

Walking & Cycling at Outer London Junctions

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Please find below the London Cycling Campaign's response to the London Transport Committee's investigation into Walking & Cycling at Outer London Junctions.

Junctions are of vital importance to understand and improve to unlock the potential for much more walking and cycling in London. Junctions are the most dangerous places on the transport network for vulnerable road users. They also represent the largest barriers to uptake of active travel modes.

Most collisions with vulnerable road users, and the fatalities and serious injuries arising from them, happen at junctions. A disproportionate amount of these come from turning lorries, and within that a disproportionate amount from high-cab construction lorries.

Compared to many European cities and countries, the way we design junctions is markedly different. Junction design in the UK and London is, at the moment, primarily concerned with maintaining motor vehicle "capacity" – in other words, the number of motor vehicles that can pass through a junction per minute. This is, allegedly, to avoid increasing congestion in the short term.

Many other countries and cities in Europe – markedly those with far higher rates of walking and cycling as a proportion of all travel journeys – prioritise safety and comfort for those walking and cycling. Looking at comfort as well as safety is vital to fully understand junctions. Cycling and walking in London are objectively, statistically very safe activities. But they often don't feel very safe. They feel terrifying. Subjective safety is arguably a larger issue than actual objective safety in terms of who does or doesn't walk or cycle or take the car.

We cannot expect to generate mass levels of cycling, or significantly boost walking rates, unless we are willing to change the way junctions are designed. They must increasingly be designed for vulnerable road users as the priority. And that may mean accepting congestion impacts in the short term to some junctions and some roads in order to relieve congestion in the medium to long term by accelerating the switch from motor vehicle transport to other, more sustainable and active modes.

European approaches, centred less on modelling and more on safety – perceived and actual – both in Europe and when used here, often are found not to cause the impacts on traffic congestion in the medium and long-term they're initially predicted to have. Modelling can be a "worst case scenario" system, and "traffic evaporation" and "modal shift" are not included in such models anyway. So there has to be a shift in priorities – to enable safer and safer-feeling junction design – by moving away from blanket adherence to modelling without reducing motor vehicle traffic capacity.

Making walking and cycling safe, comfortable and convenient will particularly boost walking and cycling rates when these modes feel more safe, comfortable and convenient than alternatives such as driving. In other words, as well as creating space for safe and comfortable walking and cycling at junctions, reducing capacity for motor vehicles is also a positive step for creating modal shift – by

ensuring that walking and cycling are and are seen as more comfortable, safer and more convenient than driving.

Unless TfL and boroughs are willing to embrace an approach that tackles this primary issue, and deliver funding to achieve it, there is little likelihood that the Mayor and London will achieve the targets laid out in the new Transport Strategy.

1. What lessons can be learned from previous junction improvements, either in London or in other cities?

a) Junctions that create cycle movements that are fully separate from motor traffic lead to much higher increases in cycling – e.g. on the East-West and North-South Cycle Superhighways at Blackfriars Bridge and Embankment.

b) The design of some junctions has improved substantially in London in recent years– so we know it can be done properly. Designs in Waltham Forest and along the East-West Cycle Superhighway in particular, demonstrate this.

c) Junction “improvements” which leave gaps where people cycling have to mix with traffic are much less effective at providing a feeling of safety and subsequently enabling modal shift. Examples of incomplete junctions, which haven’t seen as high take up as they might have done if completed to a higher standard, include Elephant and Castle and many on Cycle Superhighway 2. There is therefore a high risk that many junction improvements will fail to create the modal shift London needs and the Mayor is aiming for.

d) "Two-stage right" turn junctions with large time delays to those cycling mean many people put themselves at risk and turn right in one stage, often against opposing streams of motor traffic. The capacity for people to wait is often too low to accommodate the number of people making the manoeuvre. This is visible at junctions of the A23 and A202.

e) “All ways green” junctions create a combined cycling and pedestrian phase, where motor vehicle traffic does not move, but where those walking and cycling can move in all directions, from all directions, simultaneously. These junctions both have an excellent safety record where used on the continent, and enable a very large number of pedestrians and cyclists to pass through the junction with each cycle of the lights, as well as motor vehicles – in other words, the junction makes walking and cycling feel safe and comfortable, without impacting on congestion. Again, the current understanding from discussions with borough and TfL engineers and officers is that the current DfT framework and approach is not allowing them to even trial such junction innovations and designs.

With innovative, European junction designs currently off the table at a national level, and capacity restraints ensuring that only a small number of London junctions are likely to be successfully treated to fully remove barriers to walking and cycling, we see the results in the schemes that have come forward in the last few years: most junctions that are a barrier to walking and cycling (through danger and/or hostility) remain untreated; and the remainder have been treated but in the vast majority of cases partially, with some collision risks or uncomfortable elements retained.

2. How successful have recent junction improvements been in improving safety for pedestrians and cyclists?

There are copious examples of recent junction schemes that have boosted walking and cycling rates in the vicinity significantly. These should be viewed as “successful”. But it is worth asking how successful they are compared to the potential for walking and cycling trips in the area? In other words, while there are examples of junction designs that deliver a step change in walking and cycling rates in areas, even these do not go as far as they should – again, far too often due to concerns over motor vehicle capacity.

Concerns over motor vehicle capacity have had the effect that most junctions that have, for instance, successfully eliminated turning risks for those cycling through it (via “hold the left” design, or other methods) have had some negative impacts for pedestrians (staggered crossings, more wait time, more complex routes etc.) and/or bus journey times through the junction. The same is, of course, true in reverse. Nearly every junction that has offered significant gains for pedestrians has done so with some negative effect on those cycling or on buses etc.

Again, without the will to reduce motor vehicle traffic capacity and dominance, in a constrained, congested and dense city like London, the primary way to increase capacity or safety for one sustainable transport mode currently appears to be to take some capacity, safety or comfort from another. This is a failure of political will and nerve, as well as engagement with the general public, on issues of traffic management, and should not be tolerated.

Staggered crossings are unpopular with pedestrians and encourage people to cross “against” the lights. They can also introduce such complexity to crossings that pedestrians can easily lose track of which light etc. they are looking at. Similarly, for those cycling, narrow lanes that “stack” up excessively during the peak hours, and long wait times at the lights are common signs that motor vehicle capacity is being prioritised over cycling safety and comfort.

Two-stage right turns that feel unsafe and introduce often excessive delays to wait times; unprotected cycle lanes and cycling in bus lanes; “Advanced Stop Lines” (or “ASLs”) that are often encroached on and offer no safety benefit while motor vehicle traffic is moving; “Early Release” cycle-specific lights that offer some protection for cyclists caught at the lights, but nothing for those arriving to a green signal; and “two-stage right” junctions delay those cycling and see many taking risks to cross against traffic in one stage – these are tools designed primarily to ensure motor vehicle capacity is not impacted by cycling infrastructure, offering a very small amount of safety or comfort.

That said, we are increasingly seeing junction designs that do offer benefits for all bar private motor vehicle drivers – Blackfriars Bridge on the North-South Cycle Superhighway, for instance. But even at these exemplars there are signs that overall comfort and convenience of active travellers is impacted on to maintain capacity.

On top of this, it’s vital that safety is seen in the context of subjective safety and comfort. In other words, for junctions to not be significant barriers to the potential for walking and cycling in the area, they can’t just “be” safe, they have to “feel” safe. An objectively safe junction that is still terrifying to navigate will remain a barrier.

In this context, it's also important to understand that the analyses which underpin the "Better Junctions" programme and its new replacement, the "Safer Junctions" programme miss out many important junctions. By looking at collision numbers alone, any junction programme automatically misses those junctions which are such a barrier to walking and cycling, so subjectively unsafe, that few people dare walk and/or cycle through them. A lower collision rate comes not from safety, but lack of users.

It is vitally important then, that junctions are not solely prioritised on safety grounds alone. The work TfL has done with its Strategic Cycling Analysis is a good example of a way forward on this – by modelling corridors of potential cycling, or areas of high potential to boost walking and/or cycling rates, it is possible to appropriately prioritise junctions that feature low collision numbers but remain significant barriers to walking and/or cycling uptake currently.

3. How successful have recent junction works been in increasing the take up of walking and cycling?

TfL will have the best data on specific junctions and their individual impact on walking and cycling rates. However it is clear from TfL data that high-quality cycling routes, including appropriate solutions at key junctions, do rapidly increase cycling rates.

International evidence points to the creation of a safe and comfortable network of criss-crossing routes connecting as many key amenities and start points as possible as the single largest factor in increasing walking and cycling. For walking, this doesn't just mean junction design but also wider pavements, reduced motor vehicle dominance etc. For cycling this also means physically separate space from those walking and those driving on any busy (>2,000PCUs) and/or fast roads (>20mph).

In other words, individual junctions are unlikely in isolation to produce large rises in walking or cycling numbers. But removing the barriers these junctions represent in a walking and/or cycling network is key to the functioning of the network and overall walking and/or cycling rates in the area.

4. Are there any examples of low cost solutions that could be rolled out across a large number of junctions?

a) Push for changes in law via Parliament and in regulations via the Dft to enable more trials of innovative junction designs and to enable signalised junction designs where "give way at turn" is used.

b) Using "modal filter cells", banned turns, construction logistics plans, timed restrictions for certain modes (such as at Bank junction) and other motor traffic volume and/or speed reduction strategies to remove or dramatically reduce motor vehicle (turning) movements is the single cheapest and most important approach that can be adopted throughout London. Tackling motor vehicle dominance is the key.

c) With low traffic movement and speed junctions, reinforce pedestrian and cycling priority – for instance by use of "continuous crossings".

d) Eliminating parking spaces in the vicinity of the junction.

e) There are low cost solutions to theoretically improve the cycling environment that are often used in outer London already. For instance, it's common to see shared space areas around junctions and "toucan" crossing solutions. But these inconvenience walking and cycling to preserve motor vehicle capacity and fail to remove barriers to walking and cycling in the area. Even such measures that are of such low value, offer no impediment to motor vehicle journeys and inconvenience pedestrians and those cycling can still prove controversial – this points to another major issue: one of the reasons why there appears to be such little will to embrace motor vehicle capacity reduction and/or journey restriction is because local residents and some key stakeholders tend to vociferously oppose schemes with these elements. Properly fixing major junctions, major barriers to walking and cycling in outer London (or indeed anywhere) costs money and takes political will – it will require engagement with the public, and in most cases schemes which reduce motor vehicle capacity.

5. What are the biggest barriers to people walking and cycling in Outer London?

Motor vehicle dominance and lack of a coherent network of high-quality walking and/or cycling routes that enable travel via such modes in comfort and safety.

Most collisions with pedestrians or those cycling happen on or near junctions. Junctions represent the single largest barrier to more cycling and walking in London, because any walking and/or cycling route is only as attractive as its least attractive junction. However, the goal of improving cycling and walking conditions – most notably the perception of safety – at junctions is beset in London by many difficulties currently.

For junctions to be safe, to feel safe and to feel comfortable – in other words, for junctions to cease to be a barrier to uptake of walking and cycling – they require the following: separation in time and/or space for those cycling from motor vehicle traffic; clear priority and design to slow and calm driving behaviour where volumes of motor vehicle traffic are low enough to avoid the need for separation (LCC policy puts this as below 2,000 PCUs daily); capacity to cope beyond current numbers of those walking and cycling to fulfil future potential and avoid overcrowding; low wait times and little delay in progressing through the junction for those who are walking and cycling; high comfort levels in terms of pedestrian crossing times for a wide range of users, crossing width to avoid jostling etc.

TfL and the boroughs' ongoing approach of maintaining motor vehicle capacity as its primary focus, with assumptions set during the modelling process, essentially ensures that it is very difficult to achieve the above conditions. Without significantly reducing the motor vehicle capacity (particularly private motor vehicle capacity) of most junctions in London, there is little ability to gain enough benefits for both pedestrians and those cycling for the junction to cease to be a barrier to either transport mode.

Motor vehicle capacity is here defined as the maximum number of vehicles that can theoretically pass through a junction/area per minute, according to modelling and other technical calculations. Concerns about motor vehicle capacity ensure that junction designs that remove motor vehicle lanes or reduce time in signals given to motor vehicles are rare.

Most large and/or dangerous junctions in London are nearing full capacity – modelling and the current approach does not allow for anything beyond marginal reductions in private motor vehicle capacity, and therefore changes for those walking or cycling are often physically pushed to the margins of the scheme or diluted. Because of this, even after redesign, these junctions will still remain a barrier.

On top of this, the regulatory framework of the DfT, and its apparent approach to trials, as well as British law, remains another barrier. Without the ability to create junctions where users “give way at turn” according to vulnerability (as per British Cycling’s “Turning The Corner” campaign), then motor vehicle turning movements – the greatest cause of collisions with vulnerable road users – must be signal controlled.

To separate, for instance, left-turning motor vehicle movements from those walking and/or cycling ahead, currently requires both valuable time in terms of extra signals “phases” and also physical space for signal heads, islands etc. The result is that TfL has been able to, for instance, only implement its “Hold The Left” junction design at a handful of junctions without running out of either signal time (capacity) or space in terms of road width available. The DfT will also not approve trials for other forms of junction design, such as “all ways green” designs, that are viewed by the Dutch and other countries as a very vital solution.

6. What would enable people to walk and cycle more in Outer London?

Removing walking and cycling barriers by creating a network of high-quality routes connecting low-traffic residential neighbourhoods with local transport hubs and other key amenities is vital.

The density of the cycling network should be a high-quality route every 200-400m. The Mayor's Transport Strategy aligns with this, with a target of 70% of residents living within 400m of a route by 2041. These routes would, it is expected, largely be direct and on main roads with cycle tracks and junctions, where cycling is fully separated from traffic in time and/or space. And between these routes would be low-traffic residential streets. This would allow far more people to walk and/or cycle from their front door to destination without encountering hostile and offputting traffic conditions.

The Dutch plan suburban environments around 2km walking and 6km cycling radii – beyond these distances, usage of each mode falls off. The mini-Holland boroughs, particularly the currently most mature – Waltham Forest – demonstrate that this approach has value. So in outer London, safe routes towards transport hubs and other amenities should be created with these walking and cycling radii in mind.

7. What changes to roads and paths would make it easier of more appealing for people to walk and cycle in Outer London?

A network of high-quality cycling and/or walking routes including, but not limited to, wider pavements, more frequent, comfortable and safer junction crossings, more “no traffic” and “low

traffic” high streets, shopping precincts, developments and neighbourhoods (for example, modal filter cells with streets designed to keep motor vehicles below 20mph), cycle tracks separate to and/or physically protected from motor vehicle traffic primarily along main roads and combined with main road walk/cycle crossings to enable those walking and cycling to cross from one low traffic area to another.

8. Are there any examples where the needs of pedestrians have come into conflict with the needs of cyclists at junctions?

Unless there is a far more widespread willingness to reduce motor vehicle movements and capacity at junctions, it is nearly inevitable that any cycling, walking or public transport improvements come at some cost to the other of those modes. This issue is visible on most major junction schemes that have come forward in the last five years.

In the current climate, the question might better be thought of as which junction designs introduce too many negatives to other modes they drop below a minimum threshold of acceptability, and which don't. There are now demonstrably junctions that improve cycling without causing unacceptable negative impacts to pedestrians or bus users.

9. How might junction improvements that help pedestrians and cyclists affect other road users?

See above. On most London junctions, outer, inner or central, in order to deliver significant enough benefits for those walking and/or cycling, significant levels of private motor vehicle traffic reduction are required.

If “give way at turn” and/or other innovative approaches to design are enabled, then it will become far easier for officers, engineers and designers in London to create Highways schemes that do not unnecessarily or excessively disadvantage any mode – whether walking and/or cycling as experienced in most current schemes, or private motor vehicle traffic in schemes which do remove barriers to walking and/or cycling for a wide range of age and ability of users. Of course, traffic reduction will remain a desirable outcome even if it is not required to create the required space for walking and/or cycling.

10. What needs to be in place to support the needs of those with disabilities and visual impairments?

Those with mobility, visual impairments or other disabilities are particularly negatively affected by motor vehicle traffic dominance. They need more time to cross, better and safer crossing designs and are more likely to suffer the worst impacts of motor vehicle dominance in other ways too. The majority of those who are registered disabled in London do not have access to a motor vehicle. And they are also less likely to be as mobile as the general population.

As the work of Wheels for Wellbeing demonstrates, cycling is easier than walking for many people with disabilities, surmounting some of the barriers the built environment provides and enabling independence for personal journeys in ways even a car cannot. However, enabling that range of cycling needs thinking beyond the bicycle to encompass a wider range of cycle form factors and design parameters.

Design guidelines are catching up to recognise this with concepts like the Cycle Design Vehicle which generalises the needs of wider and longer cycles. However, it is not clear that these guidelines are being taken up widely, away from the highest-profile routes such as the Cycle Superhighways. In particular where cycling is thought of as an activity of the fast and the fit, barriers are often put in place even in new schemes that actually then block their usage by a wider audience who would benefit from them.

It should also be remembered that facilities designed well for cycling (especially those that may be shared close to a junction or to pass over a road) are often used by a wider range of disabled people not cycling, including those in wheelchairs and on mobility scooters who have similar design needs. As well as designing for such users, there should also be consideration of legal changes to allow them into cycle tracks.

Of course, the interface between those walking and cycling needs to be designed with care and to reduce conflict as far as possible between those modes. A design preference to avoid shared facilities can help, along with clear visual and physical delineation between spaces, even if it is just with coloured surfaces and a height difference with kerb. But it is rare for anyone to be killed, seriously injured or collided with by someone cycling. The primary risk those with disabilities face is motor traffic.

11. What would be the main challenges of improving Outer London's junctions for pedestrians and cyclists, and how could these be addressed?

London's political framework is very different from other cities in the UK and beyond. As well as 33 boroughs, and TfL, there are numerous other stakeholders and Highways authorities that operate within Greater London too. The result of this is that while some outer London boroughs are showing signs that they understand and embrace the Mayor's draft Transport Strategy, the idea of "Healthy Streets" and the principles (including motor vehicle traffic reduction) enshrined in these, there are many other outer London boroughs who, by deed, clearly do not agree with these. Political will, then, is a major issue for improving junctions for those walking and cycling.

A multi-pronged approach to the lack of political will is urgently required. Primarily, TfL and the Mayor must be far more robust and prescriptive about funding streams. Funding should only be made available to high-quality Highways schemes that significantly advance the area on the basis of the principles and targets of the Mayor's draft Transport Strategy.

On top of that, more work must be done across the board to train and inform Councillors and officers, to have a broader discussion with residents in each borough and begin to dismantle some of their opposition to walking and/or cycling improvements, to provide clear evidence and guidance on

the benefits of walking and/or cycling and motor vehicle traffic reduction strategies, and the disbenefits of private motor vehicle use – to residents, businesses, areas, councils etc.

TfL and the Mayor must also show greater political leadership in its approach to schemes. It must set and stand by a quality bar for schemes and show that London can build truly transformative schemes.

12. Should spending be prioritised, for instance on certain areas of Outer London or certain types of journey?

Spending should be prioritised on where it is likely to have the most impact in “mode shift” – in moving journeys from one mode of transport to a more sustainable and active one. The priority here is removing private motor vehicle journeys. But there is also potential to shift journeys from private hire vehicles and taxis and from buses, tubes and trains to walking and cycling.

As well as identifying corridors, areas etc. where a scheme is likely to trigger maximum mode shift (for instance using TfL’s new “Strategic Cycling Analysis”), schemes should be analysed (probably via TfL’s “Healthy Streets Check”) to ensure they deliver maximum benefits for those walking and cycling (and not just, for instance, public realm benefits), and councils should be assessed on their willingness and ability to deliver such schemes, and to a budget.

There are plenty of examples of junctions that together make up much of a route. Spending should be prioritised so that these junctions can be designed as part of a coherent route. This is important for what sort of designs get progressed – i.e. “with flow” tracks or “bidirectional” tracks – and in terms of being able to effectively model the changes as a whole.

13. Is there a need for a bigger overall budget to improve junctions in Outer London?

Yes.

There is a need to be far more holistic and strategic about money spent. Junctions should not be considered in isolation. Instead TfL and the Mayor should start to produce its vision of a network – of not just cycling routes, but of bus routes, and private motor vehicle routes. Some bus and cycle routes may overlap (although remaining physically separate on the same street), and some routes featuring different modes may happen in parallel. But if junctions and corridor schemes are only studied in isolation, then these network opportunities may be lost. In other words, the first question any planner should be asking, before a scheme comes forward is: “where should the cycling go in this area?”, followed by “where should the buses go” and finally, “where should the cars go?”

Nationally we are at a point where we spend, compared to those countries with high walking and/or cycling modal shares, far too little on schemes for walking and/or cycling and far too much on schemes for driving. The picture in London is much better. However we still face a huge imbalance and decades of underinvestment in active travel. There is a clear need then, that the budget for junction improvements should be improved. But it is vital that any increase doesn’t come at the

expense of other important elements of walking and/or cycling infrastructure in London – both modes require far more than just more and faster junction solutions.

Ongoing issues such as modelling and capacity also ensure that even with the extra money, we are not seeing schemes of sufficient quality advance often. Political will, resident engagement and other issues will continue to negatively affect schemes if we do not also tackle them as well.