



Cycling and pedestrians

THIS BRIEFING COVERS

Cycling and the risk to pedestrians; red light jumping and cycling on the pavement (footway); sharing space.

HEADLINE MESSAGES

- Research shows that cyclists are perfectly able to mix harmoniously with pedestrians and, contrary to popular belief, are not a major danger to them.
- Pedestrians are more likely to be injured or killed in collision with a motor vehicle than in collision with a cycle, even if they are walking on the verge or footway (pavement). This is all the more surprising because, unlike driving, most cycling takes place where there are high levels of pedestrian activity.

KEY FACTS

- Around 98% of serious or fatal pedestrian injuries in urban areas (i.e. where pedestrians are most likely to be) are due to collisions with motor vehicles.
- Per mile travelled, pedal cycles are less likely than cars to injure a pedestrian, and far less likely to kill them. In Great Britain, from 2011 to 2015:
 - Cycles accounted for about 2% of all urban, non-motorway vehicular traffic and were involved in just over 1% of pedestrian fatalities and 1.8% of serious injuries to pedestrians;
 - Mile-for-mile in urban areas, motor vehicles were about twice as likely as a cycle to kill a pedestrian.
- The vast majority of vehicle-related pedestrian injuries on the footway/verge involve a motor vehicle, not a cycle: from 2005-14 (GB), 98.5% of pedestrian fatalities and 95.7% of pedestrian serious injuries that happened in collisions on a footway/verge involved a motor vehicle.
- From 2005-14, no pedestrians in Britain were killed by red light jumping cyclists, while around five a year were killed by red light jumping drivers.
- An official study of pedestrian priority sites in the 1990s found only one pedestrian/cyclist incident in 15 site years.





Cycling UK VIEW

- Cyclists should behave responsibly and within the law.
- Cyclists do very little harm to other road users, including pedestrians.
- Unlike driving, most cycling takes place in areas of high pedestrian activity, but it poses far less risk to pedestrians than motor vehicles. This is the case even for pavement cycling and red light jumping, neither of which Cycling UK condones.
- Cyclists and pedestrians are able to interact far more harmoniously, even in crowded conditions, than is often thought.
- People who are frail or who suffer sensory or mobility impairments are often understandably reluctant to share space with cyclists. Trials, however, usually prove that cyclists very rarely put any pedestrian in a hazardous situation. Codes of practice - backed up as required by policing - are preferable solutions, rather than undermining the promotion of safe cycling for fear of the actions of a minority.

BACKGROUND INFORMATION

1. Cycling and the risk to pedestrians

Cycling UK view: Cyclists do very little harm to other road users, including pedestrians

- From 2011 to 2015, (GB), the vast majority - 98% - of pedestrians who were killed or seriously injured (KSI) in a collision in an urban area (i.e. where pedestrians are most likely to be) were involved in an incident with a motor vehicle.¹
- From 2011 to 2015 (inclusive), out of the total numbers of pedestrian KSI in single vehicle collisions *in any location* (i.e. in the road or on the footway, urban and rural), cycles were involved in just under 1% of fatalities and around 1.8% of serious injuries, while cars were involved in almost 65.6% of pedestrian fatalities, and over four fifths of pedestrian serious injuries:²

Pedestrians killed/seriously injured annual average 2011-15 (all areas/locations, single vehicle collisions, GB)		
	Number	% of collisions with all vehicles
Pedestrians killed by CYCLE	3	0.9
Pedestrians seriously injured by CYCLE	89	1.8
Pedestrians killed by CAR	240	65.6
Pedestrians seriously injured by CAR	3,913	81.0
Pedestrians killed in collisions with ANY VEHICLE	365	100
Pedestrians seriously injured in collision with ANY VEHICLE	4,832	100





- On average each year from 2011-15, *in all urban areas (excluding motorways)*:
 - Cycles accounted for about 2% of vehicular traffic, but were involved in only just over 1% of pedestrian fatalities and 1.8% of serious pedestrian casualties.³
 - Mile-for-mile, motor vehicles were more likely than a cycle to seriously injure a pedestrian, and about twice as likely to kill them:⁴

Motor vehicle and cycle involvement in pedestrian fatal and serious injuries, annual average 2011-15 in URBAN areas, GB (exc. motorways)			
	By motor vehicles	By cycles	By all vehicles (cycles + motor)
Pedestrians killed	278	3	281
Pedestrians seriously injured	4361	79	4440
% of pedestrians killed	99	1.1	100
% pedestrians seriously injured	98	1.8	100
Billion vehicle miles	113	2.2	116
Pedestrians killed per bn vehicle miles	2.5	1.4	2.4
Pedestrians seriously injured per bn vehicle miles	38.5	35.9	38.4

2. Cycling on the footway (pavement) and red light jumping

Cycling UK view: Unlike driving, most cycling takes place in areas of high pedestrian activity, but it poses far less risk to pedestrians than motor vehicles. This is the case even for pavement cycling and red light jumping, neither of which Cycling UK condones.

a. Footway/verge

- **Very few pedestrians are hurt by cycles on the footway/verge:** on average a year in Great Britain from 2005-14, cycles were involved in 0.6 pedestrian fatalities on the footway/verge, and about 19 serious pedestrian injuries. No pedestrians were killed in collision with a cycle on the footway/verge in 2007, 2009, 2011-2013 inclusive, or in 2015.⁵
- **The vast majority of vehicle-related pedestrian injuries on the footway/verge involve a motor vehicle, not a cycle:** from 2005-14 (GB), 98.5% of pedestrian fatalities and 95.7% of pedestrian serious injuries that happened in collisions on a footway/verge involved a motor vehicle.⁶

Note:

Footways are not footpaths! 'Footways' (pavements) are *not* the same as 'footpaths' and their legal status differs. A footway runs alongside the carriageway; a footpath is located away from it.

Converting footways to shared use: highway authorities, of course, may convert footways into shared-use facilities. Signs and markings should make this clear (see 'Sharing Space' below).





b. Red light jumping

- From 2005-14, no pedestrians in Britain were killed by red light jumping cyclists, while around five a year (52 in total) were killed by red light jumping drivers.
- For pedestrians hit by red light jumping vehicles, just 6% of those slightly injured, and 5% of those seriously injured, involved cyclists. The other 94%-95% involved motor vehicles.⁷
- These percentages are rather higher in London, where the concentration of pedestrians, cyclists and traffic lights is particularly heavy. There, 13% of pedestrians injured or seriously injured by red light jumping involved cyclists. However, the other 87% involved red light jumping by drivers or riders of motor vehicles.⁸

See Cycling UK's campaigns briefing on *Cyclists' behaviour and the law* for more detail on pedestrian casualties on the footway/verge and as a result of red light jumping:

www.cyclinguk.org/campaigning/views-and-briefings/cyclists-behaviour-and-law

- For more on cycling offences and their safety impacts on pedestrians, see:
www.cyclinguk.org/campaigning/views-and-briefings/cyclists-behaviour-and-law
 - For more on public footpaths, see:
www.cyclinguk.org/campaigning/views-and-briefings/public-footpaths-england-wales

3. Sharing space

Cycling UK view:

- Cyclists and pedestrians are able to interact far more harmoniously, even in crowded conditions, than is often thought.
- People who are frail or who suffer sensory or mobility impairments are often understandably reluctant to share space with cyclists. Trials, however, usually prove that cyclists very rarely put any pedestrian in a hazardous situation. Codes of practice - backed up as required by policing - are preferable solutions, rather than undermining the promotion of safe cycling for fear of the actions of a minority.

Cycling UK supports the principle of prioritising measures to reduce the volume and/or the speeds of motor traffic (i.e. to tackle the sources of the dangers that deter people from walking and cycling in the first place).⁹ In other words, pavements should be for pedestrians while safe cycling conditions should be engineered either through low traffic volumes and speeds, or else by providing high quality, dedicated space for cycling, free of conflict with pedestrians.

However, where the decision is made to allow cyclists to share space with pedestrians, it is important not to assume automatically that conflict will be a problem or, indeed, happen at all. Surveys show that 'perceived' conflict is often much worse than 'real' conflict.¹⁰ They also show that the majority of pedestrians are not much concerned about sharing with cyclists - those who do raise strong objections to shared use are very much a minority voice.¹¹ This has been well-established by research in the context of pedestrian-priority areas (see below).



a. Shared use cycle tracks

While converting paths away from the roads to shared use often provides cyclists with useful links (see 'Parks, canals and footpaths' below), converting busy footways alongside the carriageway should only be considered as a last resort. It is never an ideal solution and, in urban streets, it is usually the wrong one.

In some situations though, it may be the best approach available, e.g. alongside inter-urban trunk roads where both pedestrian and cyclist flows are light. Local circumstances, however, should dictate whether or not this is an acceptable option.

Share use schemes should consider the following criteria:

- **Pedestrian and cyclist flows:** these are often light along inter-urban roads, where an off-road facility is likely to be especially beneficial for cyclists.
- **Priority:** to avoid hazards/loss of priority to cyclists, there should be few, if any, side turnings. Junctions are hazardous places for cyclists: around three quarters of road crashes happen at or within 20 metres of them.¹²
- **The on-road alternative:** if conditions along the carriageway are dangerous and unpleasant for cycling *and cannot be improved*, or if there are no other alternatives, a shared route alongside may be the best solution.
- **Decent width, sightlines, surface quality and ongoing maintenance:** these factors are crucial design criteria for all off-road paths. If they are not addressed effectively, the on-road alternative may still prove preferable for cycling.

Segregation: separating cycles and pedestrians on shared use tracks by some means is not necessarily helpful:

- Whilst blind and partially-sighted users may value 'harder' forms of segregation (e.g. height differences or physical barriers), these hamper movement onto, across or away from the path by others. This affects not only cyclists, but wheel-chair users too.
- Segregating narrow paths can make it difficult for users to keep to their 'own' side, creating conflict that would not arise on an unsegregated facility. Without segregation, users become more reliant on eye contact etc. - a good way of interacting safely.
- Having their own section may also encourage cyclists to ride faster and make them less likely to modify their behaviour naturally for their own and others' safety.
- Tactile lines and markings used to demarcate segregation can be hazardous to cyclists especially around corners, and all the more so in wet weather when they may be slippery.

'Hard' segregation should therefore be regarded as the preferred solution only:

- (a) Where there is sufficient width; and
- (b) Where movement patterns are mostly (if not wholly) linear, i.e. where there are few or no reasons for people to want to join, cross or leave the path.

Where segregation is introduced, a raised white line that can be detected by blind or partially-sighted users may be as safe as 'harder' (though perhaps more reassuring) forms of segregation. It is certainly a better way to reconcile the needs of different disabled groups, as well as cyclists.

Where tactile lines and paving are used, they should be set back from any path or other junctions where cyclists are likely to be cornering.

Cyclists' safety (e.g. skidding on a slippery and/or raised surface) should be considered very carefully before introducing any physical feature for demarcation purposes.



Width: shared use tracks should be at least three metres wide, although sometimes this might be not be enough (e.g. if very large and concentrated flows of pedestrians are expected at times).

Equally, narrower widths on routes that would otherwise offer significant benefits for cyclists may be acceptable if overall flow is likely to be relatively light, and/or if it would only be necessary for short sections. In these cases, any inconvenience to pedestrians may be overcome or minimised by good design solutions (e.g. appropriate surface materials), and by signing to reinforce the message that the space is primarily for pedestrians and that 'leisurely-paced' cycle use is called for.

- See also Cycling UK's comments on the DfT's guidance on shared use routes (issued 2012): www.cyclinguk.org/article/campaign-article/new-guidance-on-shared-use-routes

b. Town centres with pedestrian priority/vehicle restricted areas (VRAs)

Car-free zones, or areas where motor vehicles are restricted at certain times of the day (shopping streets, for example) are now common in many town and city centres. There are aesthetic, environmental, safety and commercial benefits for doing this, and exempting cycles from prohibitions is unlikely to undermine them.

- **Time restrictions:** decisions on if and when to ban cycling should be based on pedestrian density. Dutch guidance suggests that sharing is possible at times when the street does not attract more than 200 pedestrians an hour, per meter of available profile width:¹³

Possibility for combining bicycle and pedestrian traffic	
Number of pedestrians per hour per metre of profile width	Recommended solution
< 100	Full combination
100 - 160	Separation; traffic path with continuous profile (no difference in height)
160 - 200	Separation; traffic path with sectional profile
> 200	No combination possible

Every effort should be made to keep the route open for cyclists when it is most useful to them, e.g. at commuting/school run times. It may be, in fact, that peaks of pedestrian traffic do not in any case coincide with peaks of cycle traffic (see Croydon case study below), particularly if it's a shopping street.

- **Trials:** any local objections may be alleviated by a trial period. This can be done by through an experimental traffic regulation order (TRO) that permits cycling temporarily.
- **Road markings:** markings on the road surface (e.g. cycle logos) will help alert pedestrians to the presence of cycles.

“It can be contentious to reintroduce cycling into vehicle restricted areas (VRAs) but, as these areas are often prime destinations where shops and services are located, good cycle access is desirable. Where new vehicular restrictions are to be introduced, serious consideration should always be given to retaining cycle access. Traffic conditions on unrestricted routes may be unattractive to cyclists, and the routes can be indirect. Maintaining formal cycle access needs to be considered against the likelihood of cyclists using the VRA regardless of any restrictions.”
Cycle Infrastructure Design, DfT, 2008.
www.gov.uk/government/publications/cycle-infrastructure-design-ltn-208



CASE STUDY: LONDON BOROUGH OF CROYDON

In April 2016, Croydon councillors agreed to give cyclists permanent, all-day access to a busy pedestrianised shopping street in the borough. Having looked at the results of a CCTV-based survey during the 18-month trial, the council concluded that:

“Cyclist behaviour was very good. It became clear that cyclists modified their manner of riding depending on the density of pedestrians.

Light pedestrian traffic - cyclists rode at a reasonable speed and always kept a sensible distance from pedestrians.

Moderate – Cyclists rode at walking pace behind pedestrians, waiting patiently until there was a place to overtake.

Heavy – Cyclists got off and pushed their bikes.

It was clear that cyclists made all of the speed and directional changes. Pedestrians were not required to take any avoiding action.”

A follow-up camera survey also found that: *“Pedestrian and cyclists have different movement patterns through the day and different peak periods. This reduces the overlap of the two transport modes and therefore any potential for conflict.”[...] “No conflicts between pedestrians and cyclists were observed.”*

Measures to mitigate concerns from groups representing people with impaired vision and the elderly include creating an alternative two-way route that cyclists can opt to use at busy times; providing ‘comfort space’ for pedestrians; advisory signage saying: ‘Cyclists please keep towards the centre of the street’; ‘Cycle with care’; ‘Pedestrians have priority’; indicating a 10mph limit; and events to encourage considerate behaviour and promote cycling to people of all abilities.

For more, see [report](#) to Croydon’s Traffic Management Advisory Committee, 26 April 2016.

A Traffic Advisory Leaflet (TAL) published by the Department of Transport in 1993, summarised research from the Transport Research Laboratory on cycling in pedestrian areas.¹⁴ It said that:

- Observation revealed no real factors to justify excluding cyclists from pedestrianised areas, suggesting that cycling could be more widely permitted without detriment to pedestrians.
- A wide variety of regulatory and design solutions exist to enable space to be used safely and effectively in pedestrianised areas.
- Pedestrians change their behaviour in the presence of motor vehicles, but not in response to cyclists.
- Cyclists respond to pedestrian density, modifying their speed, dismounting and taking other avoiding action where necessary.
- Collisions between pedestrians and cyclists were very rarely generated in pedestrianised areas (only one pedestrian/cyclist incident in 15 site years) in the locations studied.
- Where there are appreciable flows of pedestrians or cyclists, encouragement to cyclists to follow a defined path aids orientation and assists effective movements in the area. At lower flows, both users mingle readily.

For further advice on VRA design, see:

- *Vehicle Restricted Areas* (Cycling England)
www.ciltuk.org.uk/Portals/0/Documents/The%20Hub/Design%20Toolkit/A07_Design_portfolio_vehicle_restricted_areas.pdf
- *Cycle Infrastructure Design* (DfT, 2008), section 4.3 www.gov.uk/government/publications/cycle-infrastructure-design-ltn-208

c. Parks, canals, promenades and footpaths

Allowing cycling in parks, along canals, promenades and converted footpaths helps enhance the network of motor-traffic free routes and often provides useful links in utility journeys (e.g. going to the shops, work or school).

Again, some people object to shared use in these settings because of concerns about the impact on walkers. Yet research carried out by the Countryside Agency suggests that conflict between non-motorised users on off-road routes is more perceived than real, and often 'talked up' after the event.¹⁵

As in the case of all shared facilities, design criteria should cover: width, sightlines and user flow. Design improvements can help minimise potential conflict (by, for example, providing surfaces to instil a greater sense of the need for leisurely speeds), as can codes of conduct and enforcement against people who persist in riding in a manner that intimidates or endangers pedestrians. The surface of off-road routes like these may need upgrading to make sure that cyclists can use them.

For more on surfacing see:

- *Surfaces* (Cycling England)
www.ciltuk.org.uk/Portals/0/Documents/The%20Hub/Design%20Toolkit/C02_Design_portfolio_surfaces.pdf
- *Cycle Infrastructure Design* (DfT, 2008), section 8.8
www.gov.uk/government/publications/cycle-infrastructure-design-ltn-208

- For more on towpaths, riversides, and promenades, see our off-road access briefings at:
www.cyclinguk.org/campaigning/views-and-briefings

FURTHER READING

- Cycling UK's briefings (www.cyclinguk.org/campaignsbriefings)
 - Cyclists' behaviour and the law
 - Public footpaths
 - Towpaths and canals
 - Seaside cycling: the coast, promenades and sea-fronts
 - Cycle-friendly design and planning: Overview
- DfT. *Shared use routes for pedestrians and cyclists* (Local Transport Note 1/12). Sept. 2012.
<https://www.gov.uk/government/publications/shared-use>
- Sustrans: *Cycling code of conduct on shared use paths*.
www.sustrans.org/change-your-travel/get-cycling/cycling-code-conduct-shared-use-paths



FOOTNOTES AND REFERENCES

- ¹ DfT, *Reported Road Casualties Great Britain 2015*. Sept 2016. Table RAS40004.
www.gov.uk/government/collections/road-accidents-and-safety-statistics
- ² DfT, *Reported Road Casualties Great Britain: 2015*. Sep 2016. Table RAS40004.
www.gov.uk/government/collections/road-accidents-and-safety-statistics
- ³ Casualty figures from DfT, *Reported Road Casualties Great Britain 2015*. Sept 2016. RAS40004.
www.gov.uk/government/collections/road-accidents-and-safety-statistics ; road traffic figures from DfT, *Road Traffic Estimates in Great Britain: 2015*. May 2016. Tables: TRA0402 (pedal cycles); TRA0104 (motor vehicles).
www.gov.uk/government/collections/road-traffic-statistics
- ⁴ DfT figures show that in 2013, 6 pedestrians were hit and killed by cycles, twice as many as the annual average from 2005-2013. None of these incidents happened on the footway/verge. (Two pedestrians were hit and killed by cycles in each of the two previous years - none on the footway/verge).
- ⁵ 2005-14 data from answer (clarified) to Freedom of Information request to DfT made by Cycling UK (then CTC) on 3/2/2016.
https://www.whatdotheyknow.com/request/pedestrian_ksi_1_from_red_light_2?nocache=incoming-762565#incoming-762565;
2015 data from answer to query made to DfT by Cycling UK November 2016.
- ⁶ Answer (clarified) to Freedom of Information request made to DfT by Cycling UK (then CTC) on 3/2/2016.
https://www.whatdotheyknow.com/request/pedestrian_ksi_1_from_red_light_2?nocache=incoming-762565#incoming-762565
- ⁷ Answer to Freedom of Information request made to DfT by Cycling UK (then CTC) on 7/12/2015.
https://www.whatdotheyknow.com/request/pedestrian_ksi_1_from_red_light_2?nocache=incoming-762565#incoming-762565
- ⁸ Answer to Freedom of Information request to TfL made by Cycling UK (then CTC) on 7/12/2015.
https://www.whatdotheyknow.com/request/pedestrian_ksi_1_from_red_light?nocache=incoming-759237#incoming-759237
- ⁹ This principle, known as the 'Hierarchy of Provision', is set out in *Cycle Infrastructure Design*, DfT, 2008, P10
www.gov.uk/government/publications/cycle-infrastructure-design-ltn-208
- ¹⁰ Countryside Agency. *How people interact on off-road routes: phase II*. CA report CRN69, 2003.
<http://publications.naturalengland.org.uk/publication/65057>
- ¹¹ Cycling UK. *Cyclists and pedestrians: attitudes to shared use*. Cycling UK, 2000
- ¹² DfT. *Reported Road Casualties Great Britain 2015*. Sept. 2016. Table RAS 20006.
www.gov.uk/government/collections/road-accidents-and-safety-statistics
- ¹³ CROW. *Design manual for bicycle traffic*. 2006. Per metre of available width means the number of pedestrians that pass an imaginary line straight across a street in an hour, divided by the total profile width in metres.
- ¹⁴ DfT. *Cycling in Pedestrian Areas* (TAL 9/93).
<https://www.gov.uk/government/publications/traffic-advisory-leaflets-1989-to-2009>
- ¹⁵ Countryside Agency. *How people interact on off-road routes*. Research Note CRN 32. March 2001.
<http://publications.naturalengland.org.uk/publication/50065>