



Cyclists turning right at signalised junctions

Background

Transport for London (TfL) commissioned TRL to investigate and test a wide variety of innovative cycle signals and layouts at TRL's off-street test track. This wide ranging project involves undertaking many trials with cyclists and other road users.

Also as part of the project, practices and facilities used in other countries were investigated. One such area of interest was turning right at signal controlled junctions, and particularly turning right in two stages.

The right turn issue

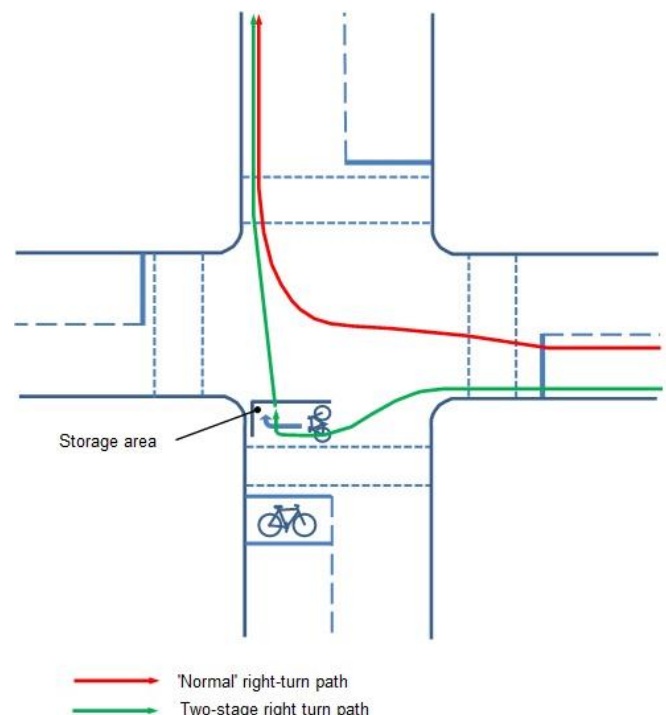
Cyclists often perceive a safety problem associated with turning right at signal controlled junctions. They may even avoid junctions where turning right is perceived to be dangerous, which may discourage them from cycling at all for some journeys.

To reduce the risk and make turning right less stressful and hazardous, a number of fundamental treatments have been considered:

- Make the manoeuvre in two stages, by initially pulling left, waiting in a designated area, and then proceeding. See the figure.
- Segregate cyclists around the junction and provide cycle signal phases so that cyclists can complete the right turn manoeuvre away from motorised traffic.
- Provide dedicated signal phases that allow cyclists to start early and make the right turn ahead of motorised traffic.

Literature review

To consider the issue further a comprehensive literature review was carried out. Focus centred on known use of the two-stage turn worldwide. In Denmark for example, cyclists have to turn left (equivalent to UK right) in two stages at signal controlled junctions. This approach is used in other countries, such as the Netherlands, and has been recently included in Irish design guidance. Its use is far from widespread however. Following the literature review it was determined to incorporate the findings in to later research trials.



Above: Two-stage and normal right turns.



Issues to investigate in a future trial

It was concluded that the two-stage turn may be a useful addition to the options for helping cyclists use the road network. A number of issues may need further investigation by trial before the two-stage turn can be considered for on street trials:

- How to mark it to ensure that road users understand it and to encourage cyclists to use it as intended;
- The provision and placement of traffic signals;
- The provision and placement of advanced signage;
- Movement of cyclists during various parts of the green;
- Conflicts between left turning traffic and cyclists on the approach;

- Conflicts between cyclists and pedestrians;
- Optimal location of the waiting area;
- Signal stage sequence that minimises delay;
- Traffic flow conditions to which it is suited;
- Pedestrian understanding of the facility.

These issues are to be considered in a trial looking at a new form of junction known as the Standardised Junction. The trial will be carried out off-road at a purpose built experimental junction.

This new type of junction includes elements from trials already carried out such as the low-level cycle signals, and early starts for cyclists.

TfL - Better Junctions for Cyclists

www.tfl.gov.uk/betterjunctions

TRL - Safer Cycling Innovations

www.trl.co.uk/cyclinginnovationtrials/



Above: Existing arrangement at a Signalised junction with an ASL