

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 [A08 Signal Controlled Junctions](#) and [A13 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 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. The number of potential conflict points should be minimised.

Core principles	Important issues	Explanation
		<p>The speed of motor traffic should be reduced to minimise the speed differential. Cyclists must be clearly seen within the motorists' field of vision.</p> <p>Design approaches must be consistent within an authority's area.</p> <p>Where appropriate, junctions should be lit. Where appropriate, junctions should be lit at night (see also C10 Lighting)</p>
Comfort	Minimised delays and even road surfaces and transitions from one surface to another e.g. cycle track to carriageway	<p>Delays should be kept to a minimum (see delays under Convenient).</p> <p>Flush kerbs should be flush (see also B06 Flush Kerbs) and transitions between different surfaces smooth.</p> <p>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.</p> <p>The movements of other traffic should not encroach upon space identified for cyclists' needs.</p>
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

[LTN 2/08 Cycle Infrastructure Design](#) DfT 2008

[Design manual for bicycle traffic](#) CROW 2007

[Manual for Streets](#) DfT, Communities & Local Government 2007

[Cycling England 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 ([part 1](#), [part 2](#)) – creating pleasant road conditions Lancashire County Council, 2005 (Section 3)

[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