# C.11 Cyclists and Junctions

## Key Principles

All junction designs should seek to give priority to cyclists where practicable, and minimise delay and maximise cyclists' safety and comfort in all cases (see also A.08 Signal Controlled Junctions and A.13 Roundabouts).

## Design Guidance

According to Department for Transport figures 68% of reported accidents involving cyclists occur at road junctions. When the accidents that occur at private drives or entrances are included, this figure rises to 74%. The design of all road junctions used by cyclists must, therefore, take account of the needs of cyclists whether they are road junctions, junctions between cycle tracks and the carriageway or between cycle tracks.

To achieve this, Dutch guidance recommends that the number of potential conflicts be kept to a minimum even if this is at the expense of other requirements such as maximising junction capacity for other vehicles. Keeping speeds low at junctions plays an important part plays an important part in ensuring cyclists safety since at lower speeds the chances of a cyclist's survival is significantly increased in the event of an accident. The guidance also suggests that cyclists safety will benefit from focussing all movements (and hence, potential conflicts) at the junction rather than trying to separate them resulting in complex and incomprehensible layouts.

The key issues for cyclists at junction relating to the five core principles are set out in the table below:

| Core principles | Important issues | Explanation |
|---|---|---|
| Convenient | Direct in terms of time | Directness in terms of time concerns both the design speed and the prevention of delays. The latter can be achieved by minimising the need to stop (e.g. bypasses at signals) or by minimising waiting times (e.g. by early detection of the need to cross at signal controlled junctions. |
| | Direct in terms of distance | Cyclists should not be required to make illogical movements at junctions or lengthy diversions (e.g. numerous separate crossing stages within a single junction). |
| Accessible | Access and advantage | Movements through junctions and crossing points should match desire lines and routes/turning movements denied to motor traffic should be made available to cyclists. |
| Safe | Potential for conflict | The layout of the junction should be logical and easily understood by all users.<br>The number of potential conflict points should be minimised. |

| Core principles | Important issues | Explanation |
|---|---|---|
| | | The speed of motor traffic should be reduced to minimise the speed differential.<br>Cyclists must be clearly seen within the motorists' field of vision.<br>Design approaches must be consistent within an authority's area.<br>Where appropriate, junctions should be lit.<br>Where appropriate, junctions should be lit at night (see also C.10 Lighting) |
| Comfort | Minimised delays and even road surfaces and transitions from one surface to another e.g. cycle track to carriageway | Delays should be kept to a minimum (see delays under Convenient).<br>Flush kerbs should be flush (see also B.06 Flush Kerbs) and transitions between different surfaces smooth.<br>Design standards should be high e.g. radii should match cyclists design speeds and the path followed by cyclists smooth in terms of both horizontal and vertical alignments etc.<br>The movements of other traffic should not encroach upon space identified for cyclists' needs. |
| Attractive | Road safety | The routes and manoeuvres undertaken by cyclists must be perceived to be safe (see also safe above). |
| | Personal safety | Where appropriate, junctions should be the subject of natural surveillance, the surroundings well maintained and lit where necessary. |

**References**

*Design manual for bicycle traffic* CROW 2007

*Manual for Streets* DfT, Communities & Local Government 2007

*Policy, Planning and Design for Walking and Cycling* – Local Transport Note 1/04, Public consultation Draft, DfT 2004

*Adjacent and Shared Use Facilities for Pedestrians and Cyclists* – Local Transport Note 2/04, Public consultation Draft, DfT 2004

*Cycling England, Engineering, Picture Gallery* (pictorial examples)

*London Cycling Design Standards – A guide to the design of a better cycling environment* (Sections 3.4, 3.5, and 3.6) TfL 2005

*Lancashire - The Cyclists' County* (pdf - 5.45Mb) (Section 3) – creating pleasant road conditions Lancashire County Council, 2005

*CTC Benchmarking – Best practice case studies*

*National Cycle Network – Guidelines and Practical details, Issue 2* Sustrans 1997

## Other references

*Cycle Friendly Infrastructure - Guidelines for Planning and Design*, Bicycle Association et al 1996

# Maintenance - Appendix A

**Typical maintenance programme suggested for off-road routes ***

| Issue | Activity | Notes | Frequency | Time of year |
|---|---|---|---|---|
| Cycle track surface | Winter maintenance | Consider importance as utility route | As necessary | Winter |
| | Inspection | Staff undertaking maintenance works to inspect site (except structures – see below) whenever possible to avoid need for extra visits to remote sections | Every time site visited. Minimum of 4 visits per year. | Early spring, mid summer, early and late autumn (before and after leaf fall) |
| | Repairs to potholes etc | Reactive maintenance as a result of calls from public plus programmed inspections | | |
| | Sweeping to clear leaf litter and debris | Combine with other activities if possible | Site specific | |
| | Cut back encroaching verges and sweep | | Once a year | November – also combine with sweeping. |
| | Programmed maintenance | The need for resurfacing will depend upon the initial condition of the cycle path (to allow for new build or conversion) and the nature of the wearing course | Depends on surface type and condition | |
| Drainage | Clear gullies and drainage channels etc | Determined by nature of surface water drainage arrangements (if any) | Twice a year | April, November |

| Issue | Activity | Notes | Frequency | Time of year |
|---|---|---|---|---|
| Vegetation | Verges - mow, flail or strim | To include forward and junction visibility splays | | May, July and September |
| | Grassed amenity areas - include with verge maintenance | | | |
| | Control of ragwort, thistles and docks etc | See Weeds Act and Countryside Act. Hand pull, cut or spot treat as necessary | Before seeding | July or as appropriate |
| | Cut back trees and herbaceous shrubs and trim trees | If necessary allow for annual inspection of trees depending on number, type and condition<br>Maintain min. 1m clearance and as required for visibility purposes | As necessary | July |
| Signs | Repair/replace as necessary | Base on local vandalism problems and location | | |
| Access barriers | Repair/replace as necessary | Base on local vandalism problems and location | | |
| Fences | Repair/replace as necessary | Dependent on licence arrangements with landowner | | |
| Structures including culverts | Inspections | Visual inspection every 2 years and detailed structural inspection every 6 years | | |
| Seating sculptures etc | Maintain or repair | If present | | |
| Other | | Scheme specific issues such as sites of sites of special scientific interest, interpretation and information measures, disability access etc | | |

***** This programme may also serve as a checklist for schemes built within, or adopted as, public highway in order to bring to the attention of maintenance teams the work to be added to the general highway maintenance programme on completion of the project.