

Cyclists' Use of Zebra Crossings

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Background

Zebra crossings are relatively low cost and are useful facilities as they offer immediate response to pedestrian demand and protect the pedestrian for the whole of the crossing width at every walking speed. Zebra crossings are suitable for widespread use in urban areas, although their use will be limited to roads with lower traffic speeds and volumes. Local Transport Note 2/95 details design characteristics¹. However, the choice between a Zebra and a Puffin crossing may be influenced by the expected level of use by people with disabilities, as the Puffin control is easier for certain types of users, notably the blind and some people with learning difficulties.

Issues relating to Puffins, Pelicans and Toucans are discussed in TIN 18.

There has been considerable interest over recent years in the possibility of a version of a Zebra crossing designed for shared use by cyclists and pedestrians; in some circles this has been termed a Tiger crossing. Under present legislation these are not permitted, so a number of local authorities have been trialling designs that direct cyclists over standard Zebra crossings whilst others have introduced alternative designs. This Note discusses the issues around these, with recommendations.

The Need for Cycle Zebras

Unsignalled 'priority' crossings for both pedestrians and cyclists are a standard part of the toolkit in many parts of continental Europe but are not authorised for use in the UK. These continental crossings are of shared-use or segregated types depending on the country and their standard layouts.

Zebra type crossings have many benefits compared with signal controlled (Toucan type) crossings, if the pedestrian and cycle flows are not so high that they cause excessive traffic delay. These benefits include:

- lower cost of installation
- signal works programming ('slot' availability) unnecessary
- lower cost of maintenance
- more flexibility in crossing location
- less delay, journey time savings for pedestrians/cyclists crossing
- less effort (due to stop start) for cyclists
- delays of traffic may be reduced if crossing flows are relatively low
- promotion of active travel / sustainable modes
- greater awareness of facility (due to carriageway striped markings) by drivers when driving

There are also some disbenefits of Zebras, compared with signalised crossings, in that no 'safe-to-cross' signal is displayed to users, which is an issue for some user groups, particularly the disabled.

¹ The Design of Pedestrian Crossings, LTN 2/95

Legalities

The Zebra, Pelican and Puffin Pedestrian Crossing Regulations and general Directions (1997) give direction on the regulatory frameworks surrounding crossings.

- Zebra crossings give pedestrians priority over vehicles on the carriageway
- Cyclists are vehicles and are permitted to ride on the part of a Zebra crossing that is carriageway, provided they give way to pedestrians crossing or waiting to cross.
- It is not illegal to cycle across a Zebra crossing if there is shared-use to either side, but it is contrary to Rule 64 of the Highway Code which states that cyclists should dismount and walk across Zebra crossings. Breach of the Highway Code could be used as evidence of an offence, e.g. cycling dangerously, or of evidence of negligence in the event of a collision.
- Nearly 90% of cyclists at six sites surveyed for TfL cycled across Zebra crossings
- The Secretary of State has powers to make regulations with respect to precedence of vehicles and pedestrians respectively, and generally with respect to the movement of traffic (including pedestrians) at and in the vicinity of crossings. Presently Zebra crossing regulations only allow for pedestrians to have precedence over vehicles.

Current Guidance

A study on the Shared Use of Zebras Crossings was carried out by TRL² for TfL during 2005/6. This considered the legal framework of different crossing types and studied the current unofficial shared-use of six different Zebra sites. Conflict analysis was carried out using video surveys of the sites, which showed moderate levels of risk and conflict. The study indicated that the following mitigations were likely to go a long way to addressing both existing risks and any additional risks that might arise from proactively designing for shared-use cycling at Zebra crossings:

- Entrance and exit 'paths, central refuge and crossing should be of sufficient width and geometry to accommodate pedestrian and cycle flows
- Design to force cyclists to slow or stop and give them adequate visibility and time to assess/decide before crossing
- Signing and road marking should facilitate and encourage awareness of other road users and safe behaviours by drivers, cyclists and pedestrians
- Signing and road marking should support routes taken by cyclists
- Signing should be such as to support enforcement activity against driver/cyclist breach of Zebra restrictions (that endanger /intimidate people legitimately crossing) including drivers obstructing crossings

Following on from this work TfL is undertaking further research at additional sites, consulting on design and implementation issues and following up the findings with DfT.

The TfL research recommended a number of considerations and measures to improve the overall conditions for cyclists at crossings³:

- Simplify road layouts to minimise cognitive overload and provide for movement through clear unobstructed pedestrian and cyclist desire lines

² Shared Zebra Crossing Study, TRL 2006

³ Cyclists Use of Zebra Crossings Summary, TfL

- The level of risk and conflict can be affected by individual site specific characteristics including visibility, vehicle speeds, crossing access and exit route, pedestrian and cyclists desire lines, width of routes and crossing, motor traffic, cycle and pedestrian flows.
- In most crossing situations pedestrian and cyclist desire lines can conflict, i.e. layouts need to take account of this by providing sufficient width and visibility for space to be informally shared where conflicting movements are being made
- Visibility considerations at Zebras would be different for cyclists unless they were slowed to pedestrian speed.
- Importantly, conflict between cyclists and pedestrians was at a low level and low frequency, and would be reduced further by setting the minimum crossing width of 4 metres (as recommended for Toucan crossings).

Cycling England's advice⁴ is that: "A number of mainland European countries allow the use of zebra-style pedestrian crossings by cyclists. At present it is not unlawful for cyclists to cycle across zebra crossings within the UK. However, since there is no legal requirement for motorists to give way when they do, encouraging this practice may increase hazards for cyclists. Where cycle tracks naturally bring cyclists to such facilities, wider than normal crossings should be provided and 'Cyclists dismount' signs used. Cycle track approaches should also have a bend on the immediate approaches to the zebra crossing to slow cyclists' speeds." Appendix 1 includes examples of a number of such crossings.

The design of a shared-use Zebra crossing should avoid leading cyclists to reasonably conclude that they have precedence. In the absence of a prescribed sign to the effect of "Cyclists Give Way at Crossing" the Cyclists Dismount sign is probably the most suitable alternative available should a local highway authority consider such signing necessary.

A number of local authorities have introduced alternative designs of Zebra crossing that are outside the regulations, without approval from DfT, and some examples are included in Appendix 2. Cycling England did an assessment of one such design, in Canterbury, which is reproduced in Appendix 3. This scheme has now been in place for over four years and the Council is pleased with how it has performed and there have been no personal injury crashes recorded either at the crossing or associated with the crossing since the scheme was completed in May 2007.

Conclusions

Sustrans supports the inclusion of Zebra crossings on cycle routes where these appear to provide the most appropriate form of crossing. The cycle tracks either side should be designed to slow cyclists' speed on the approaches and this is perhaps the only situation where we can accept use of the Cyclists Dismount sign should the local highway authority consider it necessary. A wider than normal crossing will generally be needed, preferably on a speed table.

⁴ Cycling England's Infrastructure Toolkit for Cycling Towns, 2009

Appendix 1: Examples of Current Practice – Shared Crossing Area





Birmingham

Appendix 2: Examples of Current Practice – Parallel Cycle Crossings (non-standard layouts)





Canterbury

Canterbury City Council

Appendix 3: Cycling England Note on Canterbury Scheme



THE FOLLOWING NOTE PROVIDES INFORMATION ON CANTERBURY CITY COUNCIL'S 'CYCLE ZEBRA' SCHEME ON CHAUCER ROAD, CANTERBURY.

1. Background

Canterbury City Council contacted Cycling England's Professional Support Team for advice on the Council's proposals to install a so-called 'Cycle Zebra' on Chaucer Road in Canterbury. The scheme was designed to improve pedestrian and cyclist safety at a busy crossing point for local residents, students, school children and commuters from the nearby Northgate area, the council offices and the Law Courts. The crossing is on National Cycle Route 1 which is mainly a shared unsegregated cycle / pedestrian path. It was hoped also that it would help to reduce inappropriate vehicle speeds on Chaucer Road as the crossing would be raised to footway level.

Canterbury City Council did not consider a Toucan appropriate for this location as traffic levels were too light for a signal controlled crossing and, therefore, pedestrians and cyclists were unlikely to wait for the lights to change. A Toucan crossing would have also been approximately 50% more expensive to construct than a non-signal controlled crossing.



'Before' Layout, (Canterbury City Council)



'After' Layout (Canterbury City Council)

2. Development and Consultation

Cycling England's Professional Support Team provided information on schemes sharing similar objectives that had been implemented both in the UK and Europe, and commented on the Council's draft design. Canterbury City Council also contacted Sustrans and the local authorities who had installed similar schemes regarding the design and effectiveness of these during the development of the scheme.

Local people including groups representing the mobility impaired were consulted, and Members of the district and county councils held a site meeting to discuss the proposals.

The layout is not currently authorised by the Department for Transport for use on the public highway. As the Highway Authority for the area, Kent County Council carried out a risk assessment on the initial design produced by Canterbury City Council and approved the final design. Kent County Council viewed the proposals as a trial, and careful monitoring of the before and after speed, road casualty and cycle / pedestrian crossing activity are being carried out in order to ensure that the crossing meets the design objectives.

Cycling England Professional Support Team

3. Design Aspects

- The crossing area was raised and made flush with the adjacent footway on both sides. The approach ramps on the carriageway are 1:20 and the crossing and approach paths were segregated with a white line between the cyclist's and pedestrian's sides.
- Appropriate tactile paving was used to direct pedestrians, (including the visually impaired), to the correct side of the paths and at the crossing itself.
- The pedestrian crossing has black and white transverse markings (like a normal Zebra crossing). The cycle crossing area is black.
- There are give way markings on the footway as well as give way signs for cyclists on both approaches to the crossing.
- There are warning signs to motorists of the crossing ahead and temporary 'new road layout' signs were also installed.
- The carriageway has an anti-skid surfacing for 50m in both directions and zig-zag markings extend approximately 18m in both directions.

4. Summary

The scheme was fully funded by Canterbury City Council and was completed in May 2007. From observations carried out by both the City and County Councils, the scheme appears to have resulted in greater acknowledgment / awareness of other road users with pedestrians and cyclists thanking drivers for stopping. The ramped crossing has also helped to slow down traffic speeds, (though 'after' surveys have yet to be completed). Local authorities should note that the layout of this crossing does not currently comply with 'The Zebra, Pelican and Puffin Pedestrian Crossings Regulations and General Directions 1997'.

5. Further Information

For further information please contact:
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