspected and tested to verify that the requirements of BS 7671 (Current Edition of the IEE Wiring Regulations) have been met. The inspection and the test results shall be submitted to Highways Development Management no later than the time of requesting a Part 2 adoption inspection.

It is the developer's responsibility to obtain an **MPAN number from N.P.G.** when requesting underground services for the lighting installation from the electricity company. The developer will then be charged for the energy consumed by the street lighting installation from the date of connection up to and including the date of the final adoption certificate.

Centrally managed systems are the preferred option of Durham County Council for all existing and proposed street lighting systems. This shall include all residential major and minor roads.



Lighting systems shall be capable of dimming and switching off to allow the Strategic Highways Authority to control such systems to reduce CO<sub>2</sub> and energy.

**All lighting offered for adoption from the date of this publication must be of LED (Light Emitting Diode) design.**

The type of LED luminaries proposed by developers and offered for adoption must replicate the LED units currently used by Durham County Council (details available on request).

Columns must not obstruct footpaths or vehicular accesses. They shall be sited in accordance with BS5489-1:2013 + A2:2008, Code of Practice for the design of road lighting part 1: Lighting of roads and public amenity areas and generally be planted in the footpath at the rear or in the absence of a footpath, a minimum of 0.8 metres from the kerb edge to the face of the column and within the highway to be adopted. No obstruction or planting shall hinder access to the column base compartment or the light distribution from the lantern.

Generally 6 metre mounting height column supporting LED as appropriate to meet the requirements for the appropriate Street lighting class should be used on residential roads and accesses.

## 5.8 Footway Construction/ cycle path surfaces

Footways for residential areas should be 1.8m wide (including kerb) and should generally be laid to cross fall at 1:40 from back of footway to kerb level. Unless specified and agreed otherwise, footways should be constructed of machine laid bituminous materials in accordance with the following specification. All vertical surfaces must be treated with a cold bitumen tack coat:-

Pavement Layer	Compacted Thickness (mm)	Allowable Materials	DMRB Specification Clause
Surface Course	20	AC 6 Dense surf 100/150 OR AC 6 Dense surf 160/220	909
Binder Course	50	AC 20 Dense bin 100/150 rec. OR AC 20 Dense bin 160/220 rec	906
Sub-base	100	Type 2 Unbound Material for Sub-base OR Type 4 Unbound Mixture for Sub-base (Asphalt Arising)	803  807

<p><b><u>Footway (Vehicular Access)</u></b></p> <p>Surface Course</p> <p>Binder Course</p> <p>Sub-base</p>	<p>20</p> <p>60</p> <p>225</p>	<p>AC 6 Dense surf 100/150 OR AC 6 Dense surf 160/220</p> <p>AC 20 Dense bin 100/150 rec. OR AC 20 Dense bin 160/220 rec</p> <p>Type 1 Unbound Material for Sub-base</p>	<p>909</p> <p>906</p> <p>803</p>
<p><b><u>Footway (Vehicular access where 4 or more access points are together or the overall crossing width is greater than 8 metres.)</u></b></p> <p>Surface Course</p>	<p>20</p> <p>Compacted thickness of the remaining footpath construction to match that of the adjacent carriageway</p>	<p>AC 6 Dense surf 100/150 OR AC 6 Dense surf 160/220</p> <p>Construction materials to match that of the adjacent carriageway</p>	<p>909</p> <p>Specification clauses to match those of the adjacent carriageway Footpath construction layers to match that of the adjacent carriageway</p>



A minimum Type 1 sub base depth of 225mm should be used at footway crossing points, Standard pedestrian footways should be constructed on a minimum 100mm Type 2 sub base. The formation of footways must be treated with an approved weedkiller before construction commences.

The maximum and desirable gradient of the footways and footpaths should be 8%<sup>16</sup>. Where maximum gradients are used alternative routes must be provided for wheelchair and disabled users. Where separate ramps are provided steps may be used in the main footway or footpath. Where there are more than 10 consecutive steps flat landings of at least 2m in length must be provided after the tenth step. All sets of steps must have at least one handrail, and the steps must have a going of 600mm and a rising of 150mm. Dimensions may be amended but only with previous written approval of the Highway Authority.

Headroom over footways from signs or structures should be a minimum 2.1m with setback of a minimum 500mm from the kerb face.

Where a footway is to be assigned as a shared pedestrian/ cyclist facility the width should be increased to a minimum of 3.2m. Shared facilities which do not run alongside the carriageway should be constructed on a minimum 225mm Type 2 sub base overlain with a 50mm deep 6mm compacted limestone surface. In residential areas the surface must be overlain with a fibredec or similar approved sealed surface. Similarly where longitudinal gradients steeper than 8% are designed a sealed surface must be used to avoid surface scour. All shared surfaces must be positively drained with a 1:40 crossfall. Where the shared surface is outside the highway boundary this should drain into a filter drain or similar

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<sup>16</sup> DB32



positive drainage arrangement.

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## 5.9 Verges and landscaping

All verges shall be a minimum of 1.8m to accommodate public utility services and verge and batter slopes not greater than 1:5 (20%) All grassed areas within the highway shall comply with BS4428: 1989 and shall contain a minimum of 150mm of top soil free from stone, weeds and coarse grasses and levelled and raked smooth with no individual piece being in excess of 25mm. Areas should be treated with a non residual weedkiller and a re seeding fertiliser before seeding with a perennial ryegrass slow growth British Seed Houses –Mix A22 seed at a rate of 30g/m<sup>2</sup>. Areas where germination has not taken place within 21 days should be re seeded. Consideration must be given to the future maintenance and cutting of grasses and no area less 3m x 6m should be seeded.<sup>17</sup>

Planting should be avoided within standard visibility splays of 4.5m x 90m from the centre line of a junction in a residential area.

Tree planting in verges and adjacent to carriageways may be accepted subject to the trees being planted in tree pits and 1.0m<sup>2</sup> root barriers being provided. The type of tree and its location must be agreed with the Highway adoption and Street Lighting Engineer. The tree planting scheme shall be designed in conjunction with the street lighting layout.

All tree and shrub planting within the highway shall take into account the location and depth of drainage and utilities. No tree or shrub planting shall take place within 1.0m of the carriageway channel.

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<sup>17</sup> This is to permit cutting with a ride on machine.





#### **5.10 Public Transport, Lay bys and Bus boarders**

New Residential development should be located in areas well served by public Transport. Routes carrying a public transport service must provide a minimum running carriageway width of 6.75m with 12m junction radii and a footway alongside the carriageway. Where turning of buses is required a minimum 25m diameter bus turning circle is required. All residential properties should be within 400m of the nearest bus stop. Careful consideration is required for the layout and design of residential development to facilitate direct and accessible pedestrian routes to public transport facilities.

Designers must consider how best to serve a development with public transport and if a service can be economically operated through the site or if services alongside the site can be enhanced to improve public transport attractiveness. These issues should be discussed as soon as possible with one of the Development Management Officer listed in section 2.3. The Development Management Officer will liaise with Sustainable Travel Officers to determine the best approach to facilitate public transport and other active travel modes.

There may be a number of factors that can influence the requirement for a bus stop for public transport. Design of stops and how they operate within the road network will depend on locality. All stops will be required to provide as a minimum raised bus boarders to accommodate low floor buses for the mobility impaired, bus box markings, bus stop poles and flags, and bus shelters. . Bus stop laybys may be required on roads adjacent to residential development for road safety or operational efficiency reasons.

Where there is a footway on the opposite side of the road to proposed bus service stops, a pedestrian crossing point should normally be provided and designed in line with the appropriate standard drawing. The crossing point should be located as close as is possible to the stop, bearing in mind safety considerations.

### **Bus stop location and design**

Bus stop locations must take into account the following.

- Ensure good drivers and passengers intervisibility at stops ;
- Ensure good forward visibility for vehicles overtaking a stationary bus
- Locate stops away from parking demand areas.
- avoid conflicts with road junctions, pedestrian or cycle crossings
- avoid interference with accesses to properties;
- protect bus stops from obstruction.



To erect a new bus stop or relocate an existing bus stop on an existing public highway agreement is required from:

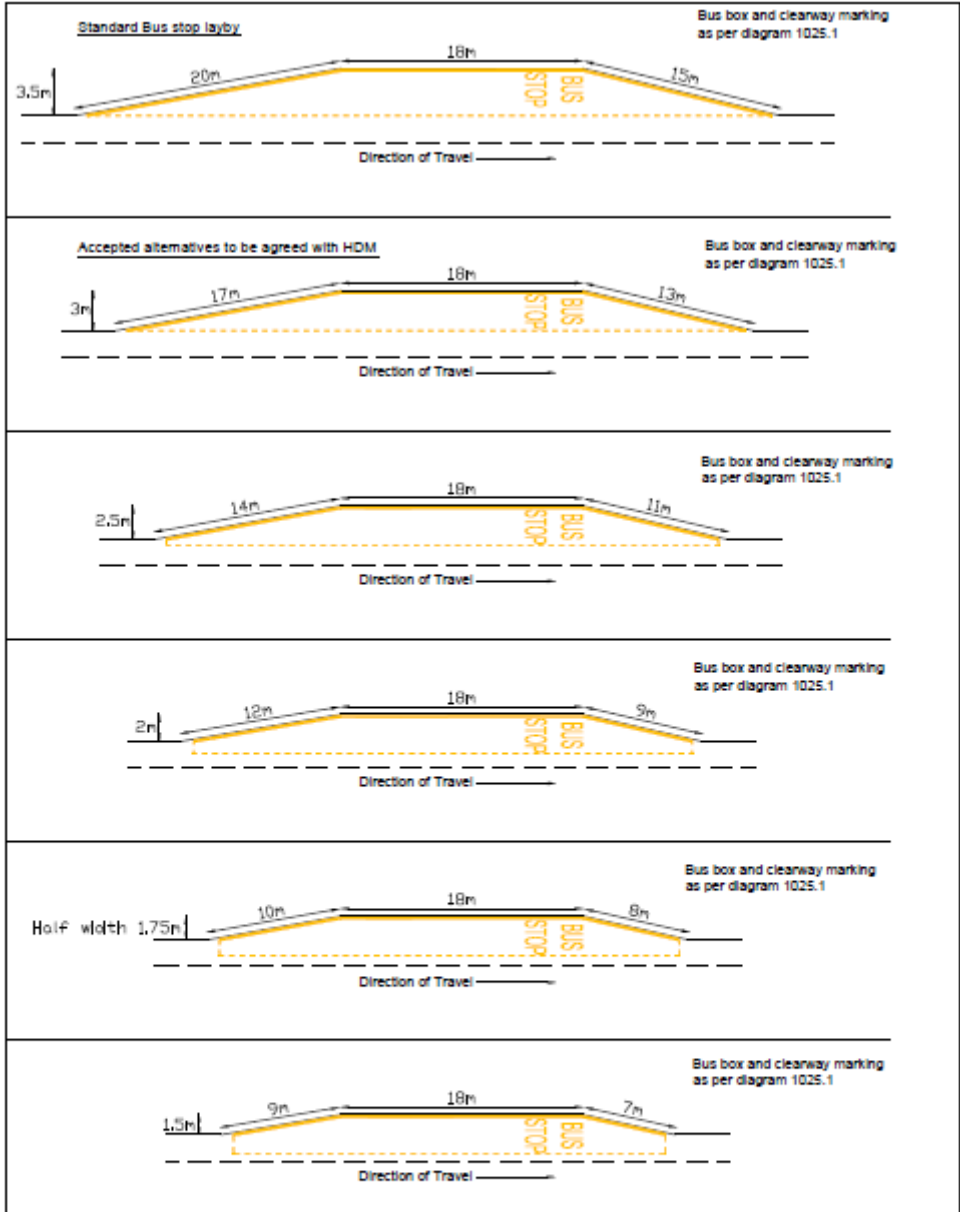
- Highways Development Management
- the police;
- the local parish council (if appropriate) / local ward councillor;
- bus operators; and
- frontages directly affected must be notified in writing and allowed a reasonable time to respond (usually two weeks).



The consultation process for moving a bus stop will be undertaken by the County Council's Public Transport Infrastructure Officer named in 2.4.

The minimum footway width at a bus stop should normally be 3m. Where a shelter is to be provided there should be at least 0.5m clearance between any part of the shelter and the edge of the carriageway. There should be a clear footway of at least 1.3m (1.8m in the city) between the shelter and the rear edge of the footway (both for cantilever-style shelters where the roof extends beyond the support and enclosed shelters). Where you cannot achieve this, but there are no alternative locations to site the shelter, then we will consider site-specific shelter designs.

The following diagrams should be followed when designing a bus stop layby.



Rev/Andt	Approved By			Basic Formula	 <b>STRATEGIC TRAFFIC MANAGEMENT</b> <small>CO-ORDINATED THROUGH THE DEPARTMENT OF TRANSPORT &amp; HIGHWAYS</small>	Project	
01	Name	Date	Sign			Bus Stop Layby Scenarios	
		05.09.08	AJ Woodman	$\frac{x}{3.5} = \frac{y}{20} = \frac{z}{15}$	Scale:	Project/Drawn No.	
				x = new width y = new inbound z = new outbound	N.T.S		
						Rev 01	



### 5.11 Adoption of Public Open Space

Effective use of well maintained public open space can add to a developments attraction and add value to a development. Public open space does not form part of the adopted highway network although its relationship to the layout and design of highways is important. Where public open space is to be proposed it is important that early engagement is made with the Streetscene section of the Councils Neighbourhood Services department. The public open space will be subject to a separate legal agreement to the highway adoptions.

Developers must provide site layout plans showing the areas to be considered by Neighbourhood Services (Streetscene) who will consult internally and prepare terms for adoption.

When prepared for adoption the Streetscene service will carry out an initial site inspection to ensure areas proposed for adoption are of a suitable standard for on-going grounds maintenance and a defects list produced if necessary for corrective action prior to any adoption taking place. If there is a proposal to offer for adoption features on an open space which would come under the remit of Sports & Leisure Services, Drainage Team or the public rights of way team consultation will be made by the Streetscene service.

A commuted sum payment for on-going grounds maintenance will be applied based on an approved formula. The County Councils Assets Team will prepare terms for adoption and contact / liaise with the Developer regarding these. Upon agreement of suitable terms the Assets Team progress delegated authority for adoption of the open spaces and progress conveyance of the land to DCC



Developers proposing to appoint a management company to manage and maintain open space or private areas must advise the County Council's Highways Adoption Engineer prior to a section 38 agreement being entered into. This will be subject to a legal requirement under the section 38 agreement. Failure to notify the authority of the management company may result in an invalid agreement and delay in the highway adoption process.

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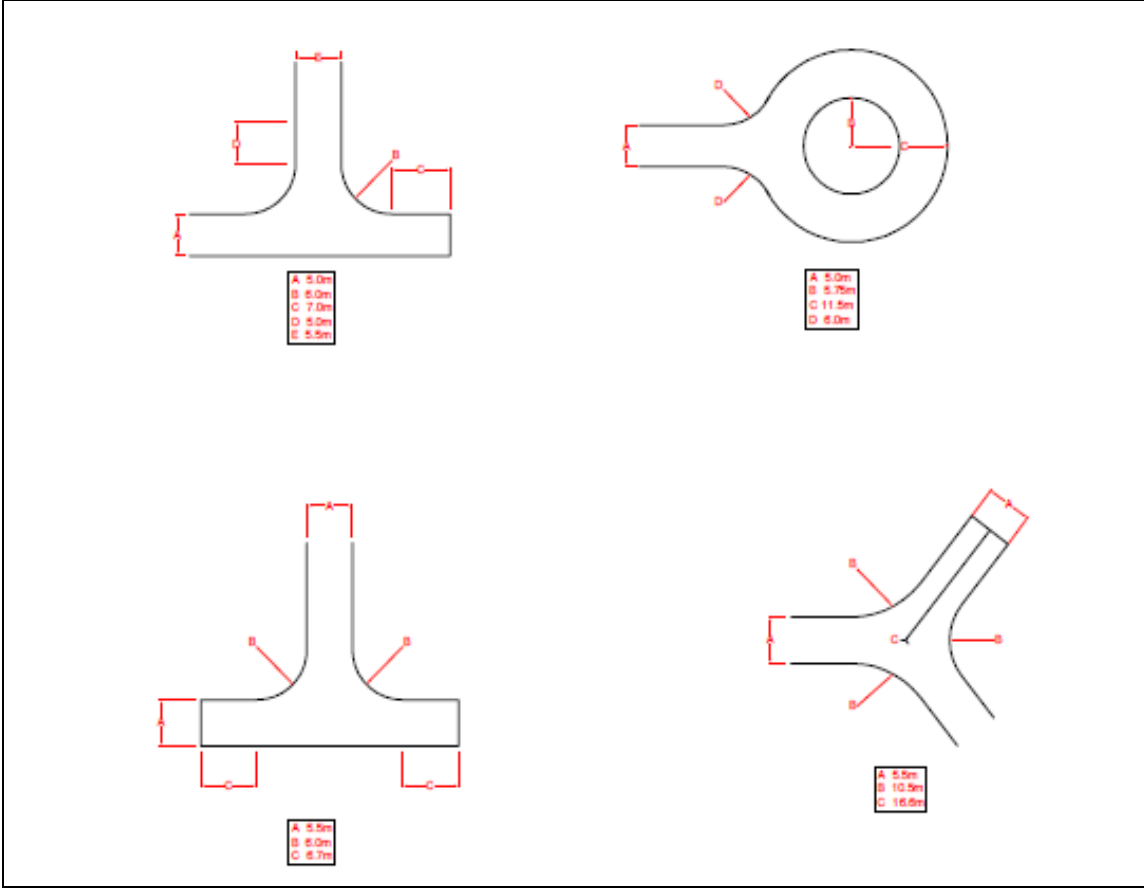


## 5.12 Turning Areas

It is essential that sufficient space is provided for vehicles to turn in culs de sac. Turning areas need not be a regular shape as long as a standard turning head, as shown in the diagram overleaf will fit within its boundaries. Adequate off street parking should be provided to avoid the need for residents and visitors to park vehicles within turning areas.

Road Types 1 to 3, inclusive should be constructed as connected street networks therefore should not need a turning area.

A Type 4 Mews Court should be assessed to determine if refuse vehicles will be expected to drive in and turn, this will govern the size of turning area. Where Mews Courts are 25m or less in length and serve a maximum of 8 houses, a reduced size turning area can be provided.



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### 5.13 Materials and specifications

Presenting a distinctive public realm that does not place significant burden on the future public purse is essential to the local authority. Highways to be adopted must be constructed using robust and sustainable materials which do not place a maintenance liability on the authority over and above that expected from a standard adopted highway. All highway works must be in accordance with the Highway Agency's Specification for Highway Works and relevant British Standards unless otherwise indicated within this document or agreed by the Adoptions Engineer. [Specification for Highway Works](#). It should be noted that new concrete carriageway rigid pavement construction will not be an accepted construction form in County Durham for residential Estate Roads.

The Manual for Streets (MfS) recommends the use of a variety of materials and construction techniques in new development. As the highway authority is responsible for adoption, and ultimately all future maintenance, it is important that the Adoption Engineer is consulted at an early stage of design, and throughout the design process.

A sustainable approach to highway construction and the use of recycled products is encouraged. Techniques to conserve natural resources and the use of recycled materials are developing rapidly and will become more commercially viable. This Authority has a committed approach to sustainable solutions. Promoters should provide an approval process that includes technical assessment and laboratory appraisals as and when necessary. Such products can be utilised wherever it is possible to include them without unduly compromising the quality of the finished works. The approval process and any expansion of the specification will only be provided at the developer's expense.



**Sub Grades**

All carriageway designs must relate to the insitu sub grade CBR properties. For design purposes the following CBR's can be assumed.

Type of soil	Plasticity index	Equilibrium CBR %
Heavy clay	30 to 50	2
Silty clay	20 to 29	3
Sandy clay	10 to 19	4
Silt	Less than 10	1
Sand (poorly graded)	Non-plastic	20
Sand (well graded)	Non-plastic	40
Gravel (poorly graded)	Non-plastic	40
Sandy gravel (well graded)	Non-plastic	60

Contractors must produce evidence of CBR values used and where possible any laboratory or insitu test results to support the design thicknesses proposed.

The following layer thicknesses can be used where Type 1 sub base is to be reduced and a capping layer used. Option B gives alternative sub base thicknesses if no capping is used.

CBR %	Option A		Option B	
	Capping mm	Sub-base mm		Sub-base mm
Less than 2	600	150		
2	450	150		
3	350	150	-	300
4	300	150	-	275
5 to 15	250	150	-	225 (see clause 4.68)
More than 15			-	150 (see clause 4.68)

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### **Bituminous materials**

All materials to be in accordance with the current Highways Agency Specification for Highway Works series 900.

Coarse Aggregate in Macadam Surface Course shall have a minimum PSV of 53 and a maximum Aggregate Abrasion Value (AAV) of 12. Where gradients are greater than 5% (1:20) the aggregate shall have a minimum PSV of 60 and a maximum AAV of 12 Limestone Coarse Aggregate is permitted in Hot Rolled Asphalt provided it has a Polished Stone Value (PSV) of 44 or more,

A higher binder penetration value to be used for cold weather working and when a considerable amount of hand working is required.

The hand laying of asphalts (i.e. all bituminous materials) will only be permitted in the following circumstances:-

- a. For laying regulating courses of irregular shape and varying thicknesses.
- b. In confined spaces where it is impractical for a paving machine to operate.
- c. In footway construction.
- d. At the approaches to expansion joints at bridges and structures.

All Asphalts shall be produced at mixing plants which are certified in accordance with the Highways Agency Sector Scheme 14.

Chippings for use in Hot Rolled Asphalt on Type 1 and 2 roads shall be pre-coated 20mm nominal size and have a minimum PSV of 53, 60 or 68

100



as appropriate for the location of use and a maximum AAV of 10. On slopes of gradient 5% (1:20) or steeper the minimum PSV shall be a minimum of 60. For Type 1 roads where a speed restriction up to 70kph (40mph) is in force a rate of spread of 70% shoulder to shoulder is required otherwise a texture depth of 1.5mm as measured by the volumetric patch technique is required.

Chippings for Shared Surface roads shall be 14mm nominal size A rate of spread of 70% shoulder to shoulder is required.

All joints must be offset by at least 300mm from parallel joints in the layers beneath.

The surface of base and binder course shall be swept clean and be free from any standing water, debris and ice prior to the application of a tack coat in readiness for surfacing that same day.

All vertical faces of kerbs, surfacing mats, manholes, gullies, etc. against which asphalts are to be laid shall be cleaned and painted completely with a uniform coating of 50 or 70 (or equivalent) pen grade hot bitumen prior to laying.

A bituminous spray tack coat shall be applied to all asphalt courses on which laying is to take place, i.e. both within courses (where the course is laid in more than one layer) and between courses, on existing surfaces to be overlaid and any concrete surfaces. A tack coat must also be applied to all scarified and planed surfaces and any trafficked binder courses prior to surfacing. Only sufficient tack coat shall be put down for the same day's surfacing works and, once applied, the tack coat shall not be traversed by vehicles or plant except that engaged in the surfacing. The



tack coat shall be K1-40 bitumen emulsion to BS 434: Part 1 applied at a rate of 0.4 to 0.6 litres per square metre except below Thin Surfacing Systems where the bond coat specified on the corresponding HAPAS certificate shall be used between the Thin Surfacing and Binder Course.

The following material shall not be laid on shale: - Limestone, crushed concrete, recycled aggregate or asphalt arising.

Thicker layers to those stated above may be allowed only with prior agreement of the Director of Environment provided the compaction plant is of a sufficient size/ specification to produce the required compaction. Details are set out in the Highways Agency Specification for Highway Works, Table 6/4, Method 6.

Products made from crushed concrete and recycled aggregates shall be processed in accordance with 'Quality Control- Production of Recycled Aggregates' published by Construction Research Communications. Adequate testing regimes shall be in place to monitor the quality of the material being produced. Proof of compliance with these requirements shall be by certification from a recognized third party assessor.

#### **Concrete block paving**

Use of concrete block paving in discrete straight sections will be accepted, where sideways forces are not created by large turning vehicles. Block paving will not be accepted in areas where larger vehicles will turn or small cuts of pavements are required to accommodate radii, gullies, or inspection chambers.



A minimum 80mm thick (200mm x 100mm) paving block and complying with the relevant requirements of BS 6717: Part 1: can be used in carriageways and vehicular crossing areas. It shall be laid to a herringbone pattern in accordance with BS 6717: Part 3: normally 90 degrees herringbone for footways and 45 degrees herringbone in carriageways. In footways and other areas not subject to vehicular traffic concrete paving blocks shall be not less than 60mm thick.

Paving blocks shall be laid in accordance with the Code of Practice for Laying Precast Concrete Block Pavements, published by INTERPAVE.

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### **Alternative coloured materials**

It may be desirable for alternative coloured materials to be used for aesthetic purposes if required by the planning authority or developer to enhance a development. Any such surfacing must be HAPAS approved and agreed with the Highways Development Management in advance of submission of a planning application for approval.

HAPAS details can be found at the following link:-

<http://www.bbacerts.co.uk/product-approval/hapas.aspx>





#### **5.14 Safety Audit**

All highway scheme drawings will be checked by the Council's Highway Adoption Engineer for compliance with this guidance, the Specification for Highway Works and associated standards. Scheme designers are expected to comply with their responsibility under the Construction Design and Management Regulations in considering the safe operation of the highway.

For schemes where significant works within the existing highway under section 278 of the Highways Act are to be constructed, a stage 2 safety audit will be required. For all other Section 38 works, should any element of a scheme be considered detrimental to highway safety by the Adoption Engineer, a formal stage 2 safety audit will be undertaken. Findings and recommendations of the Council's Safety Auditor will be final and not subject to arbitration.



### 5.15 Utilities

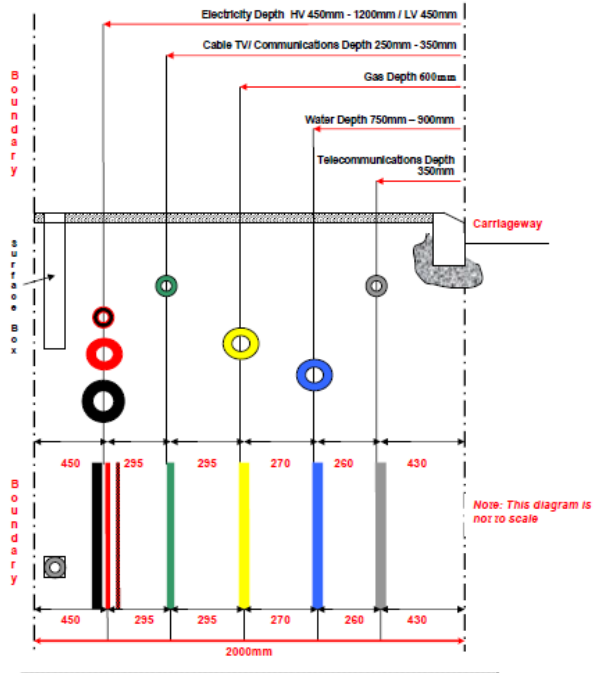
Best Practice for public utility undertakers works is contained in the following link. [NJUG](#). The NATIONAL Joint Utilities Group is also the utility arm of the Highway Authorities and Utilities Committee (HAUC(UK)), working collaboratively with roads / local authorities and national and regional governments to drive up standards of road and street works

Up to date guidance on the position of utilities within a footway can be found at

[Guidelines on positioning and colour coding of underground utilities apparatus](#)

Where no footways are provided verge strips should be designed into a development alongside the running carriageway.



**FIGURE 1 - Recommended Positioning of Utility Apparatus in a 2 metre Footway**



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


**NJUG Guidelines on the Positioning of Underground Apparatus for New Development Sites**

**TABLE 1 – Recommended Colour Coding of Underground Utilities Apparatus**  
All depths are from the surface level to the crown of the apparatus

Utility	Duct	Pipe	Cable	Marker Systems	Recommended Minimum Depths	
					Footway/Verge	Carriageway
Electricity EHV (High Voltage)	Black or red duct or tile	N/A	Red or black	Yellow with black and red legend or concrete tiles	450 – 1200mm	750 – 1200mm
Electricity LV (Low Voltage)	Black or red duct or tile	N/A	Black or red	Yellow with black legend	450mm	600mm
Gas	Yellow	*** See row below	N/A	Black legend on PE pipes every linear metre.	600mm footway 750mm verge	750mm
	*** PE - up to 2 bar - yellow or yellow with brown stripes (removable skin revealing white or black core pipe). - between 2 to 7 bar -orange. Steel pipes may have yellow wrap or black tar coating or no coating. Ductile Iron may have plastic wrapping Asbestos & Pitt / Spun Cast Iron – No distinguishable colour					
Water non Potable & Grey Water	N/A	Black with green stripes	N/A	N/A	600 – 750mm	600 – 750mm
Water - Firefighting	N/A	Black with red stripes or bands	N/A	N/A	600 – 750mm	600 – 750mm
Oil / fuel pipelines	N/A	Black	N/A	Various surface markers  Marker tape or tiles above red concrete	900mm <i>All work within 3 metres of oil fuel pipelines must receive prior approval!</i>	900mm <i>All work within 3 metres of oil fuel pipelines must receive prior approval!</i>
Sewerage	Black	No distinguishing colour / material (eg: Ductile Iron may be red; PVC may be brown)	N/A	N/A	Variable	Variable
Telecomms 	Grey, white, green, black, purple	N/A	Black or light grey	Various	250 – 350mm	450 - 600mm
Water	Blue or Grey	Blue polymer or blue or uncoated Iron / GRP Blue polymer with brown stripe (removable skin revealing white or black pipe)	N/A	Blue or Blue/black	750mm	750mm minimum
Water pipes for special purposes (e.g. contaminated ground) 	N/A	Blue polymer with brown stripes (non-removable skin)	N/A	Blue or blue/black	750mm	750mm minimum

**NJUG Guidelines on the Positioning of Underground Apparatus for New Development Sites**

**TABLE 2 – Recommended Colour Coding of Other Underground Apparatus**  
All depths are from the surface level to the crown of the apparatus

Asset Owner	Duct	Pipe	Cable	Marker Systems	Recommended Minimum Depths	
					Footway	Carriageway
<b>Highway Authority Services</b>						
At the time of publication the following were current examples of known highway authority apparatus colour coding						
<b>Street Lighting</b>						
England and Wales 	Black or orange* * Consult electricity company first	N/A	Black	Yellow with black legend	450mm	600mm
Scotland	Purple	N/A	Purple	Yellow with black legend or purple	450mm	450mm
Northern Ireland	Orange	N/A	Black or Orange	Various	450mm	450mm
<b>Other</b>						
Traffic Control	Orange	N/A	Orange	Yellow with black legend		
Street Furniture	Black	N/A	Black	Yellow with black legend	450mm	600mm
Telecomms 	Purple/orange	N/A	Black	Various		
<b>Motorways and Trunk Roads</b>						
<b>England and Wales</b>						
Communications	Purple	N/A	Grey	Yellow with black legend	450mm	
Communications Power	Purple	N/A	Black	Yellow with black legend		
Road Lighting	Orange	N/A	Black	Yellow with black legend		
<b>Scotland</b>						
Communications 	Black or grey	N/A	Black	Yellow with black legend		
Road Lighting	Purple	N/A	Purple	Yellow with black legend		

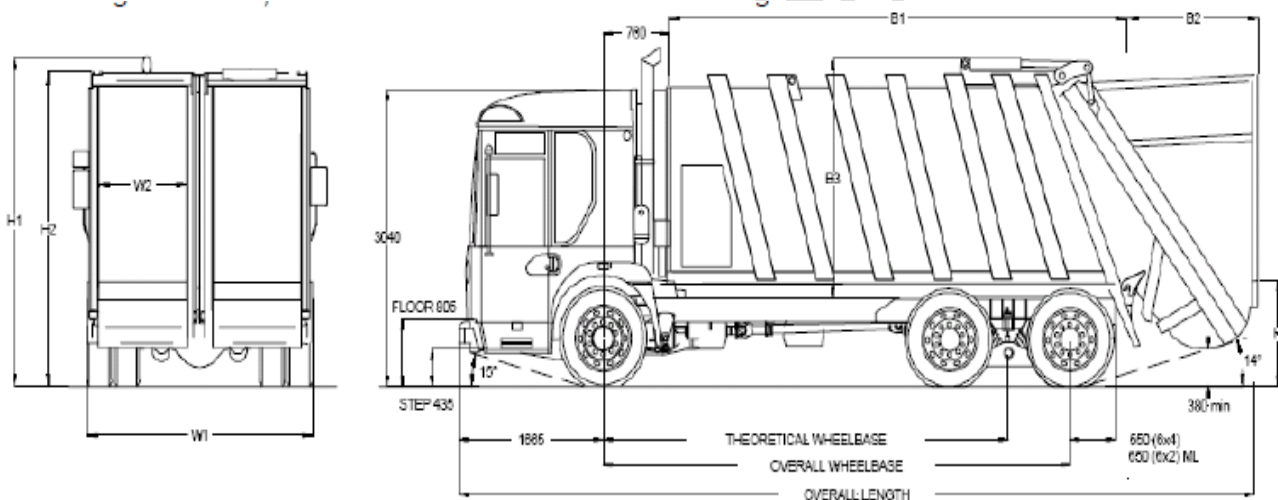
These guidelines describe utility industry practice. However, it should not be assumed that all apparatus will conform to the recommendations for positioning and colour coding contained in this publication.

APP

## 6.1 Refuse collection

All vehicular trafficked areas to which refuse vehicles will be required to access must be designed to withstand a gross vehicle weight of 26 tonnes and axle loading of 11.5 tonnes. Carriageway widths must be designed to accommodate a 2.65m wide. A minimum 4.8m carriageway can accommodate a refuse vehicle passing a standard car 1.7-1.8m wide.

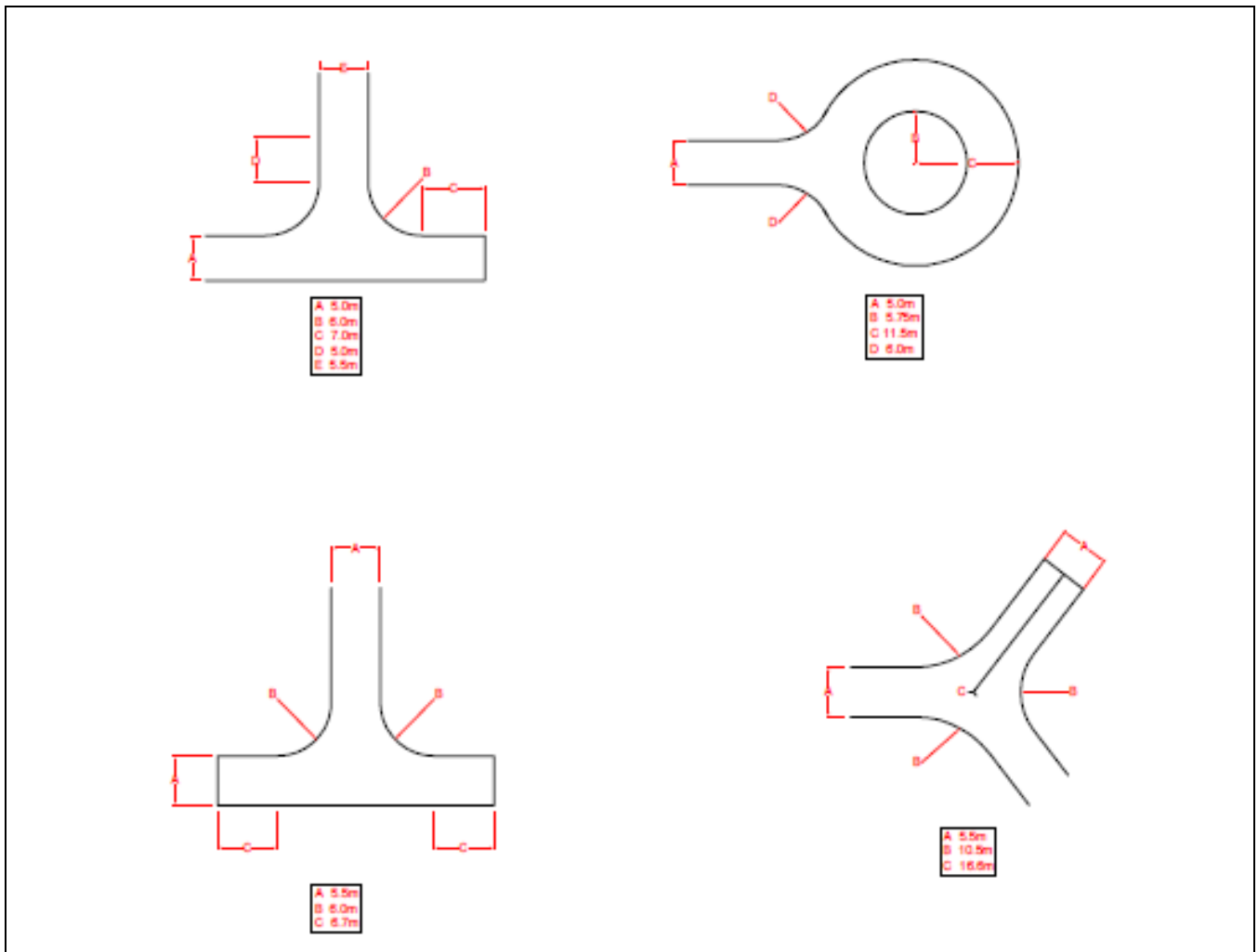
Carriageways must be designed to accommodate the following 11.0m refuse vehicle.



### Dimensions and weight

Width (W1)	2.65 metres
Overall length	11 metres
Height, incl. high level exhaust (H1)	3.6 metres
Swept Circle (diameter)	23 metres

Minimum dimensions for turning of refuse vehicles are as shown in the following diagram:-





## 6.2 Traffic Regulation

Where a new or amendment to an existing Traffic Regulation Order (TRO) is required as a result of a development the developer will be required to request the County Council Traffic and Community Engagement section to start the TRO process no later than 12 months prior to the TRO start date.

New developments within an existing Parking permit holder area will not automatically be included within the permit scheme. Clarification should be sought from Durham County Council Parking Services as to the possibility of inclusion. It is the responsibility of the developer to inform prospective residents that there will/will not be a permit scheme in operation prior to completion of sale. If inclusion in the permit scheme is permitted the developer must provide prospective residents with the scheme operation terms and conditions prior to completion of sale.

A TRO will not be implemented prior to the adoption of the highways associated with the development.

The developer is required to cover all costs associated with the TRO implementation which includes advertising, signing, officer time and any other associated cost.





### 6.3 Public Rights of Way / Diversions

Development often affects public rights of way, and it is important for all parties; applicants, designers, planners, rights of way officers and the public, that public rights of way are dealt with consistently, appropriately and in a timely manner.

It is important to remember that the planning process is distinct from the process for dealing with public rights of way. The two need to work together, but they remain separate. Planning permission cannot be implemented until any affected public rights of way have been properly addressed.

A simple checklist for any prospective developer/applicant for planning permission:-

1. Look on the Definitive Map ([definitive map](#)) for any recorded public rights of way.
2. Look on site for any other evidence of public access; trodden lines, gaps in fences etc. If the use is well-established it is sensible to treat it in the same way as a recorded path.
3. Decide if any paths on site can be accommodated within the development on their existing alignment, can they be diverted onto new routes, or do they have to be stopped-up? Diverting or stopping-up requires a legal order, which is subject to public consultation and potential objection.



4. Talk to the rights of way officer and the planning officer about what is realistic. Start these conversations as soon as possible; it can take many months to go through the simplest diversion.
  
5. Application forms and guidance can be found at [Public Path Diversion application](#)

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#### 6.4 Speed limits/ Traffic Calming

All residential roads should be designed with an 85<sup>th</sup>tile speed of 20mph. Where shared surfaces are designed a maximum design speed of 15mph should be adopted.

Speeds should normally be controlled by the horizontal ([horizontal deflection guidance](#)) and vertical layout of the highway and the location of buildings in relation to the highway. Traffic calming should only be used where the highway design does not reduce speeds to an acceptable level. This can be achieved by avoiding lengths of straight roads or shallow bends.

##### **Maximum length of Straight**

(This is the maximum distance between junctions, 90-degree bends or a speed control feature)

85 <sup>th</sup> %ile design speed (mph)	Maximum distance <sup>(a)</sup> (metres)
30	150
25	100
20	60
14	40

(a) Distance between curves is measured between the tangent points

Visibility splays at development tying into the existing highway network should be designed within the criteria of the posted or measured speed limit for the existing road. Speed limits will only be moved to accommodate designed visibility splays if movement to a new location accords with the County Councils Speed Management Strategy. Advice



should be sought from the Council's Traffic and Community Engagement Section.

If traffic calming is necessary consideration should first be afforded to horizontal traffic calming including pinch points, road narrowings over short lengths of highway and where appropriate priority give way arrangements. All should give cognisance to the needs of cyclists.

Vertical traffic calming in the form of raised tables at junctions and speed humps should be in accordance with The Highways (Road Humps) Regulations 1999 S.I. 1999 and the DfT TA 2/05 guidance found in Traffic Calming Bibliography at [Traffic Calming Bibliography 2005](#) Where any form of vertical calming feature is proposed it must not be within 25m of the edge of a structure, for example, a bridge or culvert. Vertical calming ramps must not overlap with private accesses and driveways to avoid problems of vehicles 'grounding' as they turn into or out of the accesses or drives

Where Traffic calming measures are proposed on the existing highway network consultation should be undertaken with the Council's Traffic and Community Engagement section.



## 6.5 Signs and Road Markings

All permanent signing and road markings must be in accordance with the Traffic Signs Regulations and General Directions 2004 (as amended).

[TSRGD 2004](#)

[TSRD Amendment 2011](#)

[Traffic Signs Manual](#)

Developers will be required to provide road markings and signing within the development internal road layout and at existing highway junctions. Occasionally off development signing may be required (e.g. HGV routes) and should be discussed with Highways Development Management Officers.

Works within existing junctions will require temporary traffic signing in accordance with Chapter 8 of the Traffic signs Manual

[Traffic signs-manual-chapter-08. Part 2 Operations](#)

Junction lining and signing will be required in residential developments and lining and signing must be detailed on a drawing submitted as part of the section 38 agreement. Centre line markings are not generally required in residential development.

Reference must be made to TSRGD for latest lighting requirements of traffic signs. Certain signs such as lighting at bollards must be lit by the Highway authority supply. Test certificates in accordance with BS 7671 must be provided for all equipment.



## **6.6 Structures in the Highway**

Any structure that will retain the highway, or is intended to be maintained as part of the highway must be subject to.

Guidance in DMRB should be followed for Technical approval

[DMRB Technical approval for highway structures](#)

Advice on technical approval can be given by the County Council's Engineers at the Technical Services Service in Neighbourhood Services group. Initial discussions should be held with the Highways Adoption Engineer to determine the type and extent of structure and if technical approval is required.

## **6.7 Parking Standards for New Residential Development**

It is recognised that car ownership will increase in County Durham with improvements in economic wellbeing of the County. Measures to restrict car usage by restricting car parking at the trip ends such as employment or retail locations are, justifiable. However there is increasing evidence that housing estates which have utilised tighter level of parking supply are suffering from on street parking problems resulting in difficulties for residents and delivery vehicles to access roads. There are examples of families owning up to 5 cars and of work vans being parked at dwellings. Often road safety suffers as a consequence of the on street parking causing narrow carriageways and reduced visibility of pedestrians and other vehicles.

Apart from the size of the dwelling, location has the most significance in determining the demand for car parking. Sites which are close to town or city centres are less likely to need car parking space as many journeys by



residents can be carried out by alternative travel modes e.g. walking, cycling or public transport. At the other extreme, rural locations are remote from facilities and are less likely to have access to good public transport facilities. Therefore it is proposed that different standards for car parking provision are applied for town and city centres, suburban areas and rural areas. The definitions of these areas are shown below:

“Town and city centres” Areas of high density development close to the centres of major urban settlements which have good access to facilities and to public transport.

“Suburban areas” Areas on the edge of urban settlements which may have access to facilities and public transport but which may not be close or frequent.

“Rural areas” Areas which are remote from urban areas, have limited facilities or have poor public transport accessibility.

The decision as to which type of area a proposed development would belong will be made by the highway officers considering the development in consultation with the planning officers. The following standards have been derived from research carried out for The Department for Communities and Local Government and published as “Residential Car Parking Research”, May 2007.

The proposed standards for car parking provision in residential developments are the minimum recommendations. However, where it can be demonstrated that a lesser standard may be applicable due to site specific conditions, a relaxation of the standard may be permitted.



The following is an extract from the County Council's Parking and access Guidelines

	Minimum allocated	Minimum non allocated off curtilage	Example
1-2 bed	1 per dwelling plus	1 non allocated space per 3 dwellings	10 units would require 13 spaces of which 3 would be none allocated.
3 bed Without garage	1 in curtilage per dwelling plus	2 non allocated space per 3 dwellings	10 units would require 16 spaces of which 6 would be none allocated.
3 bed With a garage	1 in curtilage per dwelling plus	1 non allocated space per 3 dwellings	10 units would require 13 spaces of which 3 would be none allocated.
4 bed With single garage	1 in curtilage per dwelling plus	2 non allocated space per 3 dwellings	10 units would require 16 spaces of which 6 would be non allocated
4 bed With double garage	2 side by side spaces in front of garage	1 non allocated space per 5 dwellings	10 units would require 22 spaces of which 2 would be non allocated
5 bed With double garage	2 side by side spaces in front of garage	1 non allocated space per 5 dwellings	10 units would require 22 spaces of which 2 would be non allocated



The parking requirement should not apply to accessible town centre locations where parking provision will remain at maximum standards of 1 space per unit.

Durham City – within 400m<sup>18</sup> of Market Place

Chester Le Street – within 400m of Market Place

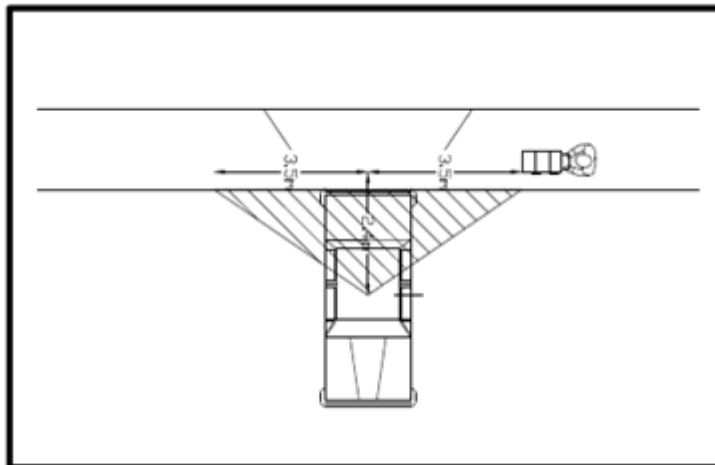
Bishop Auckland – within 400m of Market Place

Consett – within 400m of High Street

Newton Aycliffe – within 400m of town centre

Peterlee – within 400m of town centre

Access points to and from residential driveways and commercial development should be designed such that safe inter-visibility is afforded between vehicle drivers and pedestrians. The following diagram illustrates the minimum requirement for visibility.



Vehicular driveways for residential development must be able to

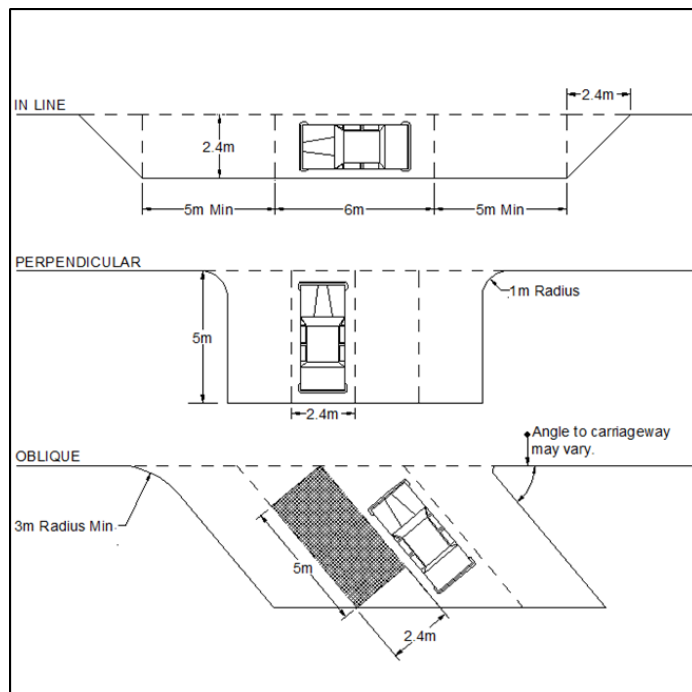
<sup>18</sup> 400m has been selected on the basis that at an average walking pace of 4mph, accessible public transport facilities would be available within a walk of 4 minutes.



accommodate a standard size vehicle with wing mirrors extended and with a 100mm offset from the side of the wing mirror to a potential fence or other physical barrier. A minimum of 600mm is required to allow a driver and passenger to open a door to alight the vehicle. Minimum acceptable dimensions for a residential drive are

Drive Type	Length	Width	Comment
Single width Up and over door	5.5m	2.7m	100mm offset from drive edge 2.0m vehicle with wing mirrors extended 600mm for door opening
Single width with a roller shutter door	5.0m	2.7m	100mm offset from drive edge 2.0m vehicle with wing mirrors extended 600mm for door opening
Single width double length	10.0	2.7m	100mm offset from drive edge 2.0m vehicle with wing mirrors extended 600mm for door opening
Double width	5.5m	4.7m	100mm offset from drive edge 2.0m vehicle with wing mirrors extended 600mm for door opening 2.0m for second vehicle

Considerately designed parking space in residential areas is essential to adequately accommodate residents' vehicles. The following layouts and dimension are recommended for on street parking. Driveways should be a minimum of 5.5m to accommodate an up and over garage door. Garage doors or driveway gates should not open into the highway.



The forecourt from which the vehicle enters the parking space must be a minimum of 6.0m. where 90 degree parking provision is made. This dimension may be reduced where bay widths are increased above 2.4m and it can be demonstrated a vehicle can manoeuvre from the space. Echelon or angled parking may be provided where a one way system is adopted in the car park. One way systems must be clearly signed and marked within car parks. The area to the front of the echelon bay (Forecourt) may be reduced as follows where bay widths are varied.

Formation	Bay depth	Forecourt depth
60 degrees	5.4m	4.2m
45 degrees	5.1m	3.6m
30 degrees	4.5m	3.6m

## 6.8 Traffic Signals

Often the impacts of development generated residential traffic can be such that a set of traffic signals on the existing highway network can require additional capacity, or a new set of signals may be required. In such circumstance the scheme transport assessment will identify the junctions where a material impact occurs. Developer's transport consultants would be expected to demonstrate through Linsig or Transyt modelling that junctions can accommodate



development traffic. Where interaction between junctions may be evident a micro simulation model is the preferred tool to demonstrate impacts.

At the Transport Assessment stage consultants are required to establish existing operating and physical parameters of the junction for modelling purposes. Theoretical saturation flows will not be accepted for existing junctions where they can be measured.

Detailed traffic signal design will be undertaken by the Council's 'in house' traffic signals team and installation will be undertaken by the County Council at the developer's expense.

Guidance on the design of traffic signals can be found in the DMRB at the following link:-

[DMRB Traffic signals guidance](#)



## 6.9 Street Naming and numbering

Durham County Council adheres to Section 64 of The Towns Improvement Act 1847, which implies a requirement to ensure properties are numbered or named and marked as such. The Council will follow best practice and will name and number streets and dwellings in accordance with the Local Land and Property Gazetteer (LLPG) and Street Naming and Numbering (SNN) data entry conventions for the National Land and Property Gazetteer (NLPG). The Council's Policy on Street Naming can be found at

### [Street Naming and numbering policy](#)

Early consultation is essential to avoid inappropriate Marketing names for new development. Applications must be made to the County Council for use of directional signs to New Housing development.

Developers are responsible for providing the street nameplates and mounting frames.

To discuss Street naming and numbering please contact

Susan Murray at

Street Naming and Numbering  
Durham County Council  
Green Lane Council Offices  
Spennymoor  
Co. Durham  
DL16 6JQ  
Telephone: (01388) 824095  
E-mail: [ns\\_streetnamingandnumbering@durham.gov.uk](mailto:ns_streetnamingandnumbering@durham.gov.uk)

#### **6.10 Salt Bins**

Residential development should be provided with salt bins for winter maintenance where longitudinal gradients are greater than 1:15 or where bends together with gradients may cause a difficulty for service vehicles to progress in winter conditions. The Highways Adoption Officer will advise if salt bins are required.

Bins should stand on a base to match existing footway construction and should be set to the back and off the footway. The base should be a minimum dimension of 1.5m long x 1.0m wide and should be edged with pin kerb.



Bins should have a minimum capacity of 300 litres, be yellow in colour (unless specified differently for a conservation area) and made from a durable polycarbonate material.

Bins must be in position at the time of final inspection for adoption and developers must provide written advice to the authority of the type and location ( GPS co ordinates) of bins.

## 6.11 Highway Trees



Trees alongside and within the highway can provide both benefits in terms of creating an attractive environment, and dis benefits in terms of damage to the highway structure or obstruction of sight lines. The UK Strategy for Sustainable Development stated 'Trees in towns are an important resource which enhances the quality of our urban environment'.

Trees improve our quality of life. It is therefore accepted that benefits can include noise reduction, improving air quality and benefits to wildlife. Trees in residential streets can provide such benefits if designed and positioned correctly. However, poor design and positioning can create obstruction in a restricted residential environment, and be an unwelcome addition for some residents.

Those considering installing highway trees as part of a development must provide a root barrier to constrain spread of roots with a minimum soil volume of 5m<sup>3</sup>. In most cases highway trees must not be planted within 8m of building foundations or adjacent to service runs. An impenetrable barrier must be installed from surface level to a minimum of 1.0 m below surface level with joints overlapped by 300 mm to direct tree roots in a downward direction. Greenleaf 'Reroot 2000' or similar will be accepted as a root barrier product.

<http://greenleaf.co.uk/our-products/root-barriers/reroot-2000>



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The tree pit should have a minimum dimension of 1200x1200x900mm  
The tree pit should contain a minimum 750mm topsoil overlying a terram sheet covering 200mm of a granular material for drainage purposes. A tree grille with a minimum surface area of 1.2m x1.2m should be used.

The barrier must be manufactured in such a way as to discourage the tree roots to spiral around the inside but encourage them to grow in a downward direction. In paving, the backfill surrounding the 'root – director' must be compacted sufficiently to support the paved surface material and discourage roots that emerge from the base of the 'director' from reaching back up to the surface layers.



**Appendix A : Standard Highway Construction details.**

<b>Drg No</b>	<b>Title (Details)</b>
HA/001	Precast Concrete Kerbing (125x150 Bullnosed 125x255 Half Batter)
HA/002	Precast Concrete Kerbing (Public Transport Access Kerb)
HA/003	Precast Concrete Edging & Channelling  (50x150 Edging/150x125 Channel)
HA/004	Typical Rumble Strip Detail
HA/005	Salt Bin Enclosure
HA/006	Precast Concrete Paving as Steps
HA/007	Edge of Carriageway/Footway Detail
HA/008	Precast Concrete Segmental Soakaway
HA/009	Trapped Street Gully
HA/010	Road Marking

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	Give Way Junction
HA/011	Regulatory Sign 602 Give Way
HA/012	Warning Sign 557.1 Road Hump
HA/013	Distance & Direction Plates 557.2 & 557.3
HA/014/01	Vertical Curves (1 of 3)  Entrance Detail
HA/014/02	Vertical Curves (2 of 3)  Sag Curves
HA/014/03	Vertical Curves (3 of 3)  Crest Curves
HA/015	Concrete Paving Flags  Textured for Pedestrian Crossings
HA/016	'Super-Plas' Black Bollard (domed)



HA/017	Chamber Cover and Step Iron Detail
HA/018	Pedestrian Guardrail Double Row Kee Klamp (incl. Offset Barrier Arrangement)
HA/019	PCC Drainage Chamber With Catchpit base to BS 5566

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HA/020	Brickwork Drainage Chamber With Catchpit Base
HA/021	Forward Visibility
HA/022	Typical Reinstatement Detail
HA/023	Bridleway/Footway Crossing Point
HA/024	Parking Spaces
HA/025	Treatment of Surface Course Overlay  Flexible & Concrete Road Construction
HA/026/01 Draft	Turning Areas (1 of 2)
HA/026/02 Draft	Turning Areas (2 of 2)
HA/027	Brickwork Drainage Chamber With Twin Double Triangular Cover
HA/028	Reduced Length (2m) Road Hump
HA/029	Jug Handle Detail



HA/030	Carriageway Tie-In Detail
HA/031	Flexible Footway Overlay Detail
HA/032	Type 6 Footway Detail
HA/033	Layout of Tactile Paving Flags at In-Line Uncontrolled Crossing Point

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## **Appendix B**

### **Preparation of travel plans**

All Travel Plans should be prepared to reflect the approach taken with the National Specification for Workplace Travel Plans PAS 500:2008. Therefore documents must contain aims, objectives, targets, actions and arrangements for monitoring.

A Travel Plan must clearly express commitment in the way that it is written. Vague Travel Plans will not be accepted. Commitment should be given from the developer, and/or the end user. Reference should be taken from the following [Making Travel Plans work](#)

For each development a Travel Plan Coordinator should be assigned prior to site occupation in order that actions are implemented and sustainable travel is promoted from the outset. Some Travel Plan actions may need to be implemented prior to occupation.

### ***Assessment of baseline travel behaviour.***

For all developments an assessment of potential travel needs of the site should be made. If the development is speculative the Framework Travel Plan should use TRICS data, census data, or appropriate data from another similar local site for the assessment of modal split.

Using the modal split data the Travel Plan must include targets based on what is likely to be achieved at the site. Targets should cover a 5 year time frame and should reflect the confidence the developer/organisation has in the package of measures that will be implemented.



If the targets are based on TRICS data, census data, or appropriate data from another similar local site, they should be reviewed when the survey is completed upon occupation for the final Travel Plan.

### ***Actions – package of measures***

A Travel Plan will contain a package of measures, covering a five year period. The measures should be designed, in the light of the initial travel assessments, to achieve the stated aims, objectives and targets. The package of measures included in the Travel Plan should be those measures which will be implemented. Lists of 'potential' measures and initiatives are not acceptable.

From the outset of a new development Travel Plan operations and facilities will need to be in place to influence the emergence of sustainable travel patterns.

The package of measures may also involve the development and maintenance of cycle paths, pedestrian and public transport links both on and off site.

All measures should be fully detailed in the Travel Plan and should also be fully resourced and funded.

Innovative ideas are welcomed as long as they will serve to achieve the stated aims, objectives and targets.

### ***Monitoring***

The document should indicate how travel needs and patterns will be monitored in order to check the initial assessments and to keep the Travel Plan up to date.





To ensure that monitoring continues, a survey of travel modes should be taken annually. Every three years, a detailed survey should be issued to gain an understanding of travel patterns and issues so that the Travel Plan continues to address current needs.

A Travel Plan Working Group, led by the Coordinator should meet regularly to implement the Travel Plan and review it annually. The Travel Plan should be fully reviewed and rewritten every 5 years to take into account changes in the organisation and external facilities.

The development of a Travel Plan may be a planning requirement through a condition or legal agreement attached to the granting of planning permission. Developers are advised to give early and serious consideration towards satisfying such requirements of development.

The Travel Plan will need the approval of the Local Planning Authority (LPA) as it develops, it may be necessary, under certain circumstances, to develop the plan in stages and the LPA will determine when this will be appropriate.

Developers will need to demonstrate that an agreed Travel Plan is being implemented. Implementation of Travel plans will be a continuous process for the development and will be transferable to all occupiers of a development.

Once the final Travel Plan has been agreed it should be reviewed annually in conjunction with the LPA. The LPA may reserve the right to require amendments to agreed Travel Plans. The development and implementation of agreed Travel Plans that are a requirement through the planning process will subject to the usual planning enforcement function of the LPA.



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## **8. Useful publications and contacts**

The County Council can recommend publications, provide advice and support on Travel Plans and may be able to co-ordinate a number of employers in the same area to maximise the benefits of the plans being prepared. Liaison with the County Council Travel Planning Officer at an early stage in the plan preparation is encouraged. (tel: 03000 265 308 / [travelplanning@durham.gov.uk](mailto:travelplanning@durham.gov.uk))



Please note that once printed this document may not contain latest updated information. It is essential that the latest update is consulted by referencing [Transport and Streets](#)

F:\Shared\Development: Management: Highways Dev Control :AA Highways Guidance document

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