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Pedestrian priority measures

How TfL undertakes on-street monitoring of innovative solutions

3B – Traffic Signal Innovations

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How TfL undertake trials

What leads to innovations

- New Ideas
- New Equipment
- Changes in National Standards

What does “success look like”

- What do we want to achieve?
- How do we measure this?
- What resources are required?

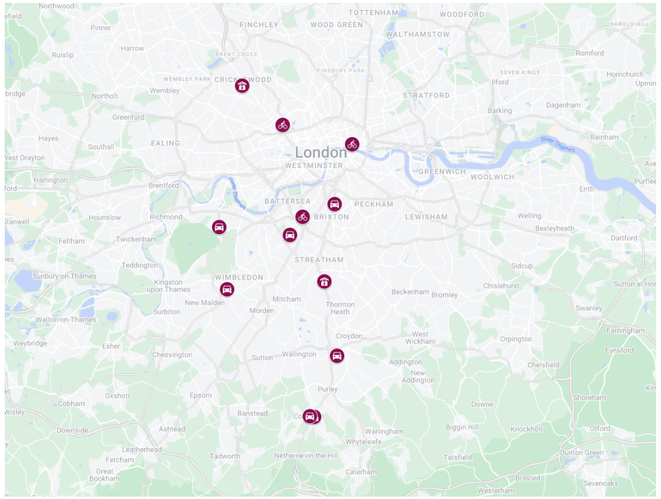
Green Person Authority
Reducing traffic minimum Green time

What can the outcomes lead to

Improvements to Pedestrian’s ability to walk around London

Changes in TfL and National Design Standards

Preparations



How will the trial be undertaken?

- Usually we choose 8-12 sites to test the proof of concept
- This covers subtly different layouts – usually 2 or 3
- Ensure existing equipment can be used

Site Observations – including report

- Is the site “typical”?
- Are there barriers to prevent the site being used?
- Are there other conflicting works planned?
- Can camera monitoring be carried out?

Monitoring – understanding the “now”

Survey and video monitoring:

- Weekday and weekend – 07:00 – 19:00
- 7 days, 24 hour
- NOT during school holiday periods

Flows

- Vehicles, Cyclists and Pedestrian

Behaviour

- When do pedestrians cross
- Does traffic (including cyclists) stop when Amber or Red displayed

Understanding the “new”

Make changes

- Observe changes during switch-on
- Allow users to get used to this – usually 1-2 weeks
- Undertake Surveys and Video monitoring again, for the same duration
- Make note any unusual event which might influence the results

Compare

- Compare “old” with “new” to ensure Aims are met and Safety (for all users) is maintained or improved.

Green Person Authority

What is it:

- A radical technique where the traffic signals will show a green signal for pedestrians continuously, until vehicle traffic is detected, at which time pedestrians are stopped on red and vehicle are given a green signal.

Aims:

- Reduce waiting times for pedestrians
- More Green time to pedestrians
- Improve compliance

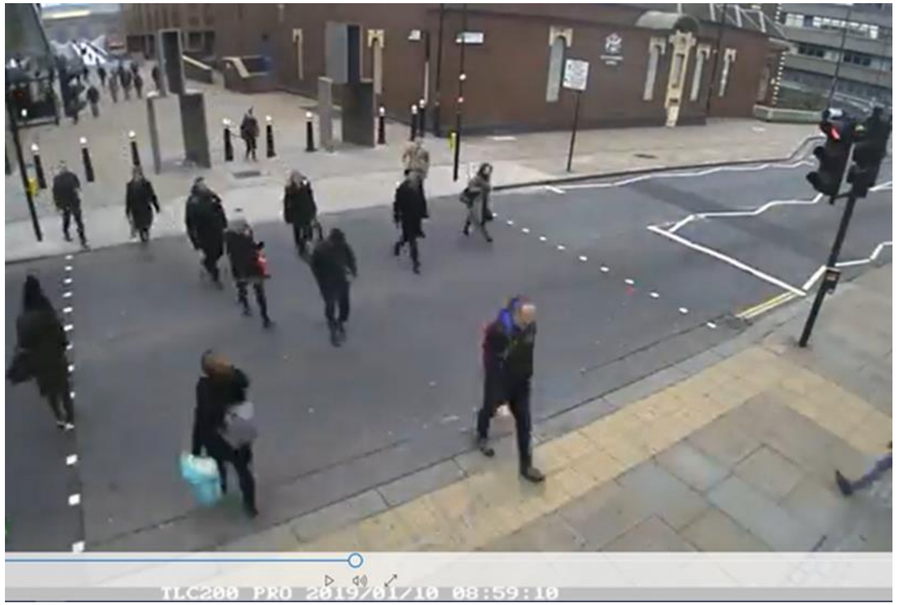
Previous study has shown that pedestrians are often reluctant to wait for the green light and will cross in gaps in traffic, with approximately 85% crossing in the first 30 seconds on arriving. (Even when the pedestrian light is on red)

No Jay-walking law in the UK, so pedestrians can cross when they perceive it is safe.

How it works

The crossing will remain on “green” if no traffic is demanded, even without a pedestrian presence.

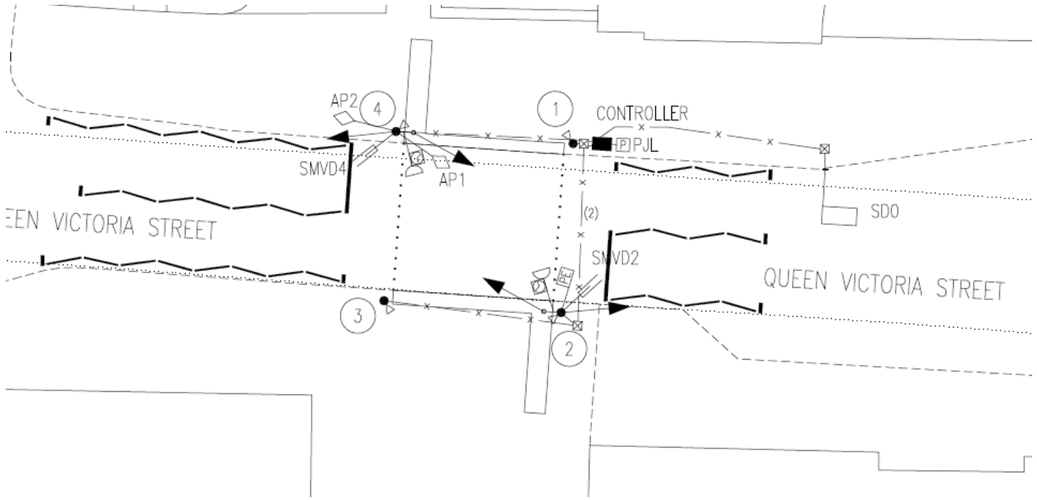
This is the reverse from normal, where it will stay on traffic until a pedestrian presses the button.



Vehicle detection is at a distance, and stopline

- Traffic lights will be going to green when vehicle arrives at stopline after being detected upstream.

Road Width	Distance (32km/h)	Distance (48km/h)
8.4m – 9.6m	71.5m	121m
9.6m – 10.8m	90m	134m
10.8m – 12.0m	98m	147.5m



Outcomes

- Pedestrian compliance improves significantly by an average of 13%
- During a 12 hour day, pedestrians gained an average of 56 minutes of green time,
- Waiting time savings of about 1.3hours per day
- Driver compliance to red remains same.

Works best at sites with following :

- 20mph (30 kph) speed limit
- One way Roads
- With traffic flows below 7000 per day – otherwise the pedestrian benefit is reduced.

5 Second Green Minimum

What is it

- National guidance now permits the minimum time for a traffic movement to be reduced from 7 seconds to 5 seconds in “Low Flow Conditions”
- No other guidance or advice given

Aims

- To determine what is “low flow”
- To determine under what conditions this can safely operate
- Longer term – to rebalance the time, either by reducing waiting times, or to provide more green time to other movements

Site selection

12 sites chosen

- 3 sites where the movement is for bicycle only
- 2 sites where the side road is from private houses
- 3 sites with “low flows”
- 4 typical suburban sites with higher flows

- Each site operates under Computer control, with detection on site so that the amount of green time can vary depending on traffic flow and monitored.
- Changes made to the controller to permit reduced green time operation

Successful outcomes

Bicycle only

Private road (less than 50 per day)

Low flow – less than 500 per day

- The 5 seconds green time is sufficient to cater for the demand.
- The compliance to the traffic signals is not influenced by lower green time
- Where the amount of traffic is less than 3 vehicle per lane, this still permits the waiting traffic to clear the approach and enter the junction prior to the amber signal being illuminated.

Inconclusive

Surburban sites – over 1500 per day

- A number of locations rarely ran less than 7 seconds due to flows
- Compliance decreased when 5 seconds operated (due to demand)
- These will be taken forward on a site-by-site basis

Summary

- **Green Person Authority**

Can be considered for any stand alone crossing

Gives more green time to pedestrians, improves their compliance.

Most benefit is realised where the traffic flow is below 7000 per day (7am – 7pm)

- **Traffic minimum**

Can be used at certain locations

Reallocated time from traffic to other modes including pedestrians

Reduced cycle time, means more time to pedestrians and more opportunities

– *Eg a 80second cycle reduced by 8 seconds, will shorten the wait time and provide 5 additional crossing opportunities to pedestrians every hour, equal to an extra 30 seconds of green time.*

Thank you for your attention!

For questions:

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