

## Module 1

Revision:1

### Street Hierarchy

Types of roads required within a residential scheme will depend upon the size and location of the site. It follows that not all categories of road will necessarily be utilised in serving every site, nor for example where developments are served by roads which cannot easily be categorised, strict adherence to this hierarchical system will not necessarily be possible. Wherever possible, however, the aim should be to provide a gradual transition from higher to lower speed roads by varying the design of carriageways and surrounds to indicate the change from one road type to another.

The road types envisaged within residential areas are:

- **Local Distributor Road** - Connects housing developments to outlying places and areas.
- **Access Road Collector** - Links access roads to local distributors and are the main vehicle routes (loop or cul-de-sac) within the housing area.

The following categories should be regarded as the main type of road having direct access to dwellings.

- **Access Road** - Short loop or cul-de-sac serving individual housing groups
- **Access Way/Mews Court** - Short informal loop or cul-de-sac serving small groups of dwellings, assessed on their merits in accordance with the performance concept.
- **Private Roads/Drives** - Short informal cul-de-sac serving small groups of dwellings to be retained as private areas.

Joint-use surfaces should not be served directly from a distributor or classified road unless some form of transitional length is provided to link the two roads.

Street Type	Max No. of Dwelling	Suitable for adoption	Design Speed	Carriageway Width*	Cycleway, Footway & Service Margin	Minimum Centreline Radii	Junction Radii
<b>Local Distributor Road</b>	300+*	Yes	40 to 30mph	6.75 to 7.3m*	Segregated Cycle Track & Footway	90m	Scheme specific
<b>Access Collector Road</b>	300	Yes	25mph	5.5m to 6.75m	Segregated Cycle Track & Footway	35 to 40m	Scheme specific
<b>Access Road</b>	50	Yes	20mph	5.5m	Footways	20m	6m
<b>Access Way</b>	20	Yes	15mph	5.5m to 4.5m	Footway & Service Margin	15m	6m
<b>Mews Court</b>	15	Yes	10mph	4.5m	Footway & Service Margin	15	6
<b>Shared Private Drive</b>	6	No	10mph	4.1m	N/A	N/A	N/A
<b>Active Travel Route (Walking &amp; Cycling)</b>	N/A	Yes	15mph	3m to 5m	N/A	15m	N/A
<b>Industrial Access Road</b>	N/A	Case by Case basis	30mph	7.3m	Segregated Cycle Track & Footway	40m	10m

**Fig 1.1 Different attributes of the various street types.**

The general inter-relationship of roads within residential areas is illustrated in Figs.1.2 and 1.3

\*Note: Carriageway widths for roads serving over 400 units to be agreed.

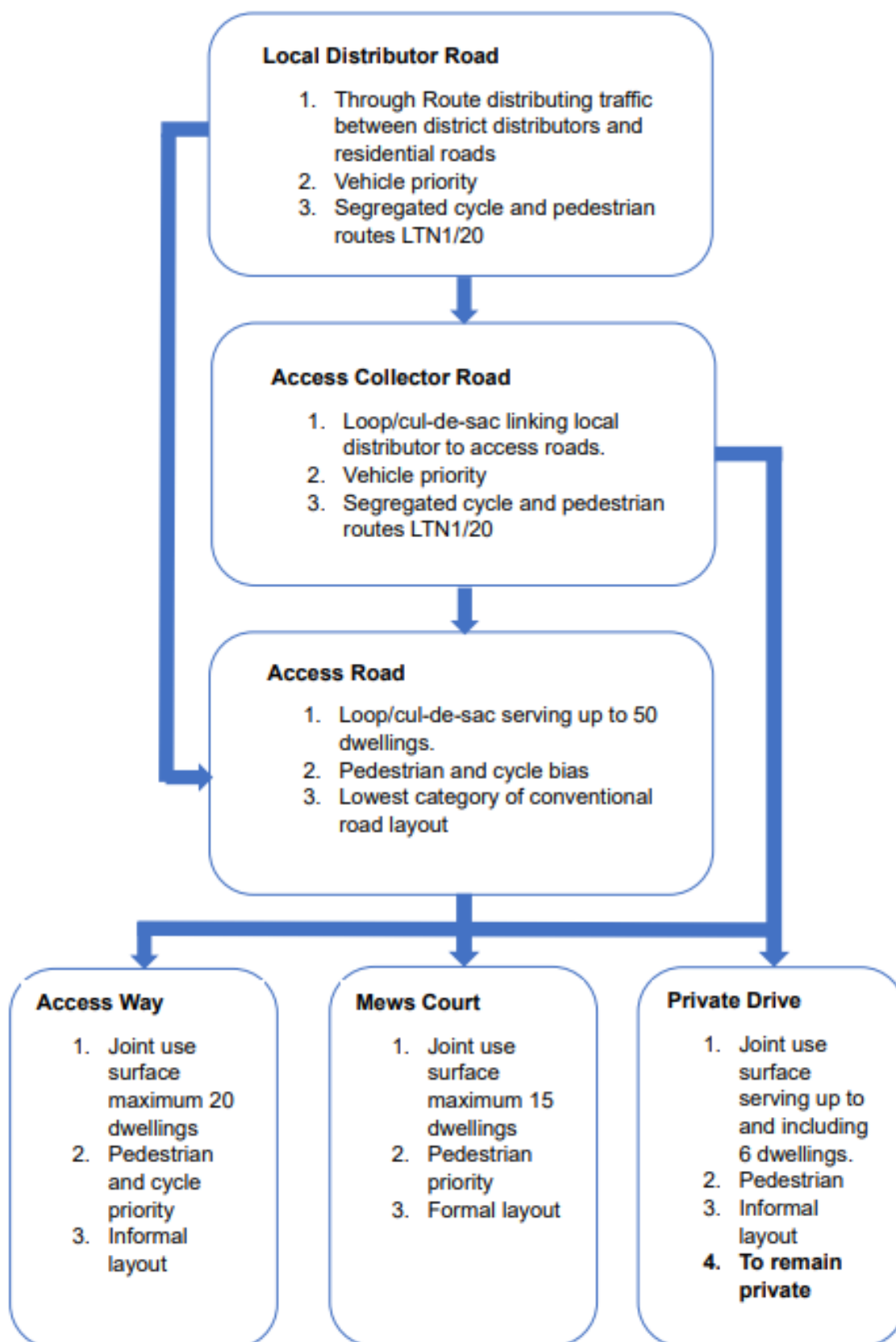
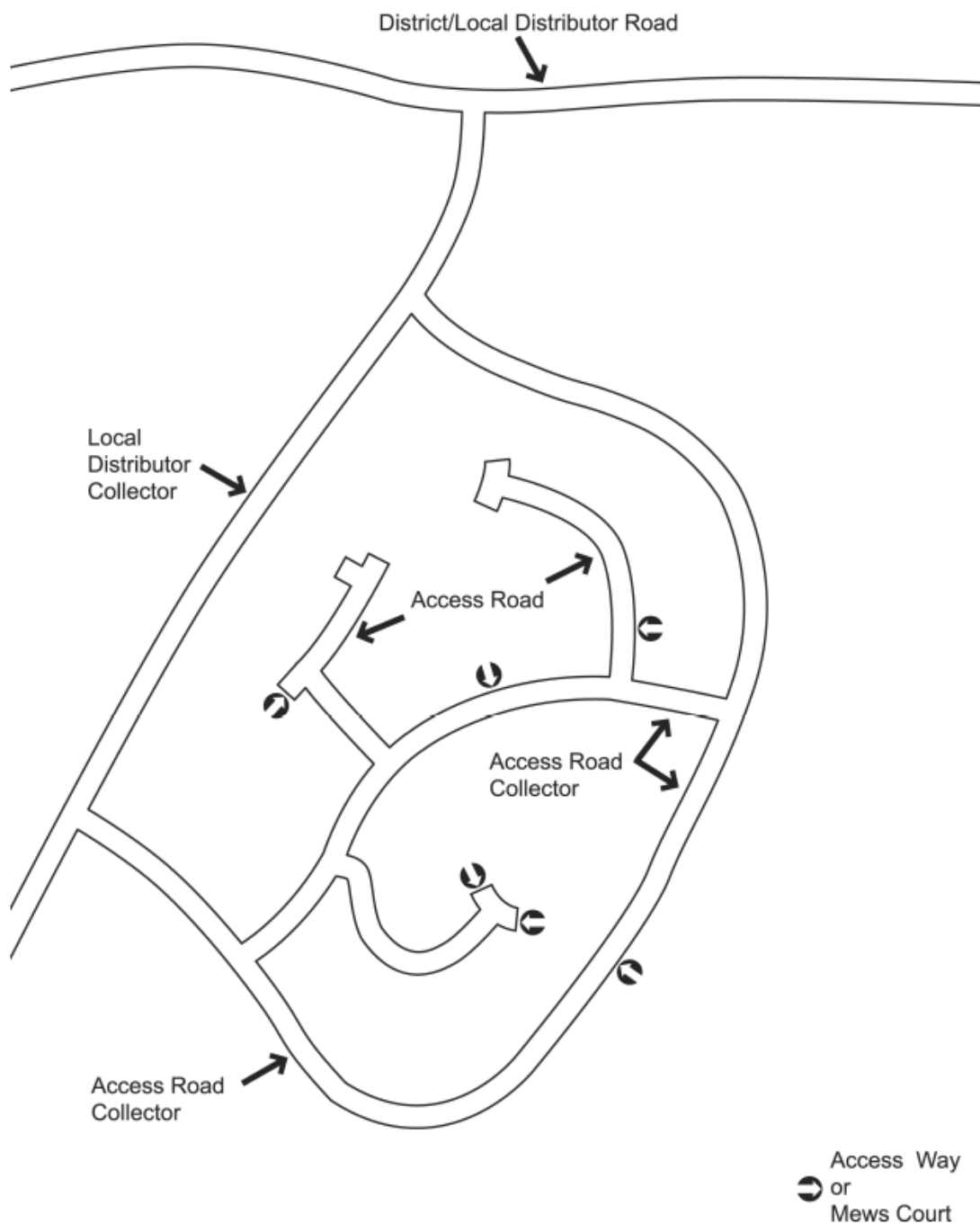


Fig 1.2 Road Hierarchy Strategy



**Fig 1.3 Hierarchy**

## Local Distributor Road

- Local distributors are through routes, never cul-de-sacs, distributing traffic between residential, commercial and industrial areas. Any road, linking other roads which give access to over 400 dwellings must be to local distributor standard. Vehicle movement is the dominant feature and direct frontage access should be avoided.
- Design speed : 40/30 mph. (plus 20mph if required by specific context)
- Carriageway width normally 7.3 metres but relaxing to 6.75 metres where vehicle flows are likely to remain less than 300 vph. Lane widening may be required on bends.
- Horizontal alignment A flowing alignment of curves is required with a minimum centre-line radius of 90 metres. The use of long straight sections should be avoided.
- Footways These will be required on both sides of local distributors unless it can be proved that there is no need. The minimum width is 2.0 metres, 3.0 metres adjacent to bus stops and 3.5 metres adjacent to schools. Consideration may be given to widening footways to facilitate pedestrian movement in commercial areas or around street furniture.
- Verges Where a footway is separated from the carriageway a verge of approved surface treatment shall be not less than 2 metres in width. Where the footway is omitted the verge shall be not less than 2 metres wide.
- Segregated cycle facilities will be required. Refer LTN1/20 One-way cycle tracks should provide a minimum 2m width + 0.5m buffer on both sides of the carriageway. Two-way cycle tracks will only be required on one side of the carriageway, with a minimum 3m width + 0.5m buffer with appropriate crossing facilities to enable cyclists to reach the cycle track.

## Bus Routes

- Bus services generally operate on district and local distributor roads but where they penetrate into residential areas the routes should be carefully designed for usage by buses. The geometric requirements of a local distributor road shall generally apply but there will not necessarily be a restriction of direct access to dwellings. Reference is to be made to LTN1/24
- In larger housing areas where bus-only routes are provided to maintain a favourable route pattern and minimise journey times, the carriageway width shall be 6.75 metres for two way operation or 6 metre for single way operation. Bus only routes will have no frontage access.
- When required, bus lay-bys should generally be detailed as Figure 1.4 and be located where the bus driver has a good rear view of approaching traffic.



**Figure 1.4 Bus Lay-by**

- The minimum width of footway is 2.0 metres (increased to 4m within the City centre where possible) but consideration should be given to increased width to facilitate pedestrian movement at bus stopping points where shelters and/or seats are to be sited and numbers of passengers are expected to congregate and wait for buses.

### Access Road Collector

- An access road collector may either be a loop road serving a maximum of 300 dwellings or a cul-de-sac system which may link together several access roads which in total serve a maximum of 150 dwellings. Normally frontage access will be permitted but where vehicle flows are likely to be between 200-300 vehicles per hour at peak, the number of vehicular access points onto these roads may be restricted. The type of accommodation having frontage access to such roads may also need to be restricted
- Design speed: 25 mph.
- Carriageway width Normally 5.5 metres where there is no direct access to buses, but where vehicle flow is likely to approach 200vph at peak the carriageway will be increased to 6.75 metres. Lane widening may be required.
- Horizontal alignment A flowing alignment of curves is required with minimum centre line radius of 35 - 40 metres. The use of long straight sections should be avoided.
- Footways A footway will be needed on both sides of a collector road where direct frontage access is permitted and along an obvious route of pedestrian movement. The minimum width is 2.0 metres.
- Turning Area Where the collector road is a cul-de-sac a turning area will be required.
- Segregated cycle facilities will be required. Refer LTN1/20. One-way cycle tracks should provide a minimum 2m width + 0.5m buffer on both sides of the carriageway. Two-way cycle tracks will only be required on one side of the carriageway, with a minimum 3m width + 0.5m buffer with appropriate crossing facilities to enable cyclists to reach the cycle track.

## Access Road

- These are short loop roads or culs-de-sac which give direct access to individual housing groups of up to 50 dwellings.
- Design speed : 20 mph
- Carriageway width Normally 5.5 metres.
- Horizontal alignment A flowing alignment of curves is required with a minimum centre line radius of 20 - 25 metres. Long straight sections must be avoided.
- Footways A footway will be required alongside the road on which dwellings have direct access and along route of pedestrian movement. The minimum width is 2.0 metres.
- As LTN 1/20 requires a minimum carriageway width were cyclist share the carriageway with vehicles, a reduction in carriageway width to 4.5m would require segregated cycle provision parallel to the carriageway restriction.

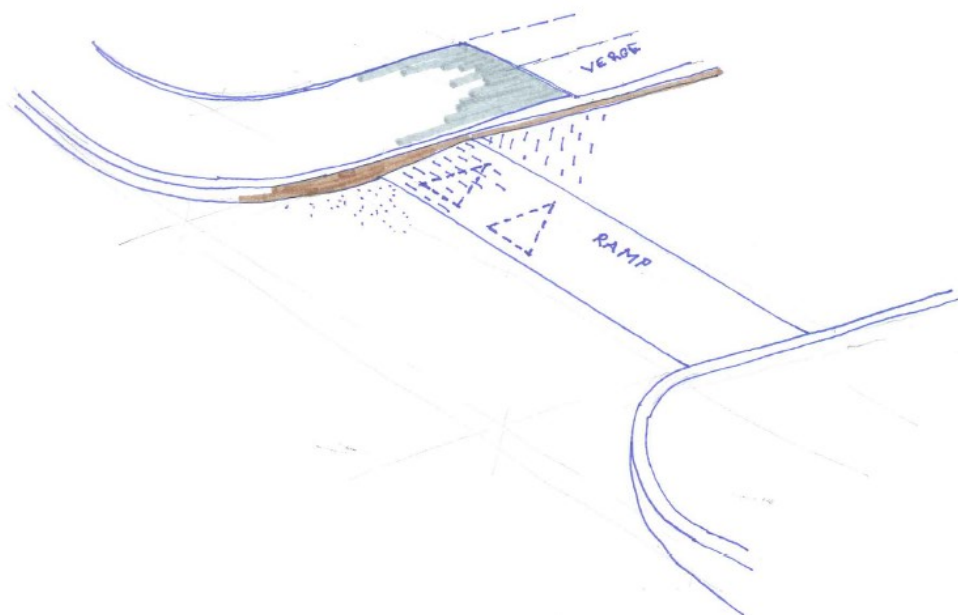
## Access Way

An access way is a short cul-de-sac serving up to 20 dwellings informal in layout for joint use by pedestrians and vehicles. Access ways are particularly suitable for low to medium density developments where each dwelling has parking spaces within its own curtilage. It is essential that access ways should be recognised as visually and functionally distinct from traditional roads.

Where access ways share use between pedestrians and vehicles a formal accessibility assessment must be carried out to identify mitigation measures to safely accommodate the needs of persons with mobility issues.

Surface layout : The entrance to an access way shall be defined by a shallow ramp with vertical deflection (and associated markings) constructed in materials to contrast with the adjacent road surfacing. The commencement of an access way must be associated with a change in direction. Tight corner radii and an entry width of 4.5 metres will substantially reduce vehicle speeds.

The entrance to an access way is illustrated in Fig. 1.5. The surface finish should be different (texture and colour) to the access road to define the Access Way as a shared space. A minimum width of 5.0m is required opposite drives to provide space for turning movements. The centre line radius should not be less than 10m. The overall carriageway alignment should be tortuous for vehicles to ensure the self-enforcement of low vehicle speeds. The edge of the surface must be defined by 125mm kerbs, setts or other approved materials.



**Fig 1.5 Entrance to Access Way**

### Verge

When a footway is not provided, a 2.0m wide strip shall be reserved around the boundary of the access way for the installation of statutory undertakers' services and street lighting. A reduced area may be acceptable in some circumstances subject to discussion and agreement with the statutory undertakers. This verge will be exclusive of trees or shrubs and it is expected that the occupiers of the properties will maintain the service strips. It will be dedicated by the developer to form part of the highway and should be physically defined by approved demarcation methods.

### Turning area

A turning space must be provided at the end of an access way.

### Mews Court

A mews court is a short formal cul-de-sac serving up to 15 dwellings for joint use by pedestrians and vehicles. Mews courts are particularly suitable for compact medium to higher density developments often where frontages of dwellings are hard paved.

Each dwelling should be provided with either parking within its own curtilage or a communal parking zone distributed between dwellings to provide parking provision for all vehicle users, supplemented by additional visitor parking spaces sited directly off the mews court. It is important to ensure that off-street parking facilities are adequate and conveniently sited so that vehicles are not left on the joint use surface.

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However parking may be communal when vehicles can be over-looked, particularly from the front of the dwellings and from the road. It is essential that a mews court should easily be recognised as visually and functionally distinct from traditional roads.

The layout may be designed to the design detail for Access Ways with the following amendments:

- The entrance may be constructed as a tight radius.
- In the absence of verges statutory undertakers services may be laid under a hard landscaped margin or under the surface of the mews court within an agreed service margin.
- A turning area will not be required where the length of the mews court is less than approximately 25 metres.

### Private Roads and Drives

The Council does not normally adopt developments of up to 6 dwellings or less.

Whilst private streets and drives can often deliver a higher standard of materials than may be achievable with an adopted street, the following potential implications should still be taken into account:

- Future maintenance liabilities;
- Public liabilities;
- Street cleansing;
- Access for refuse collection vehicles, communal bin stores, individual bin presentation points;
- Grit bin provision;
- Drainage;
- Lighting;
- The Council has no powers under the Highways Act;
- The Police has no powers to remove obstructions.

To ensure that residents can access their properties, a private drive serving 6 dwellings or less should be a minimum of 4.5 metres wide and 5 metres long. This will allow vehicles to turn in and turn out. Carriageway widths after that point should be designed to respond to built form and operational requirements

The horizontal alignment and need for passing places should be based upon practical requirements and vehicle tracking where necessary. It should be noted that a refuse vehicle needs to be able to get within 25 metres of all drive-ends or communal storage locations, and a fire tender needs to be able to get within 45 metres of all rear dwelling entrances. If these distances cannot be achieved, on-site turning facilities will be needed.

Private roads will not be adopted, until such time as they are made up to adoptable standards. The cost of testing the highway for compliance and bringing the highway

up to adoptable standard are to be met by the persons seeking to have the road adopted.

Vehicles parked at the sides of carriageways are a major factor in causing pedestrian accidents. Therefore adequate and convenient parking spaces must be provided for both residents and visitors either within the curtilage of the dwelling or conveniently adjoining it so that the route between such parking spaces and dwelling entrances are shorter and more convenient to use than would be the case if parking were on the carriageway.

The parking space should be clear of the carriageway, footway and visibility splays.

In every case the parking space must be available for use before the dwelling is occupied.

The minimum length of a parking space shall be not less than 4.8metres from the boundary of the highway.

To ensure pedestrian safety, satisfactory sight lines must be provided between the private drive and footway. This may entail splaying screens or walls or ensuring any structure is kept clear of such splay lines.

Where access to a private drive from a local distributor is unavoidable an adequate turning space should be provided within the curtilage of the property so that a vehicle can enter and leave the property in a forward gear.

It is recommended that the maximum gradient of private drives is 1 in 12 (8%), and that shared drives do not exceed 1 in 15 (6.5%).

### Highway Accessibility

All highways for adoption will need to take into account the requirements of BS 8300-1:2018 Design of an accessible and inclusive built environment. External environment - code of practice. This can be challenging on steep sites but maximum gradients and lengths must not be exceeded. Where gradients are challenging alternative means of access will need to be provided to ensure accessibility for all highway users.

Where shared spaces are proposed, these must be accompanied by equality impact assessments to ensure the requirements of all highway users are catered for.