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Low Level Cycle Signals Design and Implementation in London



Overview

- The Mayor's Vision for Cycling
- Off street trials
- On street trials
- Alternative cycle layouts
- Low level signals design and installation



The Mayor's Vision for Cycling

- £913 million investment plan
- 40% reduction in the number of people killed or seriously injured by 2020
- Central London Grid & Quietways (50% complete by 2016)
- New Cycle Superhighways and upgrades to existing (by 2016)
- 3x mini-Holland schemes in Enfield, Waltham Forest and Kingston upon Thames (by 2018)
- 10x Better Junction schemes (by 2016)



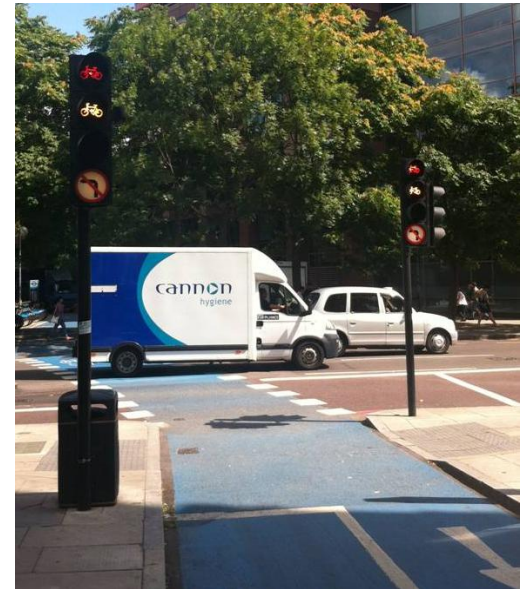
Off street trials

- Three layouts
 - Puffin crossing (TRL test track)
 - Small junction (TRL test track)
 - Large junction (Dunsfold Aerodrome)
- What was trialled
 - 200mm RAG with red cycle aspect
 - 100mm RAG (LLCS)
 - Alternative layouts with LLCS
 - ASL depth (5m, 7.5m and 10m)
 - Cycle reservoir (alternative to ASL)
 - LLCS as repeater
 - LLCS as early release
 - Two stage right turn (2SRT) option
- Documented research (TRL)
- Working closely with DfT (TSRGD 2015)



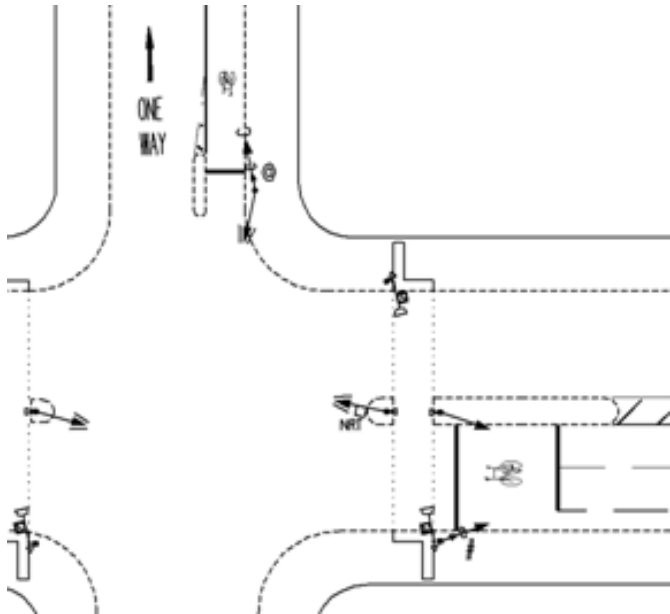
On street trials

- **Bow Roundabout**
 - Installed in January 2014
 - LLCS as repeaters
- **5x locations**
 - High level red cycle aspects – installed August
 - LLCS installation - Q3 installation
- **6x locations**
 - High level red cycle aspects – installed August
 - LLCS with box sign - submission to DfT first
 - Expected installation in Q4



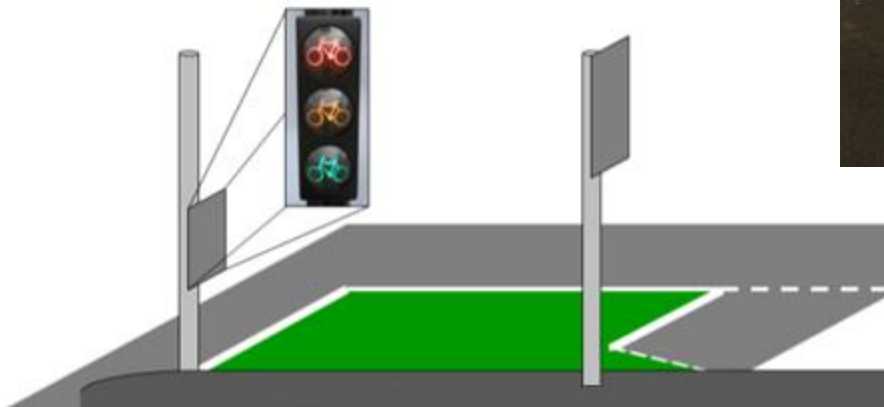
LLCS with ASL

- 7.5m ASL
- LLCS on nearside primary
- 4 sec early start (LLCS)



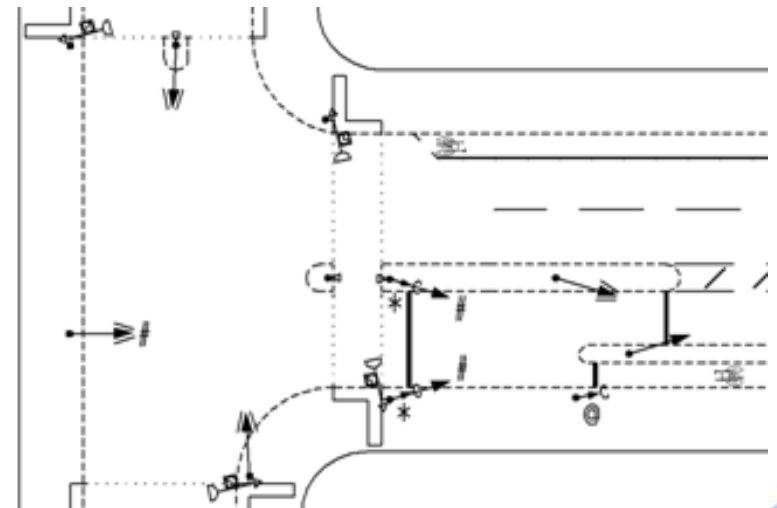
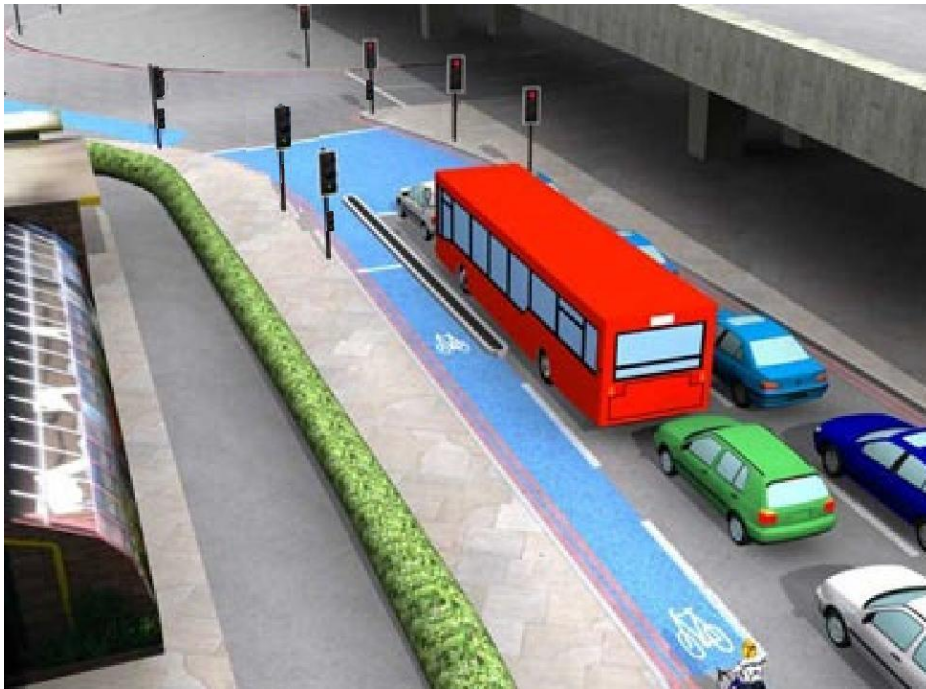
LLCS and Cycle reservoir

- 7.5m or 10m depth
- Two stoplines
 - First stopline with traffic RAG
 - Second stopline LLCS
- 4 sec early start (LLCS)



LLCS with segregated cycle facilities on approach

- Three stoplines
 - Motorised vehicles stopline
 - Cyclists only stopline (high / low level cycle signal)
 - Reservoir stopline with LLCS and 4 sec early start



2 Stage Right Turn Facility (2SRT)

- Uses farsided secondary
- 200mm Green cycle filter signal
 - Start of green coincides with LLCS green



LLCS Design and Installation

- Height 1.5m to the centre of amber aspect
- Mounted at 45° angle
- 1.7m distance to stopline
- Reduced clearance to edge of equipment on cycle tracks (250mm)
- Configured as a separate phase
- Red lamp monitored if peds downstream
- Draft document SQA-0651 (peter.czachowski@tfl.gov.uk)

