

TRANSPORT FOR LONDON

SURFACE TRANSPORT PANEL

**SUBJECT: PEDESTRIAN COUNTDOWN AND PEDESTRIAN BEHAVIOUR
RESEARCH UPDATE**

DATE: 10 NOVEMBER 2009

1 PURPOSE AND DECISION REQUIRED

1.1 This paper seeks to inform the Panel of the results from recent research on the effect of re-timed green man periods on road users at signalised pedestrian junctions in London. The research is available publically and was published on 5 October 2009 in response to Assembly Member interest and a FOI request.

2 BACKGROUND

2.1 TfL is the traffic authority for all 6,000 traffic signals in Greater London. Traffic signal timings follow DfT advice, which has some scope for local conditions.

2.2 Independent research has been conducted by the Transport Research Laboratory (TRL) as part of the assessment for the Pedestrian Countdown at Traffic Signals technology trials. Specifically, the research involved an experimental trial at nine traffic signal sites to test the impact of reducing the green man period to six seconds (DfT advised minimum) from nine or 10 seconds.

2.3 Pedestrian crossings at signalised junctions in London work on the basis of a green man "invitation to cross" signal, followed by a "blackout period" (when no pedestrian signal shows) which is timed to allow a person stepping off the kerb, just as the green light goes out, sufficient time to complete their crossing at a walking speed of 1.2 metres per second. TfL believed that many pedestrians did not fully understand the purpose of the blackout period and that they assumed that their safe time to cross was limited to the green man time.

2.4 This research tested the impact of a shorter green man phase on the behaviour and perception of pedestrians, which has the potential to help smooth traffic. The results have helped to ascertain whether pedestrian countdown, which would display explicit information about how much time remains to cross the road during the current blackout period, might mitigate any negative impacts of reducing the green man time at traffic signal junctions.

2.5 The research, conducted in January and February 2009, involved video analysis, on-site pedestrian interviews and accompanied walks with pedestrians who had a range of impairments.

3 RESEARCH FINDINGS

3.1 Sixty per cent of all pedestrians and 67 per cent (two thirds) of those with impairments did not correctly understand the blackout period.

- 3.2 Pedestrian speeds were unaffected by the change (and were recorded as being well within the DfT advised rate of 1.2 metres per second).
- 3.3 The re-timing at the nine sites was safety neutral, based on the conflict analysis carried out from video observations. The increase in grade two conflicts (controlled action e.g. pedestrian deviates or vehicle undertakes controlled braking) does not seem to be linked with the re-timing.
- 3.4 Overall, around half of all pedestrians observed crossed against the red man, with non-compliance increasing by 14 per cent when the green man was reduced.
- 3.5 There was an increase in pedestrians stopping on the central refuge, although the majority were crossing against the red man.
- 3.6 Most pedestrians did not notice the change, satisfaction remained therefore unchanged.
- 3.7 There was an increase in vehicle throughput of 6.5 per cent resulting from the reallocation of time from the pedestrian green man, to the green light for traffic.

4 ISSUES FOR CONSIDERATION

Issue 1 -Time to cross the road will be reduced

- 4.1 Pedestrians will always be given a safe time to cross the road, in line with DfT advice. Changes to the green man time may be made in future, in conjunction with the introduction of pedestrian countdown.

Issue 2 -Waiting times at signalised crossing will increase, thus encouraging unsafe behaviour

- 4.2 TfL's timing review programme now includes a new pedestrian monitoring procedure to ensure signals take account of both pedestrian and vehicle demands. Cycle times may be increased or decreased to make a junction, or group of junctions, operate more efficiently. Higher cycle times mean that everyone has to wait longer for their turn to cross the junction. Cycle times are not always changed as part of a timing review; benefits can also be gained by improved linking of local junctions (even if they are not using SCOOT¹) and updating SCOOT timings.

Issue 3 - Smoothing traffic flow may cause pedestrians to feel unsafe

- 4.3 Much is already being achieved to smooth traffic flow without detrimentally impacting pedestrian facilities at signalised junctions. It is expected that the pedestrian countdown technology will offer the potential at some junctions to reduce the green man time and re-allocate that time to traffic. Pedestrian concerns of feeling rushed or unsafe would be allayed by displaying explicit information indicating how long they have to complete their crossing.

¹ SCOOT (Split Cycle Offset Optimisation Technique) is a highly sophisticated method of traffic control using sensors buried in the road to change traffic signal timings according to current traffic demand.

5 PROGRAMME AND TIMESCALES FOR POTENTIAL INTRODUCTION OF PEDESTRIAN COUNTDOWN

- 5.1 This project is to deliver the development and trials of pedestrian countdown technology. Solution research and initiation concluded in June 2009. Off-street trials will conclude by the end of 2009 and, subject to the outcome of these, we anticipate on-street trials to start mid-2010. Depending on the success of the trials, implementation will begin in 2012.

6 RECOMMENDATION

- 6.1 The Panel is asked to NOTE the report.

7 CONTACT

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