Committee(s):	Date(s):
Planning & Transportation	14 October 2014
Subject: Cycle Superhighways – The City's interim response to the public consultation	Public
Report of: Director of the Built Environment	For Decision

## Summary

The Mayor of London is currently consulting on his two Cycle Superhighway proposals (the East-West and the North-South routes). Further proposals for Cycle Superhighways within London are due for consultation throughout the autumn. Some of these routes, CS1, CS2 and CS4 terminate close to or on the City boundary. These proposals have significant benefits as well as implications. It represents a major change in the way cycling facilities on the public highway should be provided. However, the proposals could lead to implications that cannot easily be reversed such as the re-instatement of turning movements or the way junctions operate.

Part of the E-W proposals is on Castle Baynard Street and therefore requires the City of London to exercise its Highway powers. Many changes to Traffic Orders are required as well as listed building consent. This would also require the City of London to exercise its Traffic and Planning powers. The City can, should Members choose, delay or stop the introduction of both Cycle Superhighways.

The proposals are heavily biased towards cycling but results in negative impacts on some other users. The overall impact of the current proposals on pedestrians, local access and the environment are not in keeping with the Mayor of London's Vision to 'create better places for everyone'.

This report represents officer's initial views of the consultation proposals. Further data is promised but yet to be released therefore a further paper is proposed to agree the City's final consultation response.

### Recommendation(s)

Members are asked to:

- Note this report.
- Agree to the key requirements as detailed in para 44.
- Agree that officers seek an extension to the consultation period of at least one week and that if this is not agreed, the final response to the consultation be agreed by the Policy & Resources Committee and then by the Planning & Transportation Committee though urgency provisions.

### **Main Report**

## **Background**

- 1. The Mayor of London launched his Vision for Cycling in London in March 2013. One of his four key themes was a tube network for the bike. The Mayor is currently consulting on his proposals for two segregated Cycle Superhighways that run through the City of London. He has acknowledged that there will be benefits as well as impacts on other road users.
- 2. In March 2014, this Committee agreed 'in principle' with the routes of the Superhighways. It also agreed that 'in principle' certain City streets could form part of the superhighway.
- 3. The Mayor is now consulting on his two Cycle Superhighways and has set out his intention to start building in early 2015. Further proposals for Cycle Superhighways within London are due for consultation throughout the autumn. Some of these routes, CS1, CS2 and CS4 terminate within the City, close to or on the City boundary. Appendix 1 provides details of the E-W proposals through the City. Appendix 2 provides details of the N-S proposals through the City.
- 4. In addition to the Cycle Superhighways, there is also an extensive network of cycle "quiteways" proposed throughout Central London. The routes in the City have been agreed in principle by the Streets & Walkways Sub-Committee earlier this year. Appendix 5 provides a plan showing all the various proposed cycle routes.
- 5. The original deadline for responses was 19<sup>th</sup> October but due to the significance of the proposals and the delayed release of the technical information, it has been extended until 9<sup>th</sup> November 2014.
- 6. This report provides Members with detailed information (as far as it is available to officers) and suggests the City's requirements.
- 7. Responding to highway proposals is within the remit of the Streets & Walkways Sub-Committee. However due to the overall significance of the issues, it is proposed that the response be made by the Policy and Resources Committee and the Planning and Transportation Committee on behalf of this Committee. A paper on this matter was considered by the Policy and Resources Committee at their meeting on the 2nd October.

#### **Current Position**

- 8. The City has being working with TfL since August 2013, to try to ensure that the proposals developed provide the best possible outcome for the City. The proposals will provide many benefits but due to Mayor's design objectives, there are also negative implications for the City and the whole of London.
- 9. The Mayor has acknowledged that the analysis shows that the proposals would mean longer journey times for motorists as well as longer waits for pedestrians at crossings in a number of locations. He proposes to mitigate these impacts through the use of "wider traffic management plans". The City

- has not been made aware of what the wider traffic management plans will include. Some of the improvements for pedestrians include new pedestrian crossings, which are discussed later.
- 10. TfL promised to release traffic modelling information during the course of the public consultation; to inform the public of the effects of its proposals. The modelling work is a major and complex piece of work and is key to understanding the implications. This data was released on 24<sup>th</sup> September 2014 but it does not provide sufficient detail at a local level, nor does it show the overall implications for movement throughout London.
- 11. It is now understood that further modelling information will be made available to officers and in order to consider that information thoroughly, officers will be seeking a further extension to the consultation deadline beyond the 11<sup>th</sup> November (which is the date this Committee next meets). If this is not secured, the City's response will need to be agreed at the Policy & Resources Committee on the 6<sup>th</sup> November and then by the Planning & Transportation Committee under the urgency provisions.
- 12. The design of both the N-S and E-W Cycle Superhighways are intended to be for higher volume, faster routes for cyclist. They will run mostly on TfL roads, be direct and largely segregated. At junctions, conflicts between motor vehicles and cyclists will be removed. In order to achieve these design objectives, the reallocation of road space, amended signal times and restricted access is proposed. The City considers that the proposals are too heavily biased towards cyclists with insufficient consideration given to the needs of other users. Key changes are therefore needed before officers would recommend that the City should offer its support.

# **Key Issues & Analysis**

- 13. TfL has provided a summary of the modelling results and has described the benefits and disadvantages of the proposal. These are shown in Appendices 3 & 4. The results generally detail implications at a wider, strategic level as well as at a few key City locations. Officers believe that further information is still missing, such as the operation of each junction and link, collision analysis, impacts on the rest of the City, and the process to manage traffic flows and signal operations in the future.
- 14. Officers believe that TfL's proposals will have a significant adverse impact on the City. In particular to pedestrians, traffic flow, access and network resilience. It also fails to sufficiently address other challenges such as casualty reduction, air quality and the built environment.

### **Pedestrians**

15. The two Cycle Superhighways will provide 10 new signalised pedestrian crossings and change the level of service at four existing crossings. The changes to the crossings are shown in the table below.

Location	Existing crossing facility	Proposed crossing type	
Trinity Square	Large refuge island and contrasting carriageway	Single stage	
Queen Street Place	Refuge island	Stagger (2-stage)	
Temple Avenue	Refuge island	Single stage	
Victoria Embankment	Single stage	Stagger (2-stage)	
New Bridge Street by Watergate	Large traffic island	Stagger (2-stage)	
Fleet Street/Ludgate Circus	Refuge island	Stagger (2-stage)	
Ludgate Hill/Ludgate Circus	Refuge island	Stagger (2-stage)	
Charterhouse Street (east)/Farringdon Street	Refuge island	Single stage	
Charterhouse (west)/Farringdon Street	Refuge island	Single stage	
Farringdon Street/Charterhouse Street	Refuge island	Stagger (2-stage)	
Farringdon Road/Charterhouse Street	Refuge island	Single stage	
Tower Hill/Minories	3 stage	Single stage	
Shorter Street/Minories	Single stage	Stagger (2-stage)	
Minories/Tower Hill	3 stage	Remove one crossing arm	

- 16. Whilst most of these new crossings are welcomed and long overdue, a number of them are proposed to be the "stagger" type crossings. These are crossings where pedestrian will need to cross in two attempts (two stages) and are therefore less than ideal.
- 17. Officers consider that the existing stagger crossings at Ludgate Circus do not work effectively. At both crossing points, many pedestrians simply cross outside the crossing area and "green" man phase. They choose instead to cross in a straight line rather than use the narrow stagger islands. The current long pedestrian wait times also increases non-compliance with the pedestrian facilities provided thereby increasing road danger.
- Also at Ludgate Circus, the width of the existing stagger on the southern arm is proposed to be reduced. It is already substandard in width to accommodate the number of pedestrians using it and reducing it further would make this an unusable facility. Because it is so narrow, people in wheel chairs or pushing a buggy will struggle to negotiate around the stagger and the necessary signal poles. On the other arms, new islands are also proposed to be of a similar substandard width. It is therefore considered that the proposals to retain the existing stagger crossing as well as to provide two new stagger crossings coupled with longer wait times is inappropriate. These crossings need to be significantly improved.

- 19. Over the last decade or so, pedestrian wait times at signal crossings have gradually increased. These increases have been made by TfL in order to maintain capacity for motor vehicles. It involves increasing signal cycle times which means it will take longer for the "green" man to appear. This also means that many pedestrians now ignore the "green" man and cross when they can, again increasing road danger.
- 20. Signal sequence times and pedestrian wait times are already excessive and encourage many pedestrians to cross outside of the green man phase. This increases risk. These Cycle Superhighway proposals will lead to a situation where pedestrians will be required to wait even longer before their opportunity to cross is given. A summary of the maximum wait times proposed are shown in the table below.

Location	Existing max wait times	Proposed max wait times	Change	
Tower Hill/Minories	82 seconds	90 seconds	+ 8 seconds	
Upper Thames St/Queen Street Place	98 seconds	98 seconds	No change	
Blackfriars Station (westbound exit)	90 seconds	114 seconds	+ 24 seconds	
Ludgate Circus	90 seconds	114 seconds	+ 24 seconds	
Farringdon St/Charterhouse St	No existing facility	114 seconds	N/A	

- 21. From the table above, it can be seen that the increased wait times at Ludgate Circus and Blackfriars Station are unreasonably excessive. The wait times at the other locations including the new crossings are also increased or considered too long. A reduction in wait times are needed rather than increased or at worst they should remain the same.
- 22. There is also a significant issue and a huge missed opportunity to improve pedestrian access to the City. As part of the Thames Tideway project, it is proposed to re-locate the existing Blackfriars Pier to Puddle Dock. The pier will bring more pedestrian activity into this area but their routes into and from the City are extremely limited. In addition, access for people with disabilities has not been provided at all (whether as part of the Thames Tideway or the Cycle Superhighway projects). Although pedestrian facilities along Puddle Dock are very poor, the width of the highway provides significant opportunities to make this a much better route. If the E-W proposals were implemented as proposed, it would preclude this opportunity. There are already pedestrians using this route. They cross the traffic lanes and climb over the wall to access the riverside. The new pier will only make the need for this missing pedestrian route that much more obvious.
- 23. Although the proposals provide more pedestrian space, they are not necessarily at the locations where they are most needed such as the large islands north of Ludgate Circus or the islands forming the cycle lane segregation. In fact, the proposal looks to reduce footway space, particularly outside areas where high pedestrian flows exist such as at the Tower of London, Trinity Square Gardens, Queen Street and Ludgate Circus.

24. The proposals expect and plan for an increase in cycling activity. The City is planning for a significant uplift in the number who work in and visit the City. Therefore, the proposals must be able to cater for an uplift of between 25% and 50% in the number of pedestrians using key junctions. The current proposals do not seem to be able to accommodate this increase.

### Traffic flow, local access and network resilience

- 25. The E-W route is a very important strategic route for general traffic movement. It is an arterial route carrying large volumes of traffic through the City. A significant proportion of these are essential traffic such as vans, lorries and coaches. The route also provides for local access to residential and business premises.
- 26. Currently the route is often congested in both directions but TfL have adopted a design which seeks to retain two westbound traffic lanes for most of the length of the route through the City, but only one lane eastbound. It is not clear why this design has been adopted but officers believe that the extra westbound lane will be used to stack excess traffic; that can then be released slowly into the rest of central London. This would be detrimental to air quality in the City.
- 27. The N-S route is less significant in terms of strategic traffic movement but still carries quite a large volume of traffic. The proposals will reduce traffic capacity and lead to longer journey times along the route.
- 28. According to TfL's modelling, journey times for the E-W route will take up to an additional 16 minutes w/b and 7:30 minutes e/b. TfL also claims that on some routes they predict that journey times will actually reduce in the eastbound direction. It is hard to understand the reasons for this, especially as it is the eastbound carriageway that is being taken up to make way for the cycle lane. The N-S journey times could take an additional 12 minutes n/b and be quicker by over 2 minutes in the southbound direction. A summary of this is provided in the table below.

Route Direction		Current		Proposed		Change	
		AM	PM	AM	PM	AM	PM
Limehouse Link Tunnel to Hyde Park Corner	W/B	34:34	30:51	50:28	44:20	15:54	13:29
	E/B	27:51	30:38	35:29	35:06	7:38	4:28
East Smithfield Street to Margaret Street	W/B	18:15	17:06	18:34	23:14	0:19	6:08
	E/B	14:50	16:37	11:51	12:45	-2:59	-3:52
Elephant & Castle to Farringdon Station	N/B	11:28	10:56	12:09	15:12	0:41	4:16
	S/B	10:50	12:17	9:42	9:13	3:53	2:03
Queen Victoria	N/B	3:45	3:20	15:43	12:41	11:58	9:21
	S/B	5:50	5:22	3:39	3:41	-2:11	-1:41

29. One of the design parameters is to remove conflict between cyclists and motorists at junctions. TfL proposes to achieve this by providing either dedicated signal phases/advanced green time for cyclists or to prohibit certain movements. A large number of prohibited movements are proposed. Some have more impact than others. A summary of the prohibited movements are detailed below.

#### 30. These include:-

- a. Shorter Street Bus and cycles only street. This would mean that any southbound traffic on Mansell Street (Inner Ring Road) will not be able to proceed westbound. Instead they will need to find alternative routes. It is likely that this traffic will either divert onto streets in Tower Hamlets (Leman Street) or the City (Aldgate High Street, Fenchurch Street, etc). Traffic flows using this route are not high but it is inappropriate to direct strategic traffic, in particular large vehicles onto the City's streets. This change would also impact on Cleansing vehicles from accessing Walbrook Wharf from that area.
- b. Trinity Square No access from Byward Street/Tower Hill. The alternative access would therefore be at Puddle Dock (this is the closest junction for eastbound traffic before arriving at Trinity Square) or Minories. It would then involve motorists negotiating very narrow and pedestrian dominated streets such as Crutched Friars and Cooper's Row. Although the number of motorists using this area is fairly small (TfL counts of ~200 vehicles during the peak hour), there are many businesses such as hotels that require access for larger vehicles. It is inappropriate to divert more traffic onto these streets. These streets are also not suitable to accommodate larger vehicles.
- c. Fish Street Hill No left turn onto Fish Street Hill or from Fish Street Hill onto Lower Thames Street. The left turn onto Fish Street Hill provides a useful route for vehicles wishing to head south over the Thames. It would now mean motorists will have to either use Puddle Dock or cross over the Thames using Blackfriars Bridge. The number of vehicles affected by this is small (TfL counts of ~120 during the peak hour). The impact would be greatest for drivers of HGV's.The alternative route for them after Blackfriars Bridge will be a lot more limited and may need to go a lot further east before they can head south. The banned left turn onto Lower Thames Street is less of a concern as the alternative route would be for vehicles to use Eastcheap and Great Tower Street.
- d. Swan Lane No right turn into Swan Lane. This would mean that access into Swan Lane can only be achieved from the east or Arthur Street (if coming from the south). Westbound traffic would need to use Puddle Dock, turning round at Fish Street Hill. This proposal would only impact on a small number of motorists (~37 vehicles during the peak hour), and is therefore considered to be acceptable.
- e. Caste Baynard Street (local access only) and Lambeth Hill (one-way northbound). These proposals are not expected to have any significant impacts as access and alternative routes are being maintained.

- f. Puddle Dock banned right turn into Castle Baynard Street. This would only impact motorists wishing to access Castle Baynard Street from Upper Thames Street. The alternative route is cumbersome but the number of motorist likely to be impacted is very low. However, one of those that are impacted includes vehicles used by the Open Spaces Department to access their depot. TfL has assured officers that vehicles in the service of the Local Authority can use the right turn only for buses at Blackfriars Junction.
- g. Temple Avenue cycles only. To enable motorists to exit this area, Carmelite Street will be made into an exit only street instead of the current closure. It will require police camera technology to maintain the integrity of the security cordon, but will mean that all current movements (albeit a slightly longer eastbound diversion) can be retained. The impact of this proposed change is therefore not considered to be significant.
- h. Tudor Street (cycles only) and Bridewell Place (two-way). This will mean that access into this area can be made from Bridewell Place (for northbound traffic only) or from Fleet Street via Ludgate Circus (for southbound traffic). The proposals will also divert more traffic onto Watergate, as this is the only route onto New Bridge Street that would now permit traffic to proceed northbound. Although, motorists are being diverted onto other routes, some of which are less than ideal (such as Watergate and Bridewell Place), it is thought that this change is not significant.
- i. Charterhouse Street no right turn for southbound traffic. TfL has two options for the Cycle Superhighway north of Stonecutter Street. This is because the route alignment in Islington and Camden has not yet been agreed. One of the options therefore prohibits motorists from turning right at Charterhouse Street towards Holborn Circus. The diversionary route for these motorists will be to continue to Ludgate Circus, use the one-way system around Smithfield Market or make the diversion a lot earlier. This would impact on a small number of vehicles, and is not thought to be significant.
- 31. No information has been made available regarding the volume of traffic and the routes that motorists might seek to take on City Streets. It is not yet possible to say whether the proposals will add more traffic to the local streets in the City and the rest of central London. However, increases on traffic flows, in particular larger vehicles trying to use local streets to effect turning movements that will be banned on the major street network, will be undesirable and inappropriate.
- 32. There are implications in relation to current and imminent building developments in the City including 33 King William Street, Fleet Building, Thames Tideway Tunnel, 10 Trinity Square, etc. It is not clear how the works to construct the Cycle Superhighway will affect these developments but consideration will need to be given so that these developments are not unreasonably impacted.

- 33. The proposals will include removable street infrastructure to facilitate certain special events such as the Lord Mayor's Show or along ceremonial routes. However, increasing the level of street infrastructure that needs to be removed will take longer to safely deliver each time and this will increase costs and disruption. Some events may need to be rerouted, relocated, rescheduled or cancelled altogether as a result of the works or the permanent change. Further details about the impact of the proposals on special events will be reported to Members in due course.
- 34. The impact on the road network during the Superhighway construction is still uncertain, mainly because the methodology cannot be agreed until the detailed design is finalised following the current consultation. However, preliminary discussions on construction and programming would suggest that extensive lane closures and contra-flows will be required, effectively removing capacity from the network for the build programme that will mirror the permanent design. Several side roads will have to be temporarily closed, including Puddle Dock, Fish St Hill, Eastcheap and Trinity Square, and some directional closures of the superhighway route itself may be required. The direct and combined impact of these works will have the potential to impact other projects and works in the City, and a further report on the network impact of major works taking place in the City will be provided to Members of this Committee later this year.
- 35. The segregation design would significantly compromise network resilience. The "hard" engineering measures to create the separation will mean that it will be much more difficult for the network to adapt to incidents or to facilitate routine and emergency road works. The problem would be further exacerbated by the proposed prohibited movements and will therefore lead to more frequent and severe congestion occurring. It will not take much for this to happen.
- 36. If L has stated that they will be engaging a number of traffic management measures to mitigate the impacts. What measures they will use has not been shared with the City, but it is expected to be similar to those used during the Olympics. One of these measures is likely to involve either constraining the traffic flow coming into central London or increasing them in other locations. It is not clear what level of traffic restriction, if any, has been used for the modelling.

### Safety, casualty reduction and prevention

- 37. Recent cycling fatalities involving cyclists has put pressure on the Mayor to deliver safer measures for cyclists. However, it is not clear how these proposals will improve road safety on the specific routes or the implications on road safety as a result of the wider impacts caused by the proposals.
- 38. In the absence of any information from TfL, officers consider that cyclists' safety will be significantly improved along most parts of the proposed routes through the City. However, it is considered that at two locations, safety could be compromised.
  - a. Blackfriars Station. This junction currently has a very high collision rate. One of the reasons for this is likely to be because of the complex

- layout. The proposal retains that layout but with the addition of the twoway cycle lane on the western side (increasing the confusion and complexity of the junction significantly) and the excessive wait times, it is considered that risks and collisions will increase.
- b. Ludgate Circus. This is the most dangerous location in the City. It is already a location where many pedestrians ignore the pedestrian crossings. The proposed stagger crossings, reduced refuges island widths, excessive increases in wait times and the additional two-way cycle lane running through the junction, will add further risks and collisions, particularly to pedestrians.
- 39. There is also the possibility that collisions will generally transfer to other locations and to other user groups, particularly pedestrians and powered two wheelers. If pedestrian wait times increase, it is more likely that they will risk crossing the road outside the "green" man. Similarly, if there are longer delays for motor vehicles, it is likely that more powered two wheelers will weave in and out of stationary or slow moving traffic and expose themselves to higher risks.

## Environmental (air, noise and the built environment)

- 40. TfL has not provided any information on the effects of the proposal on air and noise pollution, other than claim that it would shift traffic noise and fumes further from pedestrians. It is however conceivable that air and noise pollution could improve due to the fact that less traffic can actually access and use these streets. However, if the route and surrounding roads become so congested, the balance could swing towards a more polluting environment.
- 41. Some of the proposals include greening and planting but there is also some loss of trees. Some of these belong to the City so it would be a requirement that TfL provides a replacement of these either along the route or elsewhere.
- 42. Environmental considerations need to go beyond air and noise pollution and should consider the impact on the wider built environment. The layout of the proposals at Blackfriars, the stagger crossings and use of islands throughout are excessively over-engineered and traffic dominated measures. These contribute to a poor built environment.
- 43. The proposal will impact on some existing listed structures including City of London Dragons, Blackfriars Bridge lamp columns and the Queen Victoria Statue at Blackfriars. Works to these will require listed building consent. The issues surrounding this will be separately considered.

### **Key needs**

44. The proposals could lead to implications that cannot easily be reversed. Once implemented, it would be very difficult to effect change, such as the reinstatement of turning movements or the way signalised junctions operate. Whilst key data is still missing and it is unlikely that these will be provided in time to inform Members prior to the expiry date of the consultation. It is

therefore appropriate based on the information that is available, to request TfL to consider the following:-

- a. Pedestrian wait times are not made worse at key locations. In some locations wait times need to be reduced. The locations include Ludgate Circus, Blackfriars Station junction and Upper Thames Street/Queen Street Place.
- b. A maximum cycle time at traffic signals is set at no more than 88 seconds. At existing locations where cycle times already exceed this, they should be reduced.
- c. Pedestrian crossings need to be simple, straightforward and useable. At Ludgate Circus, they need to be single stage crossings. In other locations, they should also ideally be single stage crossings.
- d. Local access (or convenient and appropriate diversions) must be provided at a number of locations including at Shorter Street, Trinity Square and into Fish Street Hill (for traffic heading over the Thames).
- e. Provide a pedestrian link along Puddle Dock to the new river pier at Blackfriars.
- f. Redesign of Blackfriars junction to improve streetscape, remove confusion and improve safety for all road users.
- g. Consider alternative design measures to ensure a resilient, road network and demonstrate how the network will accommodate planned and unplanned road works.
- h. Any traffic management measure used by TfL does not increase traffic on the City's streets.
- The cycling proposals do not prejudice the City's ability to implement current projects such as at Bank junction, Museum of London gyratory, Fleet Street and Ludgate Hill; as well as projects associated with Crossrail.
- j. Agree a process that will be used to manage traffic flows into and out of the City.
- k. TfL and City officers work together to achieve an acceptable outcome. This may require changes in the process and governance that TfL has adopted up to now, an extension to the consultation deadline so that the further modelling information can be fully assessed, the needs of building developments, special events and construction impact mitigation.
- 45. These are not expected to detract from the Mayors' plans for the segregated cycle routes. They should provide a much more balanced and better outcome for the City and for London.

## **Corporate & Strategic Implications**

46. The Cycle Superhighways fully accords with the City's strategic and corporate policy objectives. The reduction in motor vehicles could deliver components of

the Air Quality Strategy, the Climate Change Mitigation Strategy, the Health and Wellbeing Strategy and the Noise Strategy. The proposals could also help to deliver greater safety on the City's streets.

## **Implications**

- 47. The delivery of Cycle Superhighways is very important for the Mayor of London. It would be in the interest of City to facilitate TfL's proposals.
- 48. Part of the E-W route is on Castle Baynard Street which is part of the City's highway. In order to deliver the E-W superhighway, the Mayor therefore requires the City to exercise its Highway & Traffic powers. Other parts of the routes may also need the City to exercise those powers, but these are likely to have less impact. Where the proposals impact on listed structures, listed building consent from the City will also be required.
- 49. Members have already agreed in principle that Castle Baynard Street can be used for the superhighway. Without it, it would not be possible, if at all, for TfL to deliver the Cycle Superhighway as it currently stands. The Cycle Superhighway proposals will change significantly the way that surface transport operates throughout London. This accords with the Mayor's Transport Strategy but the pace of change is of concern to some.

#### Conclusion

50. TfL's proposals have significant benefits as well as implications. However, those benefits are heavily biased towards cycling. This unbalanced approach leads to significant implications for other users. Some key changes and agreed processes are required in order for the City to be able to support the proposals. These do not detract from the Mayor's plan for the segregated cycle routes and should provide a better balanced outcome.

## **Appendices**

- Appendix 1 E-W proposals in the City
- Appendix 2 N-S proposals in the City
- Appendix 3 E-W modelling information
- Appendix 4 N-S modelling information
- Appendix 5 Proposed cycle routes in Central London

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