

**Consultation Response on Transport for London plans to upgrade Cycle Superhighway 2 from Aldgate to Bow.****1. Introduction**

London Cycling Campaign welcomes the opportunity to comment on the plans to upgrade the cycling superhighway on the A11 trunk road from Aldgate to the Bow junction with the A12.

This upgrade is long overdue as the failure of the original superhighway to provide safe space for cycling was apparent from the very beginning. In November 2013 the senior coroner for Inner North London issued a Prevention of Future Deaths report following her inquest into the deaths of Brian Dorling, killed at Bow junction in October 2011, and of Philippine de Guerin-Ricard, killed at Whirechapel High Street in July 2013.

Four other cyclists have been killed on this route since 2011. The prime purpose of high quality infrastructure for cycling is to make the streets safe and inviting for riding cycles. Encouraging more people to choose to travel by cycle increases transport efficiency and creates many benefits in terms of health, environment and congestion relief. One of the key features safe road infrastructure design is that it should be forgiving of driver/rider errors such that the consequences and likelihood of injury are minimised. For cyclists the previous design failed to provide an acceptable level of protection.

London Cycling Campaign has been calling for the introduction of high quality street infrastructure for cycling built to the best practice design standards. We see the introduction of such infrastructure as part of the commitment from the Mayor, with all party support, to deliver safe and inviting cycling streets as seen in Holland. This commitment was reinforced by wide political support for our Space for Cycling campaign in the 2014 local elections.

London Cycling Campaign is delighted at the level of commitment and investment shown by the Mayor's team and Transport for London to bring about the necessary improvements. We feel that there is much more to be learnt about the best practice implementation of high quality cycle routes in London. What follows includes some detailed criticisms of the finer points of the current design. Our intention is to provide the stakeholder feedback to identify every potential problem so viable solutions can be put in place from the outset.

As a general observation London Cycling Campaign feels that not enough attention has been given to providing safe access on and off the super highway route at all the junctions, major and minor along the way. The superhighway route should serve the needs of all those who want to make short local trips by cycle as well as those who are focussed on the end to end commuter journey.

## **2. Alignment**

To achieve the full benefit of a protected cycle route it needs to be complete and provide complete linkage for the journeys it is designed for. Originally planned to connect the City of London to Ilford, cycle superhighway 2 is far from complete. The current proposals stop at the boundary with the City of London, while there are plans to greatly improve the provision for cycling at Aldgate in the City of London the transition from CS2 is not clear and it is not supported by a network of protected routes for completion of typical cycle journeys.

On 21<sup>st</sup> October TfL's Head of Sponsorship in Road Space Management, Nigel Hardy, told the London Assembly budget committee: "You have to deliver an end to route in one go. It is difficult to leave part of a route with a hole in the middle and not deliver it". The current proposals have a significant hole east of Stepney Green station and a functional hole at Bow roundabout where the junction design has proven to be ineffective for protecting cyclists from the bulk of the peak hour traffic which turns left across their path.

There is another difficult section where this route passes through Whitechapel market and the area designated to become the major town centre of Tower Hamlets. We believe the potential conflicts in this area can be minimised by careful design that would allow traders to cross the cycle track quickly and easily at many points.

## **3. Road Junctions**

Over 70% of the most serious injury collisions to cyclists in London happen at road junctions. Poor design of junctions, even where there are segregated routes for cyclists has been highlighted as a concern by the recent study into cyclists' fatalities in London (Pedal Cyclist Fatalities in London: Analysis of Police Collision Files (2007-2011) Thomas, R et al. 2014)

There is a need to ensure priority for cyclists at junctions as well as providing protection along links.

The Mayor's vision for cycling highlighted the introduction of safer junction designs which separated the flow of cyclists from other traffic. We welcome the introduction of separated junctions in the plans for CS2 but have reservations about the detail and timing. At many junctions risks remain from turning traffic on some arms and the signal stages seem very complicated.

Generally not enough consideration has been given to cyclists crossing and joining the route. All cross roads carry cycle traffic and there are some with high numbers of cyclists. At many junctions there are plans for 'early release', letting the cyclists move off before other traffic. We consider this is only acceptable on minor roads with little or no turning traffic.

### **Major Junctions**

At five of the junctions on the CS2 route there are plans for partially segregated junctions at five locations and a simpler design with less protection at a further six junctions. We consider these junctions in detail below.

### **Minor Junctions**

There are approximately 40 other, unsignalised junctions along the route. Cyclists are given priority over turning traffic at these junctions but not enough protection is provided to ensure motor traffic has time to see cyclists and is going slow enough to give way. The junction designs used on the existing superhighway 2 route on Stratford High Street have shown several high risk locations where traffic exits the main road at speed without giving way to cyclists.

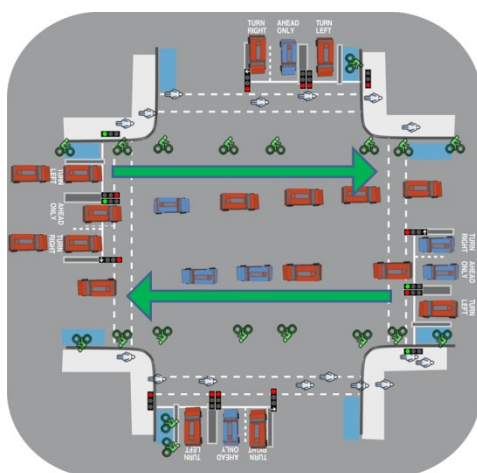
There are dozens of minor junctions where the failure to continue protected tracks up to the mouth of the junction effectively increases the turn radius encouraging faster left turns which put cyclists at risk. The junctions at Old Castle St. and Harley Grove are good examples of this problem. Every minor junction needs to be re-considered, to remove the risks of the effective widening of the junction mouth.

The design objectives for these junctions should minimise the gap in the segregated cycle route, have clear markings and a change of level so that motor traffic has to slow down and give way before entering or leaving the junction.

### **‘Hold the Left Turn’ Safer junction design scheme**

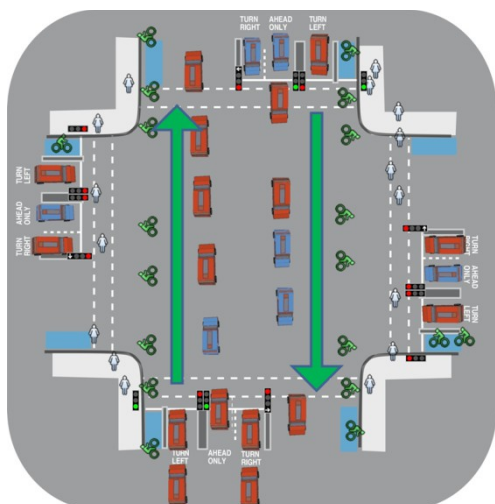
London Cycling Campaign has proposed a safe junction design for large signalised junctions which separates all turning movements from the straight ahead movements, for all traffic including pedestrians. This is shown schematically below. It could be introduced at the junctions where there is a lot of road space such as at Cambridge Heath Road and Burdett Road. It can easily be adapted to large T-junctions and also where the cross road is narrower and volumes are lower

The main principle of this safe junction design is that turning motor traffic is separated from straight ahead traffic as early as possible. Cyclists are protected from left (and right) turn risks. Cyclists turning right make a two stage turn using a waiting area between going ahead and turning with the next change of lights. Cyclists turning left may be able to by-pass the signals if room permits. Where pedestrian flows are high they may have to wait until for the crossing to clear.



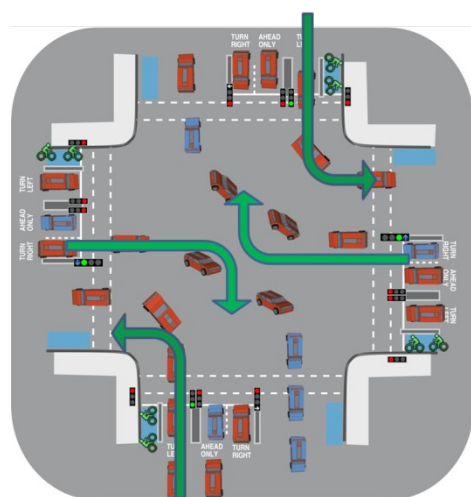
Stage 1: In this diagram traffic lights are red for traffic turning left and right, and green for traffic – drivers, cyclists and pedestrians– going ahead.

East and west-bound traffic can go at the same time, and pedestrians can cross at the same time as the ahead traffic.

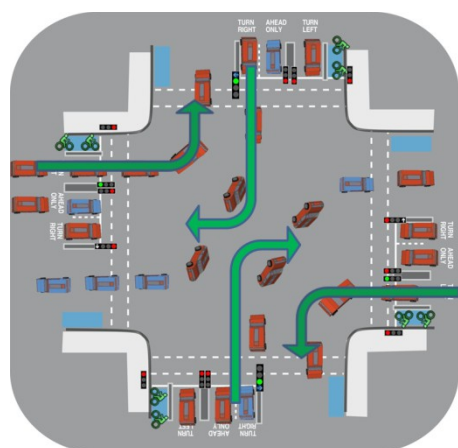


Stage 2: At the next phase, the North and south-bound traffic can go.

Result? No risk of traffic turning across the cyclists' path – therefore no left hook.



Stage 3: Next, the traffic lights go green for north and south bound left turns, and east and west bound right turns. All this traffic can go at the same time.



Stage 4: Now the other turns can be made

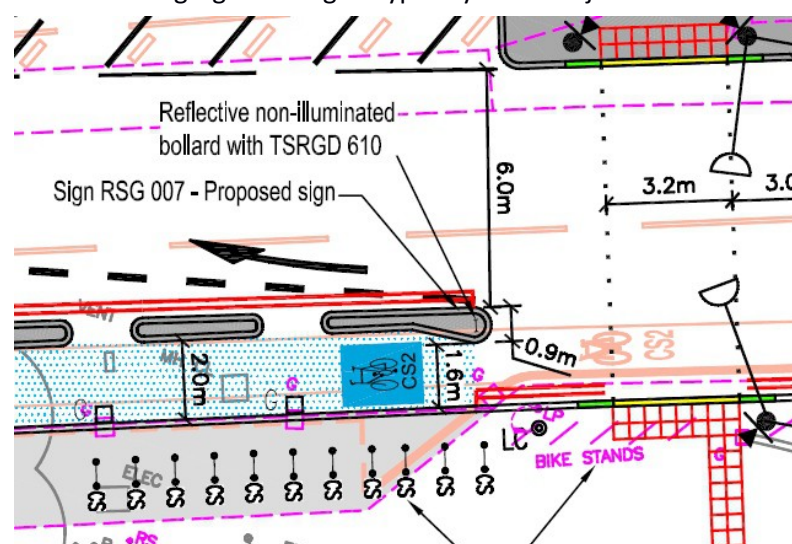
Further comments on each junction are included in the detailed route notes.

#### 4. Lane widths, section and kerbing

The draft London Cycle Design Standard makes strong recommendations about effective lane width. The design aim should be to provide routes that allow side by side cycling and stress free overtaking. For cycle superhighway routes with a 2 metre width is seen as the minimum, anything less fails to score in the Cycling Level of Service matrix.

The Standard also notes how high kerbing, vertical upstands and proximity to other obstacles significantly reduce the effective width for cyclists. The current consultation gives very little information on the proposed cycle lane section but LCC is concerned that the design seen on the Stratford High Street of this route with high vertical upstands is not repeated. The risk of striking a pedal on high kerbs means that the effective width of the lane is reduced by about 300mm. An example of low upstands and battered kerbs being used to maximise effective width can be seen in Oxford St in the Oxford Circus area. The upstand between carriageway and footway is generally less than 50mm and the central median strip has battered kerbs throughout. Battered kerbs have angled faces at least 45° from vertical.

At about 20-30 points throughout the route the cycle lane width is reduced by 400mm where sections of segregation begin. Typically this is at junctions and occasionally after pedestrian



crossings. This repeated reduction to 1.6m in width is very hazardous, especially after junctions where there will be platoons of cyclists and a desire for overtaking. It appears that this reduction in width is to allow a bollard to be placed on the separating median strip. We note that this restriction has not been introduced on the CS2 section on Stratford High Street or on many other separated routes across London. It is unacceptable to

introduce so many unnecessary hazards on what is supposed to be a safe, comfortable cycle route.

There is no need for more than 50mm vertical separation between the cycle track and footway, as is the norm in the Netherlands and Denmark. All the kerbing at the edge of the cycle lane should be battered. For most of its length the cycle lane should be at an intermediate height between the road and footway. Where the lane crosses minor junctions it should form part of the raised junction treatment with a very clear change of level from the roadway.

The deep trough with vertical edges as on Stratford High Street creates a hostile environment for cycling it also adds to the difficulties in keeping a lane clear of snow, fallen leaves and litter.



## 5. Bus stop by-passes and loading bays.

LCC welcomes the use of bus stop by-passes throughout this route. These are essential to maintain separation from motor traffic while minimising the risk of conflict with pedestrians. As shown the plans have a restricted width for the cycle track and a large difference in level between cycle track and footway. We consider these design elements to be counterproductive. minimise conflict the speed of cyclists should be low and there should be a lot of space for pedestrians to cross the track.

The chicane and track narrowing will force two lanes of cyclists to form a longer, faster group reducing the chances for pedestrians to cross the bus stop. If there is little or no change in level between paving and cycle track it becomes much easier for pedestrians.

The illustration here shows a bus stop with elements showing a clear designated crossing point but still allowing pedestrians choice of access easily at either end of the bus stop, cyclists can slow down without causing too much congestion on the track.



Similar comments relate to the loading bays. Particularly in the Whitechapel market area where there is a very high requirement for loading and unloading vehicles every day. Minimising any change in level between the pavement on either side of the cycle track enables flexibility of operation and where loads need to be wheeled or carried across the track this can be done quickly and easily. It is clear that the a compromise will need to be achieved between the current loading behaviour in the market area and observing best practice for keeping the cycle track as clear as possible.

## 6. impact assessments and traffic capacity modelling

London Cycling Campaign notes the detailed report and modelling data relating to the proposed designs. It is clear that the base line times are based on modelled optimum flows which assume no unusual or external influences on the traffic flow. In reality these conditions rarely or ever occur.

We also note that the modelling is based on weak assumptions that traffic volumes will stay at current levels. Inner London and other UK cities have experienced falling motor traffic levels for over

a decade, this is associated with increasing population density in these areas. As the purpose of the Cycle Superhighway upgrade is to encourage modal shift by allowing more people to choose cycling then it is reasonable that this shift should have been included in the modelling calculation.

We have measured travel times on the CS2 route over several weeks and have never observed travel times as low as the baseline for westwards morning peak. As with any other traffic system the delays and disruptions are the result of combinations of random events. On a number of occasions severe delays were caused by collisions involving cyclists. Providing protected space will greatly minimise this type of delay. Once blockages caused by incidents were cleared the traffic dispersed very quickly, suggesting that there is more than sufficient capacity to cater for the peak hour demand. It is clear that congestion caused by incidents beyond the scheme limits and on surrounding roads will continue to cause congestion. We are confident that with careful traffic management and signal timings that the problems highlighted by the modelling can be kept to a minimum. At some of the major junctions we propose simpler traffic control schemes that will enable more route flexibility than the consultation proposal.

## **7. Notes on route sections**

The comments above on the requirement to reassess every minor junction to provide effective priority for cyclists over turning traffic apply throughout the scheme.

### **Section 1 – Aldgate to White Church Lane**

Mansell st. junction needs to take account of changes to Aldgate High street. The protected cycle lane should continue westbound to the junction and provision made (on the TRLN road) for a two stage right turn for cyclists.

All the minor junctions need safe entry treatments as noted above.

Commercial St. – Leman St. the protection from left turning vehicles eastbound needs to be replicated westbound. There is far too little signal time given to the westbound cycle flows. There is no protection for southbound cyclists,

Commercial road, there is no protection for cyclists joining the route from commercial road where all the motor traffic is turning left. There is space for a protected lane running through this corner as right turns are banned. Taking out the 1.7 central refuge would mean this could be achieved without taking pavement space from pedestrians. The unnecessary reduction in cycle lane width westbound from this junction is the worst example of this hazard.

Osborn Street, White Church Lane. This is a wide junction with significant levels of turning, rat running motor traffic. The break down in separation eastbound some 10 metres before Osborn street creates an unacceptable risk. The left turn movements need to be separated from straight on or not be allowed.

### **Section 2 - White Church Lane to Cambridge Heath Road**

West of Fieldgate Street there is no separation of the cycle lanes from motor traffic. The carriageway width should allow the use of wands or other light segregation at these points.

There is no provision for right turning cyclists to join the cycle lanes from most of the minor side streets, some of these are important quiet routes for cyclists making north - south trips and avoiding the busier roads. For example Fieldgate Street and Davenant Street are both used as quiet routes. There are plans for contraflow cycling on Greatorex Street and it is likely that Davenant Street will carry more cycle traffic again when the Crossrail works are complete.

LCC welcomes the partial use of Hold the Left Turn junction design at Vallance Rd. - New St. North and southbound cyclists are still at risk. The early release plans are not sufficient particularly southbound where there is a long link from the stop line to the junction. A cyclist, Chrystelle Browne, was killed in collision with a small lorry at this junction in 2009. After that the corner radius was reduced for vehicles coming from the north to west. The current proposals appear to increase that radius, increasing the risk of fast turns by motor vehicles. This junction would be safer if north south cyclists crossed at the same time as pedestrians, in a single stage to minimise the stages needed. With the proposed method of control the green marked cycle lanes take cyclists away from the expected position as seen by turning traffic. The offset geometry of this junction creates confusion already, widening the entry points will add to this, increasing the risk of collision.

We have commented above on the need for modifying the route to accommodate essential market access by minimising kerb heights between the loading bays, cycle lane and footway/market trading area. We support the calls to retain the pedestrian crossing outside Whitechapel tube station, even when the station closes for re-furbishment there will be a heavy demand for pedestrian crossing here.

On the southside, westbound cycle lane the extended length of substandard 1.6 metre width is not acceptable.

### **Section 3 - Cambridge Heath Road to Beaumont Grove**

The Cambridge Heath road junction is a prime candidate for introducing a full Hold the Left turn safe junction treatment. The proposed early release lights north and southbound are unlikely to offer significant protection to the high volumes of cyclists expected on this route. Cambridge Heath road forms part of the Aldgate to Hainault Quietway route and as such will have fully protected lanes from Whitechapel road to Cephas Street. Separating out the straight ahead movements from turning movements will allow for straight across pedestrian crossings taking up less road space and providing a better level of service.

It is not clear why the full segregation of the route does not continue eastwards beyond the next slip road. The cycle lane is beside a mixed general traffic lane leading up to where the cycle lane begins. Typically this area has confused traffic in the evening peak with vehicles changing lanes and jockeying for position at the start of the bus lane.

Stepney Green junction. This area is currently very poorly managed vehicles using the retail park entrance for u-turns and other unexpected manoeuvres. LCC considers that the right turn should be kept to maintain access into Stepney Green along with other measures aimed at reducing rat running on White Horse Lane and Globe road. This junction would be best served by moving the entrance of



the retail park and signalling it as a cross roads with Hold the left turn on the main route with separate phases for turning traffic and for straight across (including pedestrians). The dog leg crossings should be converted to straight across and brought closer to the junction. The crossing and then the bus stop H should move westwards to allow access for turns between the westbound cycle lane and the quiet cycle link route on Cephas Avenue.

#### **Section 4 Beaumont Grove to Westfield Way**

Globe Road and White Horse Road currently carry high levels of rat running, non local traffic. We are aware that LB Tower Hamlets want to restrict this traffic. Currently the junction is intimidating for cyclists and the proposed design only marginally reduces the danger for cyclists crossing and turning to and from Mile End road. There is also a demand for safe pedestrian crossing of the minor roads. Along with plans to reduce cross motor traffic this junction could be calmed by widening the pedestrian crossings and converting them to Toucan crossings allowing cyclists to make two stage right turns while 'straight over' motor traffic is allowed to cross and turning traffic is held before proceeding. In the east west directions left turning traffic will either have to be held or these turns could be banned.

As noted above the plan to leave a substantial gap in the cycle provision east of White Horse Lane is unacceptable. We understand that no attempt has been made to negotiate with LB Tower Hamlets, the land owners on the south side of the route where there is a large area of un used land. Widening the route by several metres here would still leave generous areas of green space between the housing estate and the footway. London Cycling Campaign realises that this may take time to be implemented but in the meantime cyclists need protection along this section. It undermines the whole superhighway investment programme if a high risk road section is left un-protected in the centre of the route. To protect cyclists here road space and priority needs to be taken from either the bus lanes or the general traffic lanes. The protected cycle lanes should continue through the narrow section with the bus lanes given priority to merge into one wider lane with general traffic.

The crossing at Bancroft road needs to be re-thought. There should be modal filtering at some point in the minor road network to prevent Bancroft road becoming a rat run route once again. The proposed design could be improved by moving the pedestrian crossing to the east side of the junction. From this position the banned right turn from Mile End road westbound could be maintained and enforced, there is also far more pavement space for a shared use link for cyclists heading for the rail crossing or to and from the Hospital and University.

Hartford street is a busy link for cycle routes and local traffic, there is a need for a higher level of protection. A Hold the Left turn arrangement would work well, associated with a single stage straight across pedestrian crossing.

#### **Section 5 - Westfield Way to Merchant Street.**

The link between Westfield Way and Whitman Road on the north side of Mile End road is increasingly used as for two way cycling on the foot way because there is no clear route to and from the canal towpath and park entrance on Whitman road to the University. University staff and

students may use the back entrance but there are security issues related to non university people and 24 hour access. The need for two way cycling at this point needs to be provided for.

Grove Road - Burdett road. This is the busiest section of the route east of Whitechapel. This is a wide junction with very high pedestrian flows. It is a prime candidate for four way Hold the Left turn design as described above. Much of the current peak hour congestion is as a result of lack of capacity for pedestrians. Straight over crossings with long phase times are likely to reduce the peak hour congestion here even if 'free flow' modelling assumptions give contrary results.

The next section of Mile End road is wide and straight with low levels of frontage activity. This leads to higher speeds than anywhere else on the route. The risk to cyclists comes from motor traffic turning on and off the route. Every junction on this route needs severe treatment to slow down all turning movements, the cycle path segregation should go as close to the junction as possible and there should be significant changes of level between the main road and the cycle lane at every crossing point.

## **Section 6 Merchant Street to Bromley High Street**

Similar observations regarding the side streets in the previous section apply here. The pedestrian crossings outside Bow Road underground station and at Addington road should be straightened out. In the latter case the protected route eastbound needs to come close to the corner to protect from left turns. The crossing here should be a toucan permitting cycle access to and from the network of small streets constrained by the rail crossing on each side.

The new junction design at Campbell road needs to be set out with Hold the Left Turn layout. Provision should be made for two stage left turns and the ASL boxes will not be necessary. The pedestrian crossing should be straight across. Currently this area is used as a bus stand on both sides of the road most of the day. While creating a high risk situation for cyclists the loss of one lane of traffic does not cause overdue congestion indicating that there is more than enough road capacity to handle existing demand at this point.

The junction at Bromley High Street appears to do nothing to reduce the risk of relatively high numbers of vehicles turning left at speed. Moving the pedestrian crossing eastwards only gives protection at the red phase, on a green light the motor traffic will be induced to race for the corner faster than before.

The new cyclist contraflow on Bromley High Street is welcome however provision for these cyclists to cross to the northern carriageway needs to be formalised. As there is no safe north south route for cyclists at Bow roundabout we expect significant volumes of cycle traffic to want to cross here.

Beyond the current scheme boundary is the Bow roundabout where the current traffic management system has failed to protect cyclists from collision with left turning lorries. London Cycling Campaign supports the need for safe pedestrian crossings in all directions at Bow roundabout. If the new crossings affect the length of the current 'Early Start' layout, or if it is moved further from the easily identifiable points of conflict then mitigation in terms of much longer cyclists early phasing needs to be introduced.