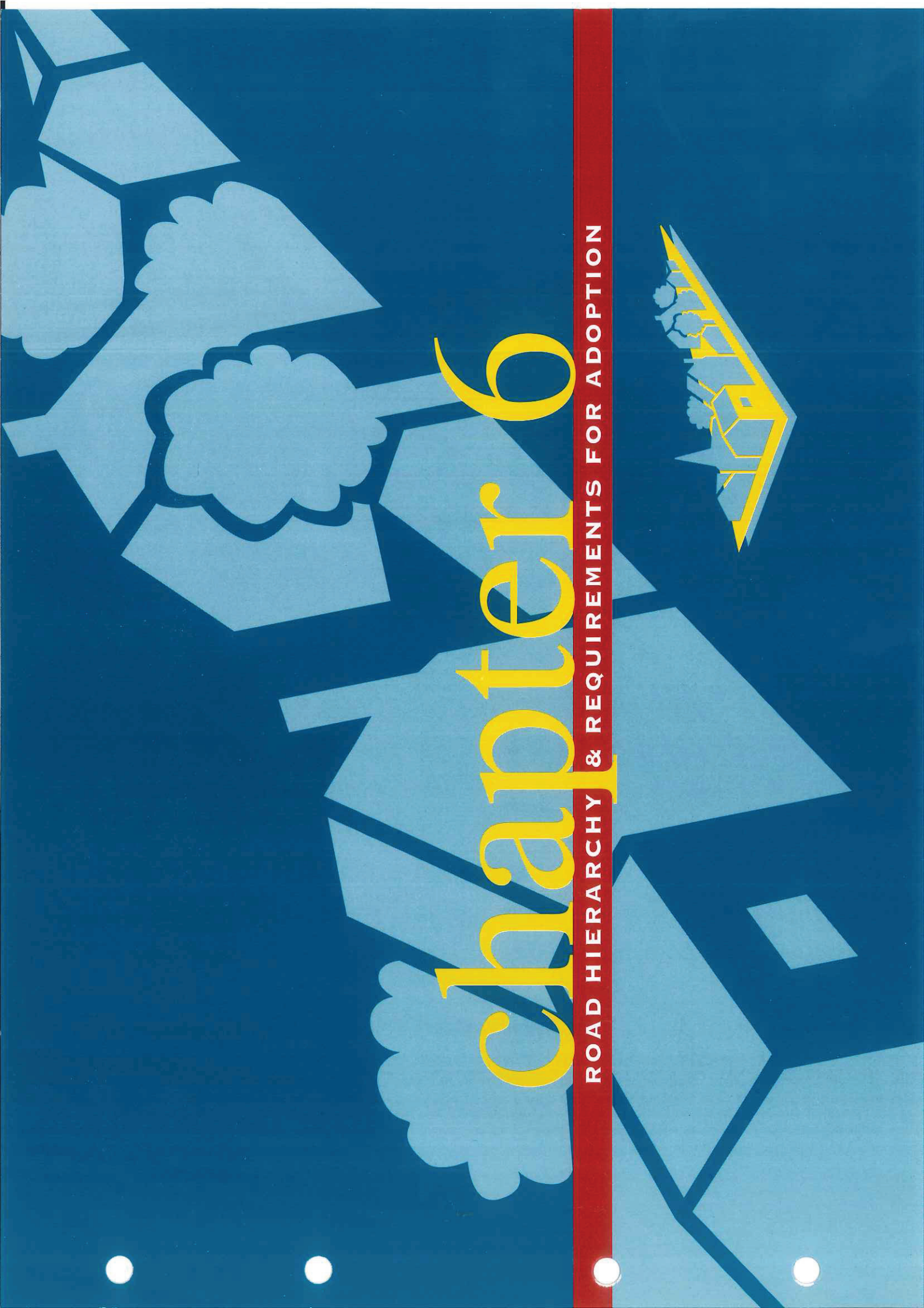


chapter 6

ROAD HIERARCHY & REQUIREMENTS FOR ADOPTION

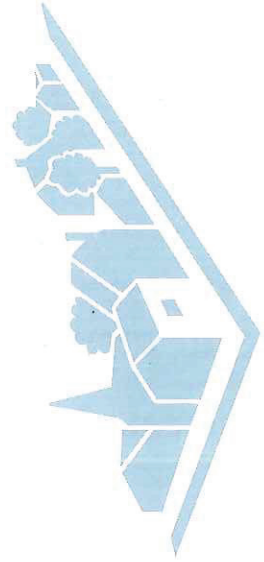


6

ROAD HIERARCHY & REQUIREMENTS FOR ADOPTION

chapter

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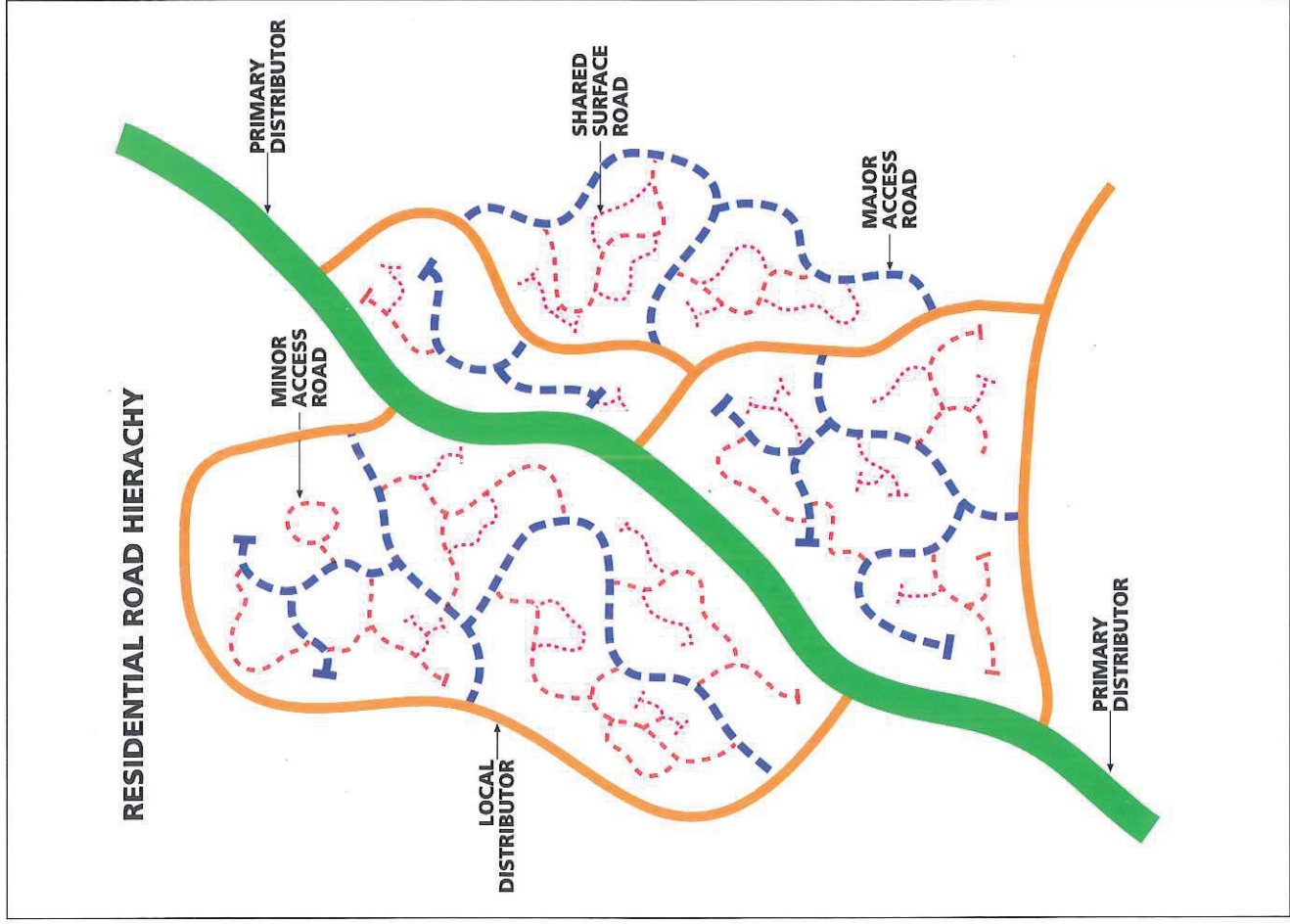


CHAPTER 6 - ROAD HIERARCHY AND REQUIREMENTS FOR ADOPTION

INTRODUCTION

6.1 The design parameters for residential estate roads and the hierarchical approach to their layout set out in this chapter are similar to the parameters suggested in Design Bulletin 32 (2nd Ed), Depts of the Environment and Transport. This Guide and DB32 share a common philosophy in respect of requirements and recommendations for the layout of roads and footpaths in new residential development, aimed at achieving an environment which is attractive, convenient and safe, and economical to construct and maintain.

6.2 Requirements relating to Advance Payment for Street Works Code, and Agreements under Section 38 of the Highways Act 1980 are contained in Appendix G.

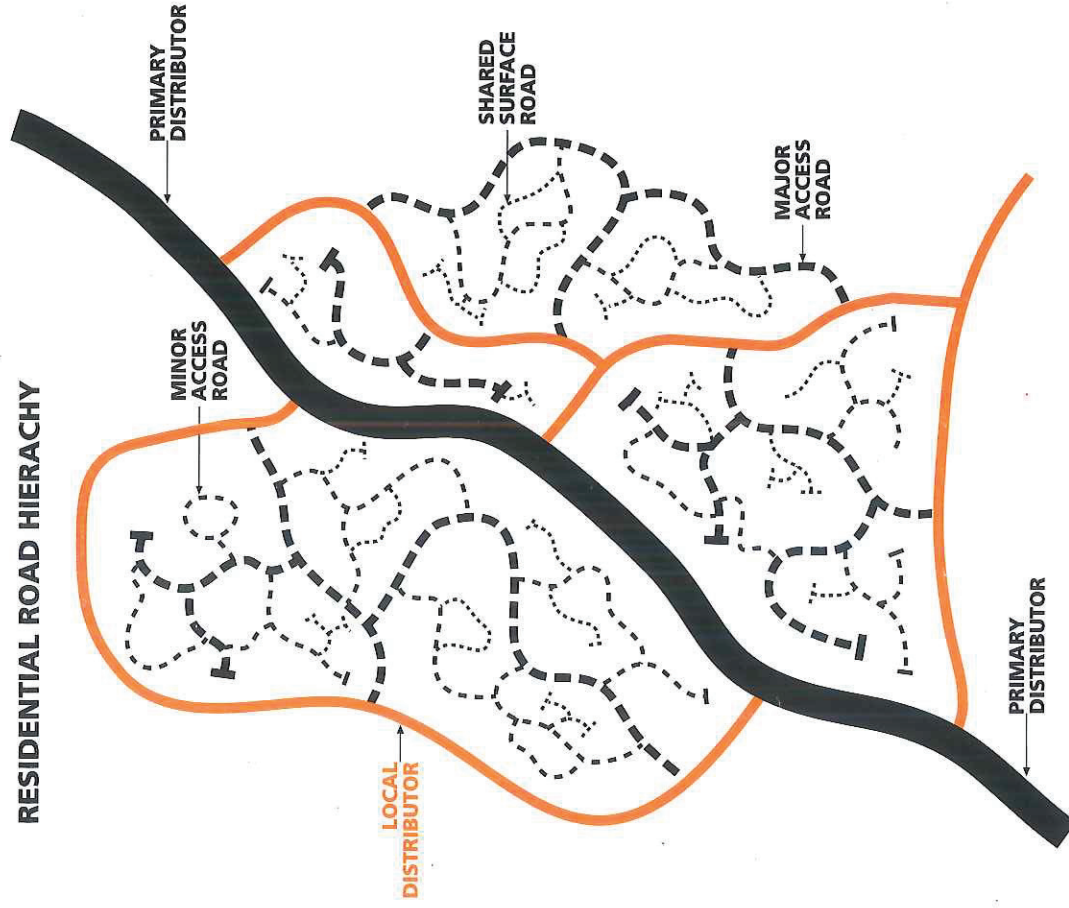


LOCAL DISTRIBUTOR

6.3 A through road which provides a link between District Distributor roads and residential roads. Local Distributor roads may serve as bus routes and therefore bus bays may be required. Direct vehicular accesses from dwellings onto Local Distributor roads may be restricted. However where they are permitted they shall normally be shared and shall incorporate a turning space in order that vehicles may enter and leave dwelling curtilages in forward gear. Junction standards are with a District Distributor road with a speed restriction of 48kph (30 mph), subject to the total projected vehicle flow of traffic on the local distributor road at the junction with the District Distributor not exceeding 500 vehicles per day (2 way AADT). For projected vehicle flows in excess of this figure the junction may be required to be designed by reference to paragraph 3.1.5.6.

Maximum number of dwellings served	:	not limited by definition
Minimum carriageway width	:	6.75 metres
Target design speed	:	48kph (30 mph)
Minimum centreline radius	:	75 metres
Kerb radii at junction	:	10.5 metres
Minimum 'X' distance at junction	:	9 metres (may be reduced to 4.5 metres dependent upon an assessment of existing and projected traffic conditions)
Minimum 'Y' distance at junction	:	90 metres

RESIDENTIAL ROAD HIERARCHY



Minimum forward visibility : 90 metres

Minimum opposite junction spacings along a local distributor road : 40 metres

Minimum adjacent junction spacings along a local distributor road : 80 metres

Footway width : 1.8 metres

Verge width : Maximum 3 metres
: Minimum 1.5 metres

NOTE: 45° recognition splays are required at junction with District Distributor road.

MAJOR ACCESS ROAD

6.4 *A loop or cul-de-sac taking traffic from minor residential roads.* Direct access to dwellings is acceptable. Two footways are required unless development is on one side of the carriageway only when a verge in place of one footway may be acceptable.

Verges may be required between the carriageway and the footways according to the scale and/or layout of the development. Junction standards are with a Local Distributor road with a speed restriction of 48kph (30 mph), subject to the total projected flow of traffic on the Major Access road at the junction with the Local Distributor road not exceeding 500 vehicles per day (2 way AADT). For projected vehicle flows in excess of this figure the highway authority may require the junction to be designed by reference to paragraph 3.15.6. Speed restraints will normally be required throughout in order to moderate vehicle speeds to a level commensurate with the target design speed.

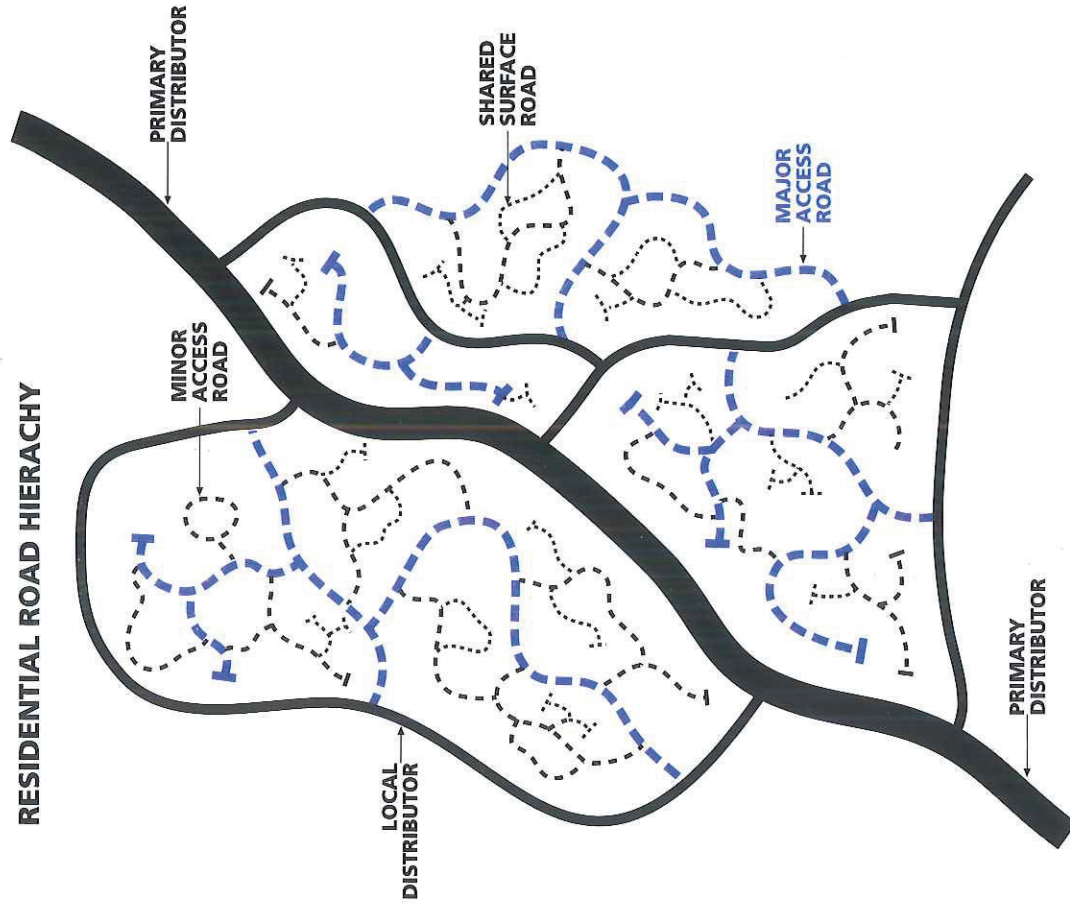
Maximum number of dwellings: 400 (as a loop)
200 (as a cul-de-sac)

Carriageway width: 5.5 metres (minimum)

Target design speed: approximately 40kph (25mph) - to be achieved by keeping distances between speed restraints to between 80 and 120 metres.

Minimum centreline radius: 30 metres. NB - carriageway widening on bends will normally be required where the centreline radius is less than 80 metres.

RESIDENTIAL ROAD HIERARCHY



As a general guide, it is suggested that carriageway widening is normally needed to the following extent on bends curving through more than 10 degrees along roads serving over 25 dwellings (widening should be on both sides of the curve, or on the inside);

Centre line radius (m)	20	30	40	50	60	80
Min. widening (m)	0.60	0.40	0.35	0.25	0.20	0.15

Kerb radii at junction: 10.5 metres

Minimum 'X' distance at junction: 4.5 metres

Minimum 'Y' distance at junction: 90 metres. NB - this distance may be reduced to 70 metres where the 85 percentile speed of traffic along the priority road is shown to be not greater than 48kph (30mph).

Minimum forward visibility: 45 metres

Minimum opposite junction : 15 metres spacings along major access roads

Minimum adjacent junction: 30 metres spacings along major access roads

Footway width: 1.8 metres

Verge width (where required): Maximum 3 metres
Minimum 1.5 metres

Notes:-

Where the length of a cul-de-sac exceeds 250 metres an emergency link will be required (see paragraph 3.15.12).
45° recognition splays are required at junction with Local Distributor road.

MINOR ACCESS ROAD

6.5 A *loop or cul-de-sac*. Vehicular access onto a Minor Access road may be gained from dwelling curtilages or from communal parking areas. Two footways are normally required unless development is one side of the carriageway only, when a verge in place of one footway may be acceptable. Junction standards are with a Major Access road. Speed restraints will be required throughout in order to moderate vehicle speeds to a level commensurate with the target design speed.

Maximum number of dwellings: 100 (as a loop)
50 (as a cul-de-sac)

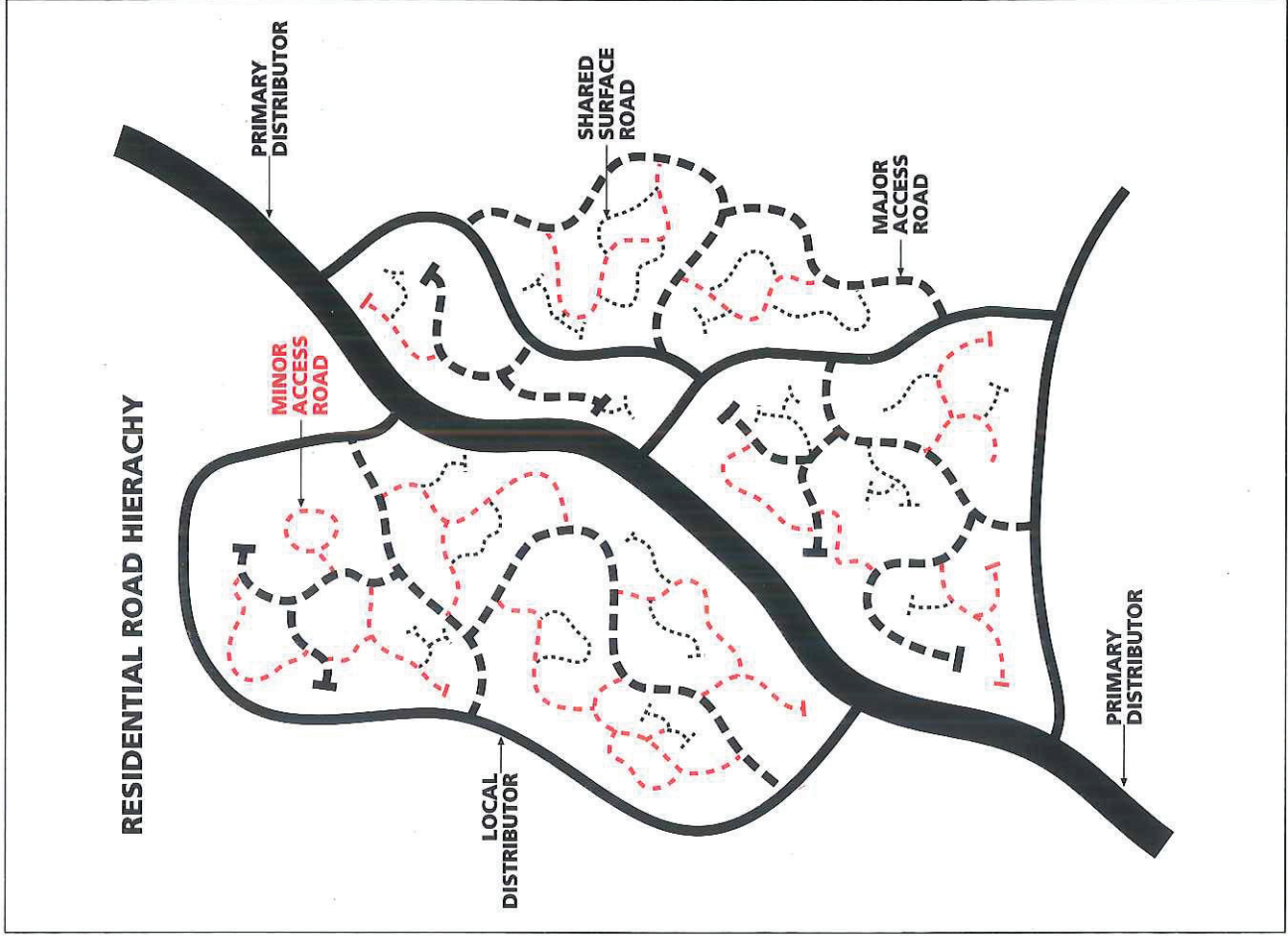
Carriageway width: 5 metres

Target design speed: 32kph (20mph) - to be achieved by keeping maximum distances between speed restraints to no more than 60 metres.

Minimum centreline radius: 20 metres. NB - carriageway widening on bends will normally be required where the centreline radius is less than 80 metres (See 6.4).

Kerb radii at junction: 6 metres

Maximum 'X' distance at junction: 4.5 metres (may be reduced to 2.4 metres where ultimately the total number of dwellings to be served will not exceed 50 (loop) or 25 (cul-de-sac)).



Minimum 'Y' distance at junction: 60 metres

Minimum forward visibility: 33 metres

Junction spacings along minor access roads: Not restricted but cross roads will not be permitted.

Footway width: 1.8 metres

Verge width (where required):
Maximum 3metres
Minimum 1.5 metres

Attention is drawn to Chapter 3 which gives further guidance on the interpretation of the above standards.

Notes:

Where the length of a cul-de-sac exceeds 250 metres an emergency link will be required (see paragraph 3.15.12).

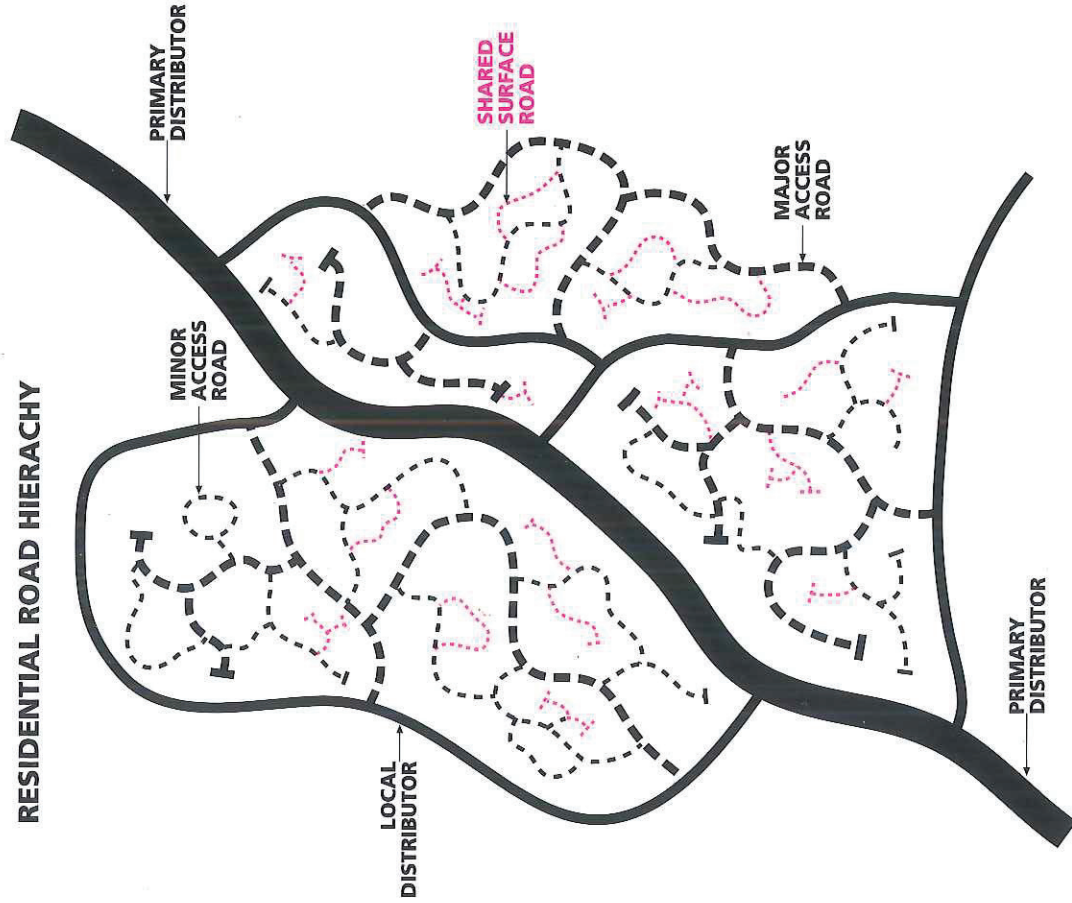
SHARED SURFACE ROAD

6.6 A loop road or cul-de-sac, without footways, for use by vehicles and pedestrians. Vehicular access onto a Shared Surface road may be gained either directly from dwelling curtilages or from communal parking areas. Junction standards are with a Minor Access road and shall incorporate a ramp at the commencement of the shared surface in order that the speed of vehicles entering the Shared Surface road may be moderated to reflect the shared status of the road and the target design speed. Thereafter speed restraints will be required throughout to continue to moderate vehicle speeds. A variation in carriageway width may be permitted in order to provide for a creative layout in sympathy with the proposed environment, provided that the road surface is wide enough to allow pedestrians and vehicles to pass comfortably and vehicles to manoeuvre.

Maximum number of dwellings: 50 (as a loop)
25 (as a cul-de-sac)

Carriageway width: Nominally 5.5 metres for roads with direct access to dwellings but may be reduced to a minimum of 4.1 metres where there is no direct vehicular access to dwellings (eg residents communal parking areas).

RESIDENTIAL ROAD HIERARCHY



Target design speed:	Approximately 24kph (15mph) - to be achieved by keeping maximum distances between speed restraints to no more than 40 metres.
Minimum centreline radius:	12 metres
Kerb radii at junction:	6 metres
Minimum 'X' distance at junction:	2.4 metres
Minimum 'Y' distance at junction:	33 metres
Minimum forward visibility:	23 metres
Junction spacings along shared surface road:	Not restricted but cross roads will not be permitted and all junctions shall incorporate speed tables.
Surfacing and kerb materials:	Small unit concrete block pavements and kerbs.
Service margin width:	1.8 metres
Verge width (ie where no services are present)	Minimum 0.5 metres Maximum 3.0 metres

Notes:-

Attention is drawn to Chapter 3 which gives further guidance on the interpretation of the above standards.

Where the length of a cul-de-sac exceeds 250 metres an emergency link will be required (see paragraph 3.15.12).

Under the provisions of Section 66 of the Highways Act 1980 the highway authority reserves the right to require the provision of a proper and sufficient footway as part of the highway in any case where it considers the provision thereof necessary or desirable for the safety or accommodation of pedestrians.

HIGHWAY DESIGN PARAMETERS

SUMMARY OF MAIN PARAMETERS FOR RESIDENTIAL ESTATE ROAD HIERARCHY		DESIGN STANDARDS												
		Designation	Type	Max no of dwellings	C'way width (metres)	Footway width (metres)	Verge width (metres)	Design Speed (kph)	Min Centre Line Radius (metres)	Min Opposite Junction Spacing (metres)	Min Adjacent Junction Spacing (metres)	Kerb radii at junction (metres)	Min 'X' distance at junction (metres)	Min 'Y' distance at junction (metres)
Local Distributor	Through Route	Not limited	6.75	1.8 (two)	3.0 max 1.5 min	48	75	40	80	10.5	9.0/4.5	90	90	90
Major Access Road	Loop or cul-de-sac	400 or 200	5.5	1.8 (two or one)	3.0 max 1.5 min	40	30	15	30	10.5	4.5	90/70	45	45
Minor Access Road	Loop or cul-de-sac	100 or 50	5.0	1.8 (two or one)	3.0 max 1.5 min	32	20	not restricted but no crossroads	not restricted but no crossroads	6	4.5	60	33	33
Shared Surface Road	Loop or cul-de-sac	50 or 25	5.5 (or 4.1)		3.0 max 0.5 min	24	12	not restricted but no crossroads	not restricted but no crossroads	6	2.4	33	23	23

PRIVATE CARRIAGEWAY

6.7 Carriageways will normally be expected to be designed to adoptable standards. However there may be circumstances where a limited number of dwellings can be served from a communal private shared carriageway in the form of a cul-de-sac. Normally no more than 5 dwellings should be served by a private shared carriageway.

Before granting planning permission for a private shared carriageway the local planning authority will need to be satisfied that the access will be:-

- i. *safe*
- ii. *adequate for emergency services*
- iii. *constructed and lit to an appropriate standard*
- iv. *designed to respect the appearance and character of the locality*

Where more than 5 dwellings are proposed to be served from a private shared carriageway the local planning authority will wish to be satisfied that appropriate arrangements are being made for future maintenance and repair, provision of services and lighting. Such arrangements may be the subject of a legal agreement with the local planning authority under Section 106 of the Town and Country Planning Act 1990.

The following criteria should be borne in mind when designing private shared carriageways:-

Minimum junction requirements: Minimum carriageway width 4.1 metres for the first 10 metres of private shared carriageway.

Minimum 'X' distance at junction:
Minimum 'Y' distance at junction:

To be determined according to status of the road from which access to the private shared carriageway is gained.

All buildings (ground floor plan) within 45 metres of public highway:

Minimum carriageway width 3.1 metres with passing places of 4.1 metres width as required.

Any building (ground floor plan) more than 45 metres from public highway:

Minimum carriageway width 3.7 metres with passing places of 4.1 metres width as required.

Turning head:

To suit circumstances. Not normally required where length of private shared carriageway does not exceed 40 metres and access is from a road of no greater status than a major access road.

