



## 10. Designing for Priority Road Users

### 10.1 General

Walking and cycling form the basis of the Council's strategy for the movement of people as part of its Local Transport Plan. The Developer must therefore, at an early stage, consider how they can shape their development to ensure that travel by non-car users is maximised.

### 10.2 Pedestrian Routes

Within the city there is a Pedestrian Route Network established in 1992 which comprises a network of pedestrian routes that are of functional value. Safe and convenient provision for pedestrian access and movement within a residential estate is therefore one of the fundamental elements of estate design. The design should ensure satisfactory access for all pedestrians, including those with a mobility handicap and parents pushing prams.

Pedestrian routes are either:

- footways – these are adjacent to the carriageway;
- or footpaths – which are not related to the carriageway but may lead to dwellings, other part of the estate, public rights of way or the pedestrian network.

The requirement to provide footways adjacent to carriageways of various importance is covered in section 8 'Hierarchy of Roads', but in addition the following must be borne in mind:

- On estate roads, a reduction in width may be permitted over short lengths to accommodate a particular feature i.e. Listed building, tree etc;
- An additional width of 800mm will be required adjacent to parking areas where vehicles parking at right angles will overhang the footway;
- if this is not practical then measures to prevent vehicle overhang must be taken i.e. bollards, landscaping etc., not fencing as this is easily damaged;
- At entrances to private driveways, a minimum width of 800mm carried through at footway level should be provided to enable pedestrians, and



wheelchair users to avoid ramps and dropped kerbs (see Appendix 19a)

Local public transport operators should be consulted on their requirements for footway widths at bus stops where shelters are to be provided, in any event a width of 3.5m minimum will be required.

In order to accommodate the true desire lines of pedestrians to other parts of the estate, but stops, community facilities and the pedestrian network, it may be necessary to create footpaths away from the main carriageway. In creating footpaths the following must be borne in mind:

- routes must be safe, convenient and well lit;
- they should be short and direct, unless as a specific design feature, with each end intervisible;
- overlooked by buildings or passing traffic;
- landscaping and layout should not create blind spots or hiding places;
- have easy gradients and provide adequate and suitable access, based on IHT Guidelines, and crossing points for wheelchair users and people pushing prams;
- be designed to minimise nuisance to nearby residents;
- if possible provide maximum exposure to favourable environmental conditions (such as sunshine and views) and minimise exposure to inclement weather (such as wind and rain).

It must be remembered that people prefer to walk along routes where they can be seen by drivers, residents and other pedestrians. Pedestrian footpaths must therefore be attractive and serve a purpose or a desire line. Poorly used routes provide easy access for criminals, a congregating place for vandals, and create untold nuisance for local residents.

In designing a new development consideration must be given to needs of people with mobility difficulties. Whilst the general principles adopted for able bodied pedestrians apply, specific attention should be paid to the following which may prevent obstacles:

- steps and steep gradients
- narrow passageways or footways
- badly positioned street furniture; and
- poor attention to construction details i.e. gully grates that can trap wheelchairs.

Where footpaths rejoin the main road network consideration should be given to the provision of staggered barriers, or landscaped verges to prevent



pedestrians, particularly children running on to the road. Staggered barriers can also reduce irresponsible cycle behaviour, and prevent access by motorcyclists.

### 10.3 Footway and Footpath Requirements

- Normal minimum width 2.0 metres; this may be reduced to 1.35m (1.20metres absolute minimum over a distance of 6m) to preserve a particular feature.
- At junctions the back line of the footway should follow the back line of the visibility splay.
- 4.5 metres at points where pedestrians congregate (e.g. outside schools, shops and community buildings).
- Where an emergency access/link is provided i.e. 3.7m wide a footpath to a minimum width of 2.0m must be included; 3.0m in the 3.7 width where a joint footpath/cyclepath is required;
- The desirable maximum gradient is 5% with an absolute maximum of 8%
- a headroom of 2.3 metres is required for length of up to 23 metres.
- a guide to the layout of pedestrian barriers is given in Appendix 19
- where footpaths are the only main means of access to property they will need to meet the requirements of the fire service
- the use of steps will not normally be sanctioned but where they are, they must conform to current regulations and a ramped alternative must be provided for prams and wheelchairs.
- The surface material must conform to the Council's Paving Policy

### 10.4 Public Rights of Way

Public Rights of Way are Public Highways, the majority of which are highways maintainable at public expense. It is essential that, at an early stage in the planning process, a prospective developer ascertains whether any public rights of way would be affected. Failure to do so could result in serious



problems, delays and possibly even court proceedings. It is recommended that developers consult the Council's Public Rights of Way Officer' and a search on the Definitive Map be undertaken at the earliest opportunity, as public rights may exist that are not obvious on the ground. Prospective developers are also advised that the public rights of way questions on a local land charge search are optional, and will only have been answered if their legal representatives asked for them.

Rights of way that cross new development sites must not be obstructed, but should provide direct, secure and visually attractive routes. Opportunities should be taken to extend the current network by the provision and/or improvement of links to the estate or the wider public rights of way network, with a specific emphasis on the provision of multi-user routes (pedestrians, cyclists and horse riders where appropriate).

If a public right of way is identified on a proposed development site the developer should endeavour to preserve it along its existing route, and preferable retain it as a route segregated from vehicular traffic (i.e. not form into the carriageway layout of the development). If this is impractical then the developer may elect instead to apply for it to be diverted, or in exceptional circumstances extinguished. This is done by an order under the Town and Country Planning Act 1990 or the Highways Act 1980. Developers are however, advised that such orders are open to public challenge, possibly leading to public inquiries, therefore the Council cannot guarantee the success of any application or subsequent Order. Legal Order proceedings may result in substantial delays to developments because until such a time as Orders are confirmed the original path must remain fully open, available and undisturbed. Failure to do so may result in criminal proceedings and/or development works being substantially delayed or even stopped.

The Councils' Public Rights of Way Officers will be pleased to offer help and advice.

## 10.5 Pedestrian Crossing Points

Provision should be made at all road junctions and access points for pedestrians to continue along major roads with the minimum of inconvenience. Where the junction layout provides a pedestrian refuge, dropped kerbs must align with the refuge. At all other junctions the crossing point should normally be located at the desire line for pedestrian movement, but at wide junctions the crossing point should be located at the tangent point to the radius, ensuring a 'See/See' situation exists for all road users.



Flush dropped kerbs must be provided at all junctions and crossing points. Tactile paving must be installed for the safety of the visually impaired; where the crossing point is across a grass verge and thus difficult to discern, tactile tails must be provided. See Appendix 20 for a typical layout.

## 10.6 Cycling

Promoting and encouraging cycling as a mode of travel is one of the main aims of the City's Local Transport Plan, and to this end has established a 'Cycle Network'. The developer can do much to support this strategy by providing good secure and covered cycle storage (behind a locked door) at home, and safe and direct routes both within the development and to link with the existing cycle network.

Cycle routes are either:

- **Cycleways** - These are adjacent to the carriageway.
- **Cyclepaths** - These are not related to the carriageway and may lead to other parts of the housing area, public rights of way or the cycle network.

Estate road layouts must therefore be designed to encourage cycling and this can be achieved in a number of ways;

- low vehicle speeds on estate roads;
- cycle friendly traffic calming;
- dedicated cycle routes;
- joint use of pedestrian and cycle ways;
- low vehicle speeds on estate roads;
- and the prevention through design of indiscriminate on-street parking.

There also needs to be an awareness in the overall design of the estate, that children play on bicycles adjacent to their homes, and visit friends, shops, schools and community facilities, and are not therefore as alert to the dangers, as responsible road users. It is imperative therefore that estate roads are designed to create a low speed environment, and routes are safe, direct and secure. The provision of Safer Routes to Schools should be addressed early in the design process, and contact with the Council is strongly recommended. The recommendations for pedestrians as outlined in paragraph 10.2 equally apply to cycle routes.





### 10.6.1 Cycleway and Cycle Path Requirements

- Cycle lanes on the carriageway of a proposed adopted road should be 1.2m wide (1.0m width minimum);
- Cycle paths away from the main carriageway should be 3.0m wide, with a radius on links to a minimum of 6.0m ( 2.0m where cyclists are expected to give way );
- A desirable maximum gradient of 3% is recommended, but gradient up to 5% will be permitted for lengths up to 100 metres, and 6-7% for short lengths of up to 30 metres.
- A headroom of 2.4 m is required for up to 23 metres, and 2.7m for lengths over 23 metres.
- Restricted headways may be provided up to a line 0.5 metres from the edge of the carriageway;
- Where subways are to be provided, their design for joint use is likely to be appropriate.
- All dropped kerbs used by cyclists should be flush;
- Gully grates must not have slots parallel with the direction of movement;
- The forward visibility for cycles should be a minimum of 20 metres on gradient up to 2%, and 26 metres for gradients over 2%;
- Where cycle paths intersect other routes the following visibility splays will be required:

	<b>Pedestrian Route (metres)</b>	<b>Cycleway (Metres)</b>
Pedestrian Route	2.0 x 2.0	2.0 x 2.0
Cycle Route	2.0 x 2.0	2.0 x 15.0 (min)
Vehicular	2.0 x 2.0*	2.0 x 30.0 (min)**

\* Barriers may be required, or a landscaped verge

\*\* On Local Distributor and Major Access Roads, special crossing facilities may be required.



The provision of short lengths of cycle ways and cyclepaths in the vicinity of schools, shops and neighbourhood centres should also be considered. The Councils 'Cycle Officer' should be consulted on the provision of all separate cycle routes.

### **10.6.2 Cycle parking**

Cycle parking needs to be provided for both long and short stay use, and more conveniently located than car parking spaces (except disabled). See Appendix 22 for minimum provision.

Where individual properties are concerned then the cycle parking should be secure in a locked covered storage area. If permanent structures are not provided, then the internal minimum dimensions of garages (integral or separate) should be 750mm wider or 1.0m longer.

In larger developments such as flats and apartments, then undercover and secure storage must be provided in units of 10 cycle parking places, preferably 'Sheffield' type racks. If these can be overlooked, it will ensure an element of neighbour policing, but the unit must not be allowed to dominating the space.

Outside development blocks, casual cycle parking shall be placed close to the entrance door, by the use of 'Sheffield' type racks, and undercover where practical.

The recommended and minimum dimensions for layouts using 'Sheffield' type racks is given in Appendix 21.

### **10.6.3 Shared facilities**

Where a cycle route follows the line of a formal highway, the developer will be expected to make proper provision for this on the carriageway, where the vehicle flow exceeds X vehicles per hour a separate with-flow cycle lane will be required. Shared facilities on the footway will not be accepted as a substitute.

Wherever footpaths or cyclepaths are provided away from the main carriageway it is almost certain that the routes will form a dual purpose, and this should be acknowledged from the beginning. To reduce future antagonism between the users it is recommended that these routes should be designed as shared facilities. The shared use of footpaths by pedestrian and cyclists is feasible up to a combined pedestrian/cycle flow of around 200 persons per hour. Above this figure or where the path will form part of a wider network of cycle routes a separate or segregated cycle facility should be provided. See Appendix 22a for typical layouts.



Recommended width and requirements:

- 3.0m for unsegregated shared use with pedestrians;
- 3.5m for segregate use with pedestrians and as part of a pedestrian or cycle network (2.0m for cyclists and 1.5m minimum for pedestrians) A minimum of 3.0 metres must be provided for shared use (1.8m for cyclist and 1.2m for pedestrians delineated by a solid white line, 150mm wide);
- where minimum widths are used the routes should not be obstructed by posts, poles lamp columns, cabinets etc;
- any new pedestrian/cycle bridge should have a minimum width of 4.0 metres;
- where routes are bordered by walls an addition 0.5 metre strips will be required on both sides. These should be hard landscaped to avoid future maintenance;
- Shared facilities should have a central delineator strip 150mm wide ( colour white )

## 10.7 Designing for Emergency Services Access

It is essential that emergency vehicles can gain rapid access to any incident occurring within a housing development for obvious reasons.

To facilitate this at least two points of access are required to residential roads serving more than 100 houses. The use of the loop roads often provides the best solution.

Where culs-de-sac serve between 50 and 100 dwellings a separate access for emergency use should be provided.

All routes used for emergency access must be a minimum of 3.7 metres wide and any bends should have a minimum radius of 9.0 metres. They should include footpaths and cyclepaths in the 3.7m width. Minimum headroom should be 4.5 metres. The construction of an emergency link must be sufficient to carry a fully laden fire tender, this may be achieved by providing an adequate foundation below a grassed surface.

Some of the fundamental requirements to ensure rapid unobstructed access to all locations are as follows :-

- street names and numbering must be uncomplicated and clearly marked so that properties can be quickly identified;





- the layout should be designed to enable emergency vehicles to get reasonably close to all properties, and should be adequate in every way to ensure that satisfactory access is possible;
- Fire Service pumping appliances should be able to get within 45 metres of the entrance to all one and two storey premises and to within 35 metres of the entrance to three and four storey flats and maisonettes. Any building in excess of these heights should be the subject of special discussions with the County Fire Officer.

Fire Prevention Note 1/70, CP3 Chapter 4 Part 1 and '*Traffic Management Policy*' and '*Respark Formula*' published by the North Yorkshire Fire and Rescue Services should be referred to for a fuller description of fire service requirements. The Developer must ensure that their proposals are fully in accordance with the County Fire Officers requirements.

Emergency links can be a source of nuisance and a maintenance liability and should be avoided if possible or only used in exceptional circumstances, since the housing layout should be designed to allow easy access for emergency vehicles. The use of lockable bollards to deter unauthorised use can be a hindrance to the rapid response and create an ongoing maintenance liability.

## **10.8 Public Transport**

Promoting the use of public transport is an important element in the Council's Local Transport Plan, and is particularly important for destinations outside the local area. With the introduction of 'Easylink' services, better penetration of residential areas is now possible, and should be encouraged; the increased use of public transport is a fundamental aspect of sustainable development.



*Figure 22 – Public Transport*

When planning new development, requirements for bus services must form an essential part of the initial design considerations. Consultation with local operators and the Public Transport Officer of the City Council will help to identify what provision needs to be made within a residential area for bus services. New developments should have easy access to a bus network and the service should, ideally, be operational when the first residents move in. Early establishment of bus routes is often difficult due to the time scales of final road construction, nevertheless there are ways in which a developer can have a strong influence:

- by the provision of well designed through routes or loop roads, rather than culs de sac;
- by providing adequate road width 6.0 metres minimum and (where appropriate) turning space for buses;
- provide temporary turning facilities when estates are developed in phases;
- endeavour to ensure that all houses are within 400 metres of a bus stop on an existing or proposed bus route (using footpath links where required);
- identify suitable locations for bus stops and shelters.

Bus stops should be located where :-

- it is safe for buses to stop with minimum disruption to traffic flow and where movement of buses to and from the stop is not likely to be hindered by parking;



- passenger access is convenient and safe;
- away from residential and other sensitive frontages;
- they are overlooked by residential property but not over intrusive;
- of necessity bus stops will often be close to junctions, and therefore care needs to be exercised to ensure that they do not interfere with vehicle movement and be on the down side of the junction. Bus termini must not be adjacent to junctions unless special provision is made.

The spacing of bus stops must be balanced to take into account maximum walking distances on the one hand and the need to avoid unnecessary delays to buses on the other. On average bus stops should be sited at between 0.3km and 0.5km spacing.

Where footpaths are located away from carriageways they should be focussed towards bus stops. Bus stops on opposite sides of a two lane carriageway should be located so that buses stop tail to tail and move away from each other. Staggered bus stops should be 45m apart. Care must be taken in siting bus stops so as to avoid nuisance and loss of privacy to residents. Further guidance on accommodating buses is given in Roads and Traffic in Urban Areas.

Residents find bus stops convenient and safe to use if they are coupled with telephone kiosks and post boxes, with shelter provided from wind and rain, litter bins and good street lighting. At bus stops the kerb height should be raised. This allows buses to stop within a few millimetres of the kerb without damage to tyres, and provides a convenient height for passengers boarding and alighting from buses.

Bus lay-bys may be required on distributor roads but not generally on estate roads unless to overcome potential problems of safety or hindrance to traffic flow at particular locations. The policy of the Council to use raised 'easy access' kerbs at all bus stops makes it difficult for buses to approach the kerb edge in a layby and therefore discussion with the Highway Authority over the provision and design is very important. A typical 'half' bus layby is shown in Appendix 22.

The developer should consult the Local Planning Authority the Highway Authority and bus operators on the design and siting of any bus shelters. The Local District Council and Parish Council should be consulted regarding the future maintenance of these facilities. A paved area is required for boarding and alighting and there should be street lighting close by.

More detailed guidance on designing for buses is described in '*Keeping Buses Moving, Local Transport Note 1/91*', Department of Transport 1991.



Bus facilities should therefore contribute to the overall attractiveness of any residential environment by the selection of good quality street furniture and appropriate landscaping.