



*Artist's impression of the North-South Cycle Superhighway on Phoenix Place and Calthorpe Street*

# North-South Cycle Superhighway (CS6) Stonecutter Street to King's Cross

Response to issues raised  
September 2016

# Executive Summary

Between 8 February and 20 March 2016, in partnership with Camden and Islington Councils we consulted on detailed proposals for the North-South Cycle Superhighway (CS6) between Stonecutter Street and King's Cross.

In July 2016 we published a factual consultation report which set out the consultation process and responses received. This report provides our response, in collaboration with Camden and Islington Councils, to the issues commonly raised during the consultation and the changes we are recommending to make as a result.

## Overall responses

We received 1,391 responses to the consultation, with 70% fully or partially supporting the proposals. 28% of respondents did not support the proposals while 3% said they were not sure or did not give an opinion.

## Our response to consultation

Having considered responses received during the consultation, we propose to make a number of changes to the route. Details of the proposed changes are set out in this report and include:

- Signalising cyclists crossing Farringdon Street to access West Smithfield / Snow Hill in response to concerns around the safety of the junction<sup>\*</sup>
- Retaining the pelican crossing on Judd Street by the RNIB Headquarters to address stakeholder concerns about the loss of a traffic light controlled facility
- Adding a new signalised pedestrian crossing on Farringdon Street by Smithfield Market to enhance pedestrian safety and connectivity<sup>\*</sup>
- Changing the size and designation of loading bays and taxi parking bays in response to feedback regarding expected use
- Providing additional cycle features at junctions to address concerns over safety such as a new Advanced Stop Line (ASL), a new banned turn for motor traffic from Farringdon Street into West Smithfield<sup>\*</sup> and wider or mandatory cycle lanes
- Reallocating unused space on Farringdon Street to provide more capacity for turning traffic without impacting the width of the cycle track or footway<sup>\*\*</sup>
- Changing loading restrictions, kerb lines and cycle lanes at the Clerkenwell Road junction to increase dedicated space for cyclists
- Changing the toucan crossing and shared space at Farringdon Station to pedestrian only in response to concern about pedestrian and cyclists interactions
- Relocating speed tables to accommodate access for local businesses

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<sup>\*</sup> Subject to modelling and further consultation

<sup>\*\*</sup> Subject to structural approval from City of London Corporation

## **Conclusion and next steps**

This report marks our intention to go ahead with the Stonecutter Street to King's Cross section of the North-South Cycle Superhighway, subject to formal approval from Camden and Islington Councils. Subject to our internal approvals process and those of the local highway authorities, we would aim to start constructing some sections of the route in spring 2017, with completion likely in 2018.

# Contents

1. Response to consultation and next steps.....	6
1.1 Response to consultation.....	6
1.2 Summary of design changes following consultation.....	6
1.3 Next steps for the North-South Cycle Superhighway between Stonecutter Street and King's Cross .....	8
2. Responses to issues commonly raised .....	9
2.1 Overall proposals .....	9
Impact on other road users.....	9
Impact on safety .....	10
Junction and crossing design .....	10
Route alignment and connectivity .....	12
Bus stops and bus lanes.....	14
Route quality and design .....	16
Segregation .....	19
General scheme comments.....	22
2.2 Issues relating to individual sections of the route.....	23
Section 1: Farringdon Street (between Stonecutter Street and Holborn Viaduct) .....	23
Section 2: Farringdon Street (between Holborn Viaduct and Charterhouse Street).....	26
Section 3: Farringdon Road and Saffron Hill (between Charterhouse Street and St Cross Street) .....	31
Section 4: Farringdon Road and Saffron Hill (between St Cross Street and Ray Street).....	36
Section 5: Farringdon Road, Ray Street, Herbal Hill and Warner Street .....	39
Section 6: Warner Street and Phoenix Place.....	42
Section 7: Pakenham Street, Calthorpe Street and Cubitt Street .....	44
Section 8: Ampton Street, Sidmouth Street and Tavistock Place .....	46
Section 9: Tavistock Place and Judd Street .....	49
2.3 Issues raised by individual stakeholders.....	52
Local Authorities, local representatives and national bodies .....	52
Emergency Services.....	53
Accessibility Groups .....	54

Transport and road user groups .....	55
Cycle Groups .....	56
Business Groups .....	57
Businesses, employers and venues .....	58
Resident Groups.....	59

# 1. Response to consultation and next steps

Overall 70% of respondents said they supported or partially supported the proposals for the North-South Cycle Superhighway between Stonecutter Street and King's Cross.

## 1.1 Response to consultation

This report marks our intention to go ahead with the Stonecutter Street to King's Cross section of the North-South Cycle Superhighway, subject to formal approval from Camden and Islington Councils. Subject to our internal approvals process and those of the local highway authorities, we would aim to start constructing some sections of the route in spring 2017, with completion likely in 2018.

We have made a number of changes to the designs in response to issues raised during the public consultation. Some of these changes, such as the proposed changes at West Smithfield junction, will be subject to further traffic impact analysis and consultation.

## 1.2 Summary of design changes following consultation

Our planned changes are summarised below and described in more detail in Section 2.2. Where no changes are proposed, we are proposing to proceed as per the design consulted on.

### Section 1: Farringdon Street (between Stonecutter Street and Holborn Viaduct)

- Providing a new part-time loading bay on the west side of Farringdon Road between Charterhouse Street and Greville Street to facilitate night time servicing of businesses on this section
- Lengthening the taxi bay on Farringdon Street south of Newcastle Close to provide space for two taxis
- Changing the loading / disabled bay on the east side of Farringdon Street, south of Holborn Viaduct, to a shared taxi parking / loading / disabled bay as loading activity is forecast to be low

### Section 2: Farringdon Street (between Holborn Viaduct and Charterhouse Street)

- Signalising the junction of West Smithfield and Farringdon Street, including new signalised separate pedestrian and cycle crossings across Farringdon Street just north of the junction with West Smithfield (subject to traffic modelling and consultation)
- Banning southbound traffic from turning left into West Smithfield (except cyclists) to remove the conflict between motor traffic and cyclists (subject to traffic modelling and consultation)

- Reallocating unused space on Farringdon Street under the Holborn Viaduct to provide more capacity for turning traffic without affecting the width of the cycle track or footway (subject to structural assessment)
- Widening the mandatory cycle lanes on the west arm of Charterhouse Street junction by narrowing the general traffic lanes
- Providing a dropped kerb at Plumtree Court to enable access for cyclists to and from the cycle track on Farringdon Street

### **Section 3: Farringdon Road and Saffron Hill (between Charterhouse Street and St Cross Street)**

- Removing the proposal to create a shared cycle and pedestrian footway on the section of Greville Street between Saffron Hill and Farringdon Road due to further consideration of high flows of pedestrians from Farringdon Station. The one-way westbound cycle track will still be introduced on Greville Street as proposed
- Changing the proposed 'toucan' crossing on Farringdon Road at Greville Street to a pedestrian only 'pelican' crossing, also following further consideration of high flows of pedestrians
- Raising the junction of Greville Street and Saffron Hill to footway level to highlight the informal crossing point to cyclists and motorists and adding a give-way line to the north end of the cycle track where it meets Saffron Hill
- Providing a new advanced stop line for cyclists to the northbound stop line on Farringdon Road by Greville Street
- Extending the centre line road marking on Farringdon Road between Charterhouse and Ray Street to improve lane discipline

### **Section 4: Farringdon Road and Saffron Hill (between St Cross Street and Ray Street)**

- Changing the southbound cycle lane on the east side of Farringdon Road, south of Clerkenwell Road from an advisory to a mandatory cycle lane to provide a dedicated facility for cyclists
- Increasing the loading and waiting restrictions to no loading at any time on Clerkenwell Road on approach to the junction with Farringdon Road to prevent the cycle lanes from becoming obstructed by stopped traffic
- Changing the angle of the kerb-line for the cycle-only lane on the north-west arm of the Clerkenwell Road / Farringdon Road junction to provide a smoother route for cyclists
- Providing additional cycle parking on the north west arm of the Clerkenwell Road / Farringdon Road junction

### **Section 5: Farringdon Road, Ray Street, Herbal Hill and Warner Street**

- Changing the mandatory cycle lane to a stepped cycle track on Ray Street Bridge to provide greater separation of cyclists from traffic
- Providing an additional pedestrian refuge on the northern arm of the Farringdon Road / Ray Street junction

### **Section 6: Warner Street and Phoenix Place**

- Relocating a proposed speed table further south on Phoenix Place to provide a more suitable pedestrian crossing location

### **Section 7: Pakenham Street, Calthorpe Street and Cubitt Street**

- No changes proposed

### **Section 8: Ampton Street, Sidmouth Street and Tavistock Place**

- Removing the proposals for cycle parking on Ampton Street due to concerns regarding anti-social behaviour

### **Section 9: Tavistock Place and Judd Street**

- Retaining the existing pelican crossing on Judd Street and not converting this to a zebra crossing

## **1.3 Next steps for the North-South Cycle Superhighway between Stonecutter Street and King's Cross**

We will continue to work with key local stakeholders including Camden and Islington Councils and the City of London Corporation on the detailed design for the route in the lead-up to construction. Detailed responses to the issues commonly raised are in Section 2 of this report.

As outlined in the consultation material, there are a number of developments along the route for which interim designs will be implemented. The developments will not delay construction of the route, although some of the final designs consulted on in February/March 2016 will not be implemented until after these developments are completed.

Construction would cause some unavoidable disruption, although we would work to minimise the impact as much as possible. We would keep people potentially affected by the construction activity informed of our plans and progress, including writing to local residents and businesses before undertaking work in their area. We would also provide traffic information to help people better plan their journeys and make informed choices about how, where and when they travel and help to reduce the possible impact to their journeys.

## 2. Responses to issues commonly raised

We have worked closely with key stakeholders including Camden and Islington Councils and the City of London Corporation on our response to the issues raised during the public consultation, which are set out in this section.

### 2.1 Overall proposals

#### Impact on other road users

##### Journey times, congestion and pollution

Some people were concerned about the impact of the scheme on vehicle journey times while others asked about cycle journey times. Concerns were also raised about the impact of the scheme on congestion and pollution.

We undertook detailed modelling work to inform the impact of the scheme on other road users including bus passengers, pedestrians and general traffic. The results of this work were included in the public consultation material. We do not expect the scheme to noticeably increase journey times for other road users, and in some cases our modelling shows improvements. We anticipate that there will be some increases in journey times along the route due to the impact of other proposed schemes in the vicinity.

In response to the consultation, we are proposing to signalise the junction of Farringdon Street and West Smithfield. We will undertake further modelling work to understand the potential impacts of these changes, which will then be subject to further consultation.

##### Impact on pedestrians

Some respondents were concerned about how the scheme would impact pedestrians, including wait times at crossings. A number of measures proposed for this scheme are specifically pedestrian improvements.

Footway space has been increased along Farringdon Street and Farringdon Road between Holborn Viaduct and Stonecutter Street, at Charterhouse Street junction and Clerkenwell Road junction. In addition, Greville Street between Saffron Hill and Farringdon Road will be largely pedestrianised (except for a 2 metre cycle track on the south side) and footways have been widened at a number of locations along the back-streets including Calthorpe Street and Ray Street.

Pedestrian wait times at existing signalised junctions are proposed to remain the same, and wait times at Farringdon Station are expected to reduce because of the closure of Greville Street to motor traffic between Saffron Hill and Farringdon Road.

## Impact on safety

Many people felt that the proposals would make the route safer for cyclists and / or pedestrians compared with the existing situation. Others were concerned that the proposals did not go far enough to improve safety for vulnerable road users.

The design is aimed at improving safety for cyclists as well as other road users through a number of interventions. Collision records have been assessed and proposals focus on addressing safety problems along the route. With all schemes of this nature, we will monitor the completed route to ensure it is operating as expected and to understand whether any further changes may be required.

All schemes are also subject to a thorough Road Safety Audit (RSA) process at each stage of the design and implementation. An RSA considers the road safety implications of all measures proposed, their safety impact on the network under all anticipated operating conditions, and their road safety implications on all types of road user. Fundamental to the principle of an RSA, is ensuring that due consideration is given to the effects of any scheme on all road users and especially all vulnerable user groups, for example the very young, the elderly, people with a disability and generally, pedestrians, cyclists and riders of powered two wheeled vehicles. This is a continual process throughout the design and construction process however no serious concerns have been raised so far.

## Junction and crossing design

### Junctions

The scheme we consulted on included a number of features designed to improve the safety of junctions for cyclists, pedestrians and other road users. These include:

- New or improved pedestrian crossings
- Early release for cyclists
- 'Hold the left turn' for vehicles
- Two-stage turns for cyclists
- Advanced Stop Lines (ASL)
- Banned turns or road closures
- Separate signal phasing for cyclists and motorists

These features have been designed to make the junctions safer for all road users by separating movements in road space or time.

In response to feedback received during the consultation; we have made more changes to some of the junctions. These are summarised in Section 2.2. Some of the main changes are at the West Smithfield junction and include:

- Signalising traffic at the junction of West Smithfield and Farringdon Street, including new signalised separate pedestrian and cycle crossings across Farringdon Street just north of the junction with West Smithfield
- Banning southbound traffic from turning left into West Smithfield (except cyclists) to remove the conflict between motor traffic and cyclists
- Reallocating unused space on Farringdon Street under the Holborn Viaduct to provide more capacity for turning traffic without impacting the width of the cycle track or footway (subject to structural assessment)

Further detail on issues raised about junctions and our responses to these are provided in Section 2.2 of this report.

## Crossings

The North-South route includes a number of proposed new or improved pedestrian crossings. In addition to those included in the consultation, we have proposed an additional crossing on Farringdon Street just north of the junction with West Smithfield in response to stakeholder feedback. We have also retained the pelican crossing on Judd Street which was proposed to be converted to a zebra crossing and we have changed the 'toucan' (shared pedestrian and cyclist) crossing on Farringdon Road at Greville Street to a pedestrian only crossing.

New and improved crossings proposed for the route are listed below:

Eight new signalised pedestrian crossings:

- Charterhouse Street junction (signalised on all four arms)
- Ray Street junction (signalised on east and west arms)
- Farringdon Road by Greville Street (included in the consultation as a new 10m wide 'toucan' crossing and changed to a new pedestrian only crossing)
- Farringdon Street by West Smithfield (newly-proposed in response to consultation)

One new zebra crossing:

- Calthorpe Street by Phoenix Place

Seven improved pedestrian crossings:

- Clerkenwell Road with Farringdon Road (signalised crossings increased to 4 metres wide on all four arms)
- Clerkenwell Road with Saffron/Herbal Hill (conversion from zebra to signalised pedestrian crossing)
- Stonecutter Street (wider signalised crossing)
- Ray Street (existing pelican crossing moved south and incorporated into new junction)

In addition to the new and upgraded pedestrian crossings, the route also includes two cycle crossings:

- Farringdon Street by Stonecutter Street
- Farringdon Street at West Smithfield (newly-proposed in response to consultation)

Further detail on issues raised about crossings and our responses to these are provided in Section 2.2 of this report.

## **Route alignment and connectivity**

A number of respondents asked why the route alignment did not continue along Farringdon Road and was not more direct, longer or of higher quality. Some respondents also raised specific concerns about why the route splits between Greville Street and Ray Street and the alignment of the route on Judd Street, due to proximity to the RNIB headquarters.

### **Route alignment**

Detailed assessment was undertaken to inform the alignment of the route which is partly on main roads and partly on lightly trafficked quiet streets. We have aligned the route on main roads such as Blackfriars Road, New Bridge Street and Farringdon Street where carriageway widths have enabled us to provide segregated cycle tracks in each direction, providing cyclists with a high level of service appropriate to the road type and expected demand.

Beyond Greville Street, the narrower width of Farringdon Road means that segregated two-way cycling facilities cannot be accommodated to the same level of service. Several route options were considered for cyclists north of this point, taking into consideration the use of parallel streets when reviewing safety and suitability including requirements for buses, freight and servicing. As a result, the route was split between Greville Street and Ray Street, with northbound cyclists directed onto Saffron Hill (following the existing northbound one-way street) and southbound cyclists continuing in a stepped cycle track on the east side of Farringdon Road where the number of businesses requiring facilities for loading is much lower than the west side.

Although we expect the majority of current and new cyclists to use the signed North-South route via Saffron and Herbal Hill, some cyclists may choose to continue north on Farringdon Road. Those cyclists would continue in the bus lane as they do now and would benefit from improvements at the Clerkenwell Road and Ray Street junctions including larger ASLs and early release signals.

We considered a range of streets west of the main road between Ray Street and King's Cross to form the route alignment. The chosen route alignment runs along quiet back streets where cyclists benefit from lower traffic volumes and less segregation is needed. From Ray Street, cyclists continue on Warner Street, Phoenix Place, Pakenham Street and Cubitt Street, which run parallel to the main road to the west (in the direction of King's Cross). Beyond this, we investigated a number of options as an alternative to King's Cross Road. Gray's Inn Road has high traffic volumes and a number of bus routes in addition to kerbside activity generated by local businesses. It would not be possible to provide a suitable level of segregation along this route and it was therefore not considered a suitable alignment.

Argyle Street, Judd Street and Cartwright Gardens / Mabledon Place were considered as alternative alignments to the west of Gray's Inn Road. Despite being an existing signed route for cyclists, Argyle Street would require cyclists to navigate a number of turns through residential streets between Regent Square and Euston Road and, following assessment, this route was not taken forward. Judd Street was chosen as the most appropriate point to align the route because it provided a more direct route to the west and would also connect to TfL and Camden Council's respective proposed schemes across Euston Road and along Midland Road, providing cyclists with connections to the Central London Grid further north to Royal College Street and Camden Town. Cartwright Gardens / Mabledon Place was not considered appropriate compared to Judd Street as it would require cyclists to divert further to the west and would not provide the valuable link across Euston Road that is possible at Judd Street.

## **Connectivity**

In addition to providing appropriate levels of cycle infrastructure, one of the key scheme objectives is to provide a route through central London with connections to other cycle routes and the potential for cyclists to continue further north and south.

The first phase of the route already connects to Cycle Superhighway Route 7 (CS7) at Elephant & Castle, the East-West Cycle Superhighway (CS3) at Blackfriars Junction and Quietway 1 (Q1) at Webber Street.

This second phase will provide further cycle connections to the proposed Central London Grid from the main roads at West Smithfield and Clerkenwell Road, linking to the quieter back streets where it will connect to Calthorpe Street and the proposed cycle route at Judd Street / Midland Road. It will also connect with the existing cycle route on Tavistock Place. Decisions on these schemes will be made separately.

## **RNIB headquarters on Judd Street**

A number of concerns were raised about the alignment of the route along Judd Street where the RNIB (Royal National Institute of Blind People) headquarters are situated and the impact that this could have on the independence and accessibility of pedestrians, especially those with visual impairments.

As explained above, terminating the route on Judd Street provides the potential for an ongoing connection for cyclists further north via TfL / Camden Council's proposed Central London Grid schemes across Euston Road and along Midland Road. As a back-street section of the route, our interventions are modest, and we have not proposed segregated cycle lanes. Cyclists will be directed along Judd Street and will travel with general traffic, as they currently do. Camden Council recently consulted on schemes in the local area which aim to reduce the volume of through traffic on Judd Street to enhance the environment for pedestrians, cyclists and local residents. The decision on the future of these schemes will be made separately.

There will be some changes to waiting and loading restrictions, with single yellow lines being converted to double yellow lines. This will not however impact the ability for visitors to be dropped off at the RNIB or to other locations along Judd Street.

## **Zebra crossing on Judd Street**

Following feedback from the public consultation we have reviewed our designs and removed the proposal to replace the existing pelican crossing on Judd Street with a zebra crossing. This will therefore remain as a signalised pelican crossing.

We have been engaging closely with the RNIB throughout the consultation. We will continue to engage with the RNIB to discuss the scheme going forward and will investigate ways we can monitor the scheme to ensure that pedestrians are not adversely impacted.

## **Bus stops and bus lanes**

### **Bus stops and bus stop bypasses**

The North-South route between Stonecutter Street and King's Cross passes four bus stops on Farringdon Street and Farringdon Road; one on the northbound side and three on the southbound side:

#### Northbound

- Bus stop HS Snow Hill

#### Southbound

- Bus stop HT Snow Hill
- Bus stop B Farringdon Station

- Bus stop H Clerkenwell Road

Northbound cyclists pass through fewer bus stops along the route as they are routed via quiet back streets on Saffron Hill and Herbal Hill. The two bus stops on Farringdon Street (HT and HS Snow Hill) are proposed to have Bus Stop Bypasses.

Bus stop bypasses have been introduced across London on segregated cycle routes to avoid the need for cyclists to enter the adjacent traffic lane to pass a stopped bus and enable continuous segregated cycle routes.

They operate by directing cyclists behind the bus stop within the segregated cycle track. Bus passengers can access the bus stop island where the bus flag and shelter (if present) are located to wait for a bus by crossing the cycle track at a marked crossing point. The bus stop island will be at least 2.5 metres wide, which enables wheelchair users to safely get off the bus before crossing the cycle track to the footway.

The crossing point has tactile paving and is raised to footway height to create a flush surface. It is also differentiated from the rest of the cycle track by a change in surface colour. This highlights to cyclists that pedestrians may be crossing.

There are currently over 50 bus stop bypasses in London and many more in other cities across the UK (e.g. Manchester, Cambridge, Brighton) and Europe (e.g. Copenhagen, Munich, Stockholm).

Some respondents, including stakeholder groups such as London Travel Watch and Confederation of Passenger Transport, raised concerns about the interaction between cyclists and pedestrians at bus stop bypasses. Others asked why we had not proposed more bus stop bypasses.

As part of the ongoing evolution of the design of bus stop bypasses, we have set up a working group to inform our future decision making on bus stop bypasses. This includes representatives from 12 stakeholder groups such as the RNIB, Guide Dogs for the Blind, London Travel Watch, London Cycling Campaign and Living Streets.

We have committed to trialling zebra crossings at six bus stop bypasses at a representative selection of locations. This trial is being undertaken by Transport Research Laboratory and the results will feed into our decision making on bus stop bypasses.

At the bus stop bypasses on Farringdon Street, due to the constrained width of the carriageway, the cycle track will narrow to 1.5 metres adjacent to the bus stop island. This still meets our minimum standard width for one-way cycling as stated in the London Cycle Design Standards. We investigated relocating the bus stops within

the local vicinity to avoid narrowing the cycle track, but the junction to the north and Holborn Viaduct to the south mean that this is not possible.

There is insufficient space within the carriageway or footway to accommodate bus stop bypasses at the two southbound stops on Farringdon Road (B - Farringdon Station and H - Clerkenwell Road). If there is a bus in one of these stops, cyclists will need to pass it by entering the adjacent traffic lane. Buses pulling into the stops would give-way to cyclists passing on the kerb side.

There is only a single bus route on this road and the likelihood of a bus being in the stop as a cyclist passes will be relatively low.

Coloured patches are proposed in the traffic lane to highlight the presence of cyclists passing buses to other drivers. Stop H - Clerkenwell Road has been relocated to the exit of the junction so that cyclists using the early release signals will likely pass the bus cage before a bus arrives.

## **Bus lanes**

To accommodate the segregated cycle track on Farringdon Street and Farringdon Road we have removed some sections of northbound and southbound bus lane. Our modelling shows that there are negligible impacts on bus passenger journey times as a result. This is because we have made some changes to junctions and crossings which will have a positive impact on progression of buses. For example replacing the junction of Greville Street and Cowcross Street with a pedestrian crossing meaning there is less wait time for bus passengers as well as other traffic.

North of Greville Street on Farringdon Road, we have retained the northbound bus lane. Removing this bus lane would still not provide enough space to accommodate segregated cycle tracks in both directions on Farringdon Road. This bus lane will benefit cyclists who may choose not to continue on the North-South route going northbound on Saffron Hill.

## **Route quality and design**

### **Preference for two-way cycle track**

Many respondents stated a preference for two-way cycle tracks rather than 'with flow' tracks. Others asked why the two-way track did not continue further north to Charterhouse Street, Greville Street or Clerkenwell Road.

We aimed to take the two-way track as far north as possible, and investigated a number of possible locations to terminate it. These investigations included looking at the available road space (factoring in the requirement to provide for traffic, bus stops, parking and loading) as well as how the track would function at junctions and

crossings. It is not possible to continue the two-way cycle track north of Charterhouse Street as the width of the carriageway narrows beyond this point. We investigated continuing the two-way track up to Charterhouse, Greville Street or Ray Street but this required the removal of almost all of the loading facilities along this stretch and meant that buses at the bus stops along this section would block traffic lanes.

Stonecutter Street was identified as the best place to switch to a with-flow facility as there is ample space to provide a cycle crossing. A parallel pedestrian crossing at this point also makes this location suitable. These crossings are timed so that cyclist wait times are minimised in the southbound direction and cyclists are able to continue northbound without passing through traffic lights. The split-track arrangement has already been implemented at this location as an interim layout as part of the first phase of North-South and the cycle crossing is well used by cyclists.

Some respondents also recommended making Greville Street and Saffron / Herbal Hill two-way for cyclists. The cycle track on Greville Street is one-way westbound. While some cyclists will want to travel eastbound along Greville St this is not expected to be a popular route. If an eastbound cycle track was added on Greville St (creating a two-way track) then pedestrian space would be lost. Given that pedestrian flows through this area are forecast to be very high (approx. 8000/hr) once Crossrail opens at Farringdon Station, pedestrian space is critical. Without sufficient footway space, pedestrians may walk in the cycle track and remove the benefits of having it there in the first place.

Given the concerns raised about the number of pedestrians in the area, we have reviewed the design at this location and no longer feel that a shared footway on Greville Street is appropriate. Whilst it is acknowledged that eastbound cyclist volumes are likely to be very low, there remains an increased chance of conflict due to the volume of pedestrians forecast. Therefore, the 'toucan' crossing over Farringdon Road will be changed to a pelican crossing for pedestrians only. Cyclists will now be required to dismount at the Saffron Hill junction when travelling eastbound on Greville Street.

Saffron and Herbal Hill are narrow one-way streets in the northbound direction. Providing two-way cycling would require a contra-flow to be implemented for cyclists. This is not recommended due to the restricted width of the road and already narrow footways. It is likely that cyclists encountering traffic in the opposite direction would be at risk of conflict with vehicles or forced to cycle on the pavement causing a risk to pedestrians. As such, Saffron and Herbal Hill are to remain one-way streets for traffic and cyclists.

## **Width of the cycle track**

On the main road sections, we have generally designed the segregated cycle track to be 2 metres wide for each direction, which allows cyclists to overtake each other, thus accommodating cyclists of different speeds. In some locations it has been necessary to narrow the track to 1.5 metres (TfL's minimum standard width) while in other locations the track is as wide as 2.6 metres in one direction.

The London Cycling Design Standards (LCDS) recommends that quieter back streets do not require cycle lanes. However, we have assessed all such roads to ascertain their suitability for cyclists, and in many locations have rearranged street furniture, adjusted footways, and moved parking spaces to better accommodate cycle and motor traffic.

## **Removing motor traffic, banned turns or closing roads**

The scheme proposed a number of banned turns and road closures for general traffic. These have been proposed to reduce the risk of conflict between motor traffic and cyclists and/or to provide more dedicated space for cyclists.

Some people asked why additional banned turns or road closures were not proposed. When designing a scheme, consideration is given to safety, access and network resilience with the aim to provide the most appropriate balance for each location.

In response to a number of concerns raised about the West Smithfield junction, we are proposing an additional banned turn for southbound traffic on Farringdon Street turning left into West Smithfield (except for cyclists). This would remove the risk of turning collisions for cyclists travelling ahead at this location. There is an alternative southbound left turn available just north of this point at the Charterhouse Street junction and our traffic counts show that a low number of vehicles currently make both turns. Further investigation including detailed modelling will be undertaken to review the impact of this proposed banned turn ahead of further consultation.

Further detail on issues raised about banned turns and our responses to these are provided in Section 2.2 of this report.

## **Cycle parking**

Cycle parking has been proposed throughout the scheme. The location and number of spaces will be assessed at the detailed design stage, taking into account considerations around safety and demand. In response to concerns regarding existing anti-social behaviour, we are no longer recommending to include new cycle parking on Ampton Street.

## **Cycle Hire docking stations**

Additional cycle hire docking points are proposed along the route, including on Farringdon Street. These will be provided in collaboration with other schemes and developments and are subject to separate planning processes.

## **Segregation**

### **Request for more segregation**

Some respondents said that without physical separation from traffic, cyclists will be at risk. Types of cycling intervention are categorised according to the degree of separation they offer between cyclists and motor vehicles. Where there are higher volumes of traffic, segregation is most appropriate. Our London Cycling Design Standards (LCDS) recommends that cycling with traffic is suitable where traffic flows are low. This approach has been used in the design of the North-South route. Along the main roads, the North-South route would be substantially segregated using kerb segregation or stepped cycle tracks. Junctions have been redesigned to make them safer for cyclists, separating them from other traffic movements as much as possible.

Much of the route on back streets would run along residential streets, away from the majority of car, freight and bus traffic. Given the characteristics of the majority of roads chosen for the route, segregation is not necessary. Where the route passes along short sections of busier roads, cycle lanes and tracks will provide space to make cycling alongside motor traffic safer and more comfortable. Where the cycle route crosses main roads, facilities such as early release signals have been provided at the junctions to make them safer and more attractive for cyclists. Traffic-calming measures such as speed tables will improve safety for all road users, particularly cyclists and pedestrians.

All the roads along the route have been assessed to ascertain their suitability for increases in cycle traffic. In many locations, we have rearranged street furniture, adjusted footways, and moved parking spaces to better accommodate cycle and motor traffic. In some areas, we have identified locations where it is beneficial to reduce motor traffic volumes, and have proposed appropriate measures such as the new cycle-only lane between Phoenix Place and Pakenham Street.

Further detail on issues raised about segregation and our responses to these are provided in Section 2.2 of this report.

### **Suitability of back streets for a Cycle Superhighway**

The North-South route runs partly on main roads and partly on quiet back streets. There is no absolute requirement for Cycle Superhighways to run along busy arterial

roads, and alternatives are often considered if they are available, appropriately direct and offer a suitable level of service.

A number of respondents expressed their preference for a segregated route further north along the Farringdon Road rather than the route proposed. We have not proposed to run the route further north due to the limitations of the width of the carriageway – see the section on the route alignment on page 12 for more detail.

The route between Ray Street and King's Cross on quieter roads provides an attractive alternative to the main road. This is because cyclists travelling on the main road from Stonecutter Street would have to pass through 14 traffic signals, compared to just four for northbound cyclists and seven for southbound cyclists along our proposed alignment. As well as avoiding traffic signals, using quieter streets also means fewer interactions with heavy goods vehicles, buses, kerbside activity, and busy side roads.

We are confident the North-South route will provide an inviting and pleasant cycling environment for existing and, crucially, new cyclists. This supports our ambition to make cycling in London more appealing to a wider range of people. Sections of existing Cycle Superhighways such as CS3 between Tower and Poplar run on side streets and the new CS1 provides a popular cycle route on back streets parallel to the A10.

We continue to develop and deliver substantial improvements to key junctions across the Transport for London Road Network (TLRN) through our Roads Investment Programme. We are also working with Camden and Islington Councils to develop improvements to the King's Cross and Euston Road area – see <https://tfl.gov.uk/travel-information/improvements-and-projects/kings-cross-and-euston-road> for further details.

## **Concerns about cyclist behaviour**

Research shows that most cyclists ride responsibly and that cyclists are no more likely to disobey the road rules than other road users.

With the launch of any new cycle route, we undertake a range of engagement and enforcement activity for all road users including cyclists. This includes:

- Representatives from the Metropolitan Police present on site to provide support and assistance to the public. They educate people how to use the new road layout and advise on appropriate behaviour for all road users
- TfL Travel Ambassadors provide assistance and advice to road users and hand out leaflets informing road users about changes to road layouts and the new innovative features

We promote adherence to the Highway Code by all road users and encourage 'responsible cycling' and mutual respect between road users. We work to eliminate cycling offences through a combination of Police enforcement and educational programmes. For example, TfL contributes funding towards the Metropolitan Police's Cycle Safety Team which patrols the route as part of their normal operations. TfL also works with the Metropolitan Police on Operation Safeway, which sees up to 1,000 officers deployed at around 100 junctions, at least two days every month to tackle dangerous or illegal behaviour by all road users. Between November 2013 when it was launched and June 2016, over 5,000 Fixed Penalty Notices have been given to cyclists.

### **Usage of Cycle Superhighways**

Some people asked about the usage of Cycle Superhighways. Our data for recently opened Cycle Superhighways shows that uptake from cyclists is high in terms of number of cyclists using the routes and the proportion of traffic they make up. Where segregated facilities are provided, we have also observed very high proportions of cyclists using these compared with remaining in the road and mixing with traffic. On the open section of North-South, at its busiest time, cyclists make up 70% of all traffic on Blackfriars Bridge with up to 96% of these using the segregated facility<sup>1</sup>. Cycle counts undertaken after opening show that in the peak periods the number of cyclists using the route had increased from 5,361 to 8,417 compared to pre-construction levels in 2015 with 4,695 cyclists recorded in the AM peak and 3,722 in the PM peak<sup>2</sup>.

### **Impact on the environment**

Some respondents felt that the proposals would create a better natural and physical environment, lead to less pollution or ease congestion. Others felt the scheme would increase pollution and commented on the impact this could have on health. We undertake independently-assessed environmental evaluations of the impacts our schemes including Noise and Air Quality Assessments. In addition, our traffic modelling analysis allows us to review the expected impact to traffic flow and journey times, which have a direct impact on pollution. As shown in the consultation material, this scheme is not predicted to have noticeable impacts on journey times for general traffic. This scheme would also help contribute to an overall increase in cycling in London which in turn helps to improve the environment and the health of Londoners.

### **Planting and trees**

We are proposing to plant a number of new trees as part of the scheme. These are subject to site investigations and conditions and we will be undertaking assessments to determine where this is possible as there are often utilities beneath the footway

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<sup>1</sup> TfL count data May 2016

<sup>2</sup> Comparison of TfL count data from January - March 2015 with May 2016

and carriageway which can prevent this. We are not proposing to remove any trees or planters along the route.

## **General scheme comments**

### **Value for money**

Some respondents questioned expenditure on this and other cycling schemes. There are a range of impacts that would result from delivering cycling schemes, of which Cycle Superhighways are a central component. These include substantial benefits relating to transport capacity, safety, journey time and cost savings, health, the environment, public realm and gains for businesses. The costs and benefits of the North-South route proposals form part of the scheme business case, which is used to assess the overall outcomes gained against the cost for the lifetime of the scheme.

### **Signage and wayfinding**

Some people commented on the requirement for clear signage and wayfinding. Cycle Superhighways benefit from consistent wayfinding and branding which includes road signs, road markings and 'totem' signs on footways. Signage and wayfinding will form a key part of any cycle scheme, providing cyclists with clear and accessible information at key decision making points and for reassurance along the route. In addition, connections to other cycling routes will be marked along the route. We will take into account opportunities to use existing infrastructure to reduce clutter and we will be mindful of sightlines and conservation areas.

## 2.2 Issues relating to individual sections of the route

This section sets-out our response, in collaboration with the relevant highway authorities, to the issues commonly raised in consultation relating to individual sections of the route. Please see Section 2.1 for responses to issues relating to the overall proposals. Some issues were raised across a number of sections of the route and our response to these are included in Section 2.1 and referenced in each section below for clarity and completeness.

### Section 1: Farringdon Street (between Stonecutter Street and Holborn Viaduct)

Following feedback from the consultation we are proposing changes to the design of this section of the North-South Cycle Superhighway. These include:

- Providing a new part-time loading bay on the west side of Farringdon Road between Charterhouse Street and Greville Street to facilitate night time servicing of businesses on this section
- Lengthening the taxi bay on Farringdon Street south of Newcastle Close to provide space for two taxis
- Changing the loading / disabled bay on the east side of Farringdon Street, south of Holborn Viaduct, to a shared taxi parking / loading / disabled bay as loading activity is forecast to be low

Our detailed response to the issues commonly raised and any design changes made in this section are set-out below.

### Route design

#### Taxi / parking / loading bays on the inside of the cycle track

There was concern raised about the placement of parking, loading and taxi bays behind the stepped cycle track on Farringdon Street as vehicles will cross the cycle lane to reach the bays.

There are a number of unsignalised side roads along this stretch of the route. The cycle track is positioned in front of the bays so that it is in full view for main road traffic (rather than being behind the parking bays). This is because cyclists will be travelling at a similar speed to motor traffic along Farringdon Street and vehicles turning into the side roads to the east will have good visibility of the track and any cyclists on it. Vehicles turning out of the side roads will be encouraged to slow down with raised junction treatments and will have good visibility of cyclists over the motorcycle and taxi parking.

If the cycle track was on the inside of the bays, cyclists would be obscured from the visibility of drivers turning into the side roads. These side roads are cul-de-sacs so

drivers turning in from Farringdon Street will already be aware of the cycle track when they turn out.

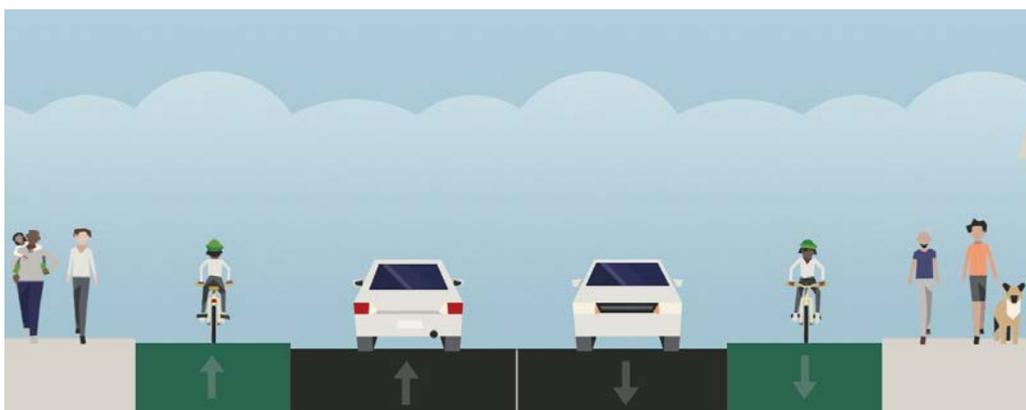
The kerbs at the parking bays will be low. This means that the gradient of the angled kerb would be gentle to allow drivers to transition from the carriageway to the bays. See below.



*Angled kerbs at edge of stepped track with gentle gradient*

### **Request for more segregation**

Some respondents suggested that more segregation was needed. At this point in the route the cycle track is fully segregated either by kerbs or stepped tracks. The cycle track will be at carriageway level and segregated by kerbs along Farringdon Street up to Stonecutter Street where the two-way track splits. From this point to the Holborn Viaduct, stepped cycle tracks segregate cyclists with vertical separation between the carriageway and footway as shown below.



*Stepped cycle tracks are vertically separated from the footway and main carriageway*

The stepped cycle track and kerb segregation proposed form part of a continuous and wide facility for cyclists and each level change will be highlighted with a vertical feature at the start such as a bollard to alert motorists and cyclists.

## **Preference for two-way cycle track**

See Section 2.1 on page 16 for our response on two-way tracks.

## **Junction and crossing design**

### **Pedestrian crossing over the cycle track**

Respondents raised concerns about the pedestrian crossing at Stonecutter Street, particularly regarding the unsignalised section across the cycle track. Concerns were also raised on the size of the crossing and whether it would be sufficient for the pedestrian demand.

We have successfully implemented this arrangement as part of the first phase of the scheme and have locations throughout the route where pedestrians cross the cycle track unsignalised. To raise awareness to both pedestrian and cyclists we have provided a level change for cyclists and colour contrast material at the crossing point.

## **Section 2: Farringdon Street (between Holborn Viaduct and Charterhouse Street)**

Following feedback from the consultation we are proposing changes to the design of this section of the North-South Cycle Superhighway. The changes would be subject to traffic modelling and consultation. They include:

- Signalising the junction of West Smithfield and Farringdon Street, including new signalised separate pedestrian and cycle crossings across Farringdon Street just north of the junction with West Smithfield (subject to traffic modelling and consultation)
- Banning southbound traffic from turning left into West Smithfield (except cyclists) to remove the conflict between motor traffic and cyclists (subject to traffic modelling and consultation)
- Reallocating unused space on Farringdon Street under the Holborn Viaduct to provide more capacity for turning traffic without affecting the width of the cycle track or footway (subject to structural assessment)
- Widening the mandatory cycle lanes on the west arm of Charterhouse Street junction by narrowing the general traffic lanes
- Providing a dropped kerb at Plumtree Court to enable access for cyclists to and from the cycle track on Farringdon Street

Our detailed responses to the issues commonly raised and explanations of any design changes made in this section are below.

### **Junction and crossing design**

#### **Pedestrian crossings**

Some respondents felt that pedestrian crossings needed improvements. Currently the junction of Charterhouse Street and Farringdon Road does not have any formal signalised pedestrian crossings. The scheme therefore addresses this by providing four new signalised pedestrian crossings. In addition, in response to the consultation, we are proposing a further signalised pedestrian crossing near to West Smithfield / Snow Hill to provide improved connectivity and safety for pedestrians in this area.

#### **West Smithfield junction with Farringdon Street**

Respondents provided a range of feedback on the design of the West Smithfield / Snow Hill junction. This part of the route links the North-South route to the proposed Central London Grid on West Smithfield. Many respondents suggested that improvements should be made to this section of the route to provide better protection for cyclists and improved priority for pedestrians. Suggested changes included banning vehicles from turning right out of Snow Hill, providing a zebra crossing or signalising the junction.

Having considered the responses received during the public consultation, we are proposing significant changes to improve safety at this junction by signalling traffic movements. This would include introducing a new two-way cycle crossing between Farringdon Street and West Smithfield and a new signalised pedestrian crossing in parallel.

To remove the risk of collisions between cyclists and left turning vehicles, we are proposing to ban the southbound left turn from Farringdon Street into West Smithfield (except cyclists). There is an alternative left turn for traffic just north of this point at Charterhouse Street. The proposed changes at this junction will be subject to further detailed modelling and consultation. In addition, we are proposing to reallocate unused space on Farringdon Street under the Holborn Viaduct to provide more capacity for turning traffic at this junction. This will not impact the width of the cycle track or footway, but would be subject to approval from the City of London Corporation which owns the structure. To accommodate the proposed new crossings, we may need to relocate the taxi parking on the west side of Farringdon Street, north of the Holborn Viaduct. We are currently reviewing other locations where this could be relocated to and will engage with representative stakeholders on this matter.

### **Charterhouse Street junction**

Some respondents raised concerns about the safety of this junction, while others felt that the design provided a good facility for cyclists. Comments about specific cycle infrastructure features included two stage turns, early release, 'hold the left' and Advanced Stop Lines (ASLs). There were also concerns about the risk of turning traffic with cyclists.

Two stage turns are an effective method for allowing cyclists to turn safely at junction by separating the turn into two stages. Two stage turns have been constructed widely across London, including at a number of junctions along the first phase of the North-South route and are well used by cyclists. We recognise that new facilities such as this will take time for cyclists to get used to. However, a consistent design approach will help to build road user understanding on what they are and how to use them. Promotional media campaigns support the launch of routes and junctions with these features and users can see a video to help build understanding.

For northbound cyclists, the design adopts a 'hold the left' arrangement so that northbound cyclists are separated in time from left turning traffic. There is not enough road space to provide a 'hold the left' on any of the other arms of this junction. This is because an additional traffic lane is required to store the turning vehicles without blocking traffic flow going ahead. We have however proposed other features on the other arms of the junction to assist cyclists.

On the north arm, the number of left turning vehicles is low at around 80 vehicles in the peak hour. An early release signal has been provided at this location which

allows cyclists at the stop line to proceed with a green light a few seconds ahead of traffic. Coloured surfacing highlights the path that cyclists will take to increase visibility of the route. Although there is still a low residual risk of left turn hook, these measures are suitable relative to this risk level.

On the east and west arms the left turn risk is also low. On the east arm the number of left turning vehicles is around 50 vehicles in the peak hour, while on the west arm it is around 40 vehicles. On the north, east and west arms, large 7.5m advance stop lines will also be provided to encourage cyclists to position themselves ahead of traffic at the junction. With the early release, this gives them a space and time advantage ahead of motor traffic when travelling through the junction.

At this junction we have also reviewed the widths of the cycle lanes on Charterhouse Street and are proposing to widen them to provide more space for cyclists on approach.

## Route design

### Preference for two-way cycle track

See Section 2.1 on page 16 for our response on two-way tracks.

### Request for more segregation

Some respondents suggested that more segregation was needed, particularly at junctions. At this point in the route, the cycle track is predominantly segregated either by kerbs or stepped tracks. From Stonecutter Street, the cycle track will be stepped, segregating cyclists with vertical separation from the carriageway and footway as shown below.



*Stepped cycle tracks are vertically separated from the footway and main carriageway*

At the junction with West Smithfield / Snow Hill, the cycle track will be flush with the footway, segregated by kerbs on the carriageway side and a delineation strip on the footway side. For a short section on the east side of Farringdon Street past West

Smithfield / Snow Hill, southbound cyclists will be in an advisory lane to accommodate the path of vehicles turning out of Snow Hill. This is also the case for a short section at Charterhouse Street where cyclists will be in a mandatory lane. If signalised, cyclists should not be in conflict with traffic from Snow Hill. At Charterhouse Street the risk of left turn collisions is significantly reduced by the early release signal and proposed blue paint to increase visibility of the cycle lane. Beyond the Charterhouse Street junction, the cycle track will be at carriageway level with kerb segregation.

The kerb segregation and stepped cycle tracks form part of a continuous and wide facility for cyclists. Each level change will be highlighted with a vertical feature at the start such as a bollard to alert motorists and cyclists.

Respondents also asked for more protection in the form of islands on the corner of the Charterhouse Street junction to prevent motorists overrunning the cycle lane.

Farringdon Road does not neatly align with Farringdon Street at this junction, meaning the northbound cycle route bends to the right through the junction to meet the cycle track on the junction exit. Due to the presence of a left-turn lane between the cycle route and the straight ahead lane, the risk of straight-ahead motorists vehicles veering towards the cycle route is low because of the alignment is more direct. A protective island is not considered to provide any benefit in practice and would create an additional hazard for motorcyclists and other vehicles turning left from Charterhouse Street to Farringdon Road.

Heading southbound, an island on the exit would restrict the width available for cyclists, requiring them to funnel into the cycle track. It would also restrict the width available for turning HGVs and create a hazard for motorcyclists. Furthermore, the early release signals will mean that most cyclists will be able to reach the cycle track at the exit to the junction before traffic passes them.

### **Bus stop bypasses**

See Section 2.1 on page 14 for our response on bus stops and bus stop bypasses.

### **Width of the cycle track**

The width of the cycle track is between 1.5 metres and 2 metres along this section of the route. This meets or exceeds TfL's minimum standards and on the wider sections, allows cyclists to overtake each other and thus cater for cyclists of different speeds.

### **Reduction in vehicle space**

For this section of the route, a northbound bus lane has been removed to make space for the cycle track. There is no net loss of general traffic lanes. Even with the

removal of the northbound bus lane, our modelling did not show a significant impact on journey times.

## **Section 3: Farringdon Road and Saffron Hill (between Charterhouse Street and St Cross Street)**

Following feedback from the consultation we are proposing changes to the design of this section of the North-South Cycle Superhighway. These include:

- Removing the proposal to create a shared cycle and pedestrian footway on the section of Greville Street between Saffron Hill and Farringdon Road due to further consideration of high flows of pedestrians from Farringdon Station. The one-way westbound cycle track will still be introduced on Greville Street as proposed
- Changing the proposed 'toucan' crossing on Farringdon Road at Greville Street to a pedestrian only 'pelican' crossing, also following further consideration of high flows of pedestrians
- Raising the junction of Greville Street and Saffron Hill to footway level to highlight the informal crossing point to cyclists and motorists and adding a give-way line to the north end of the cycle track where it meets Saffron Hill
- Providing a new advanced stop line for cyclists to the northbound stop line on Farringdon Road by Greville Street
- Extending the centre line road marking on Farringdon Road between Charterhouse and Ray Street to improve lane discipline

Proposals relating to other highway authorities will also be subject to formal borough approval. Our detailed response to the issues commonly raised and any design changes made in this section are below.

### **Route design**

#### **Preference for two-way cycle track**

See Section 2.1 on page 16 for our response on two-way tracks.

#### **Greville Street shared area**

Some respondents queried whether eastbound cycling would be suitable on Greville Street given the number of pedestrians in the area due to the proximity to Farringdon Station.

The cycle track on Greville Street is one-way westbound to accommodate cyclists travelling northbound. While some cyclists may travel eastbound along Greville Street, our surveys show that this is not currently a popular route. If a separate eastbound cycle track was added to Greville Street (creating a two-way track) then pedestrian space would be reduced. Pedestrian flows through this area are forecast to be very high (approx. 8000/hr) once the new Crossrail Station opens at Farringdon. Without sufficient footway space, pedestrians may walk in the cycle track and remove the benefits of having it as a dedicated space for cyclists.

In the consultation, we proposed a ‘toucan’ crossing (shared cycle and pedestrian crossing) across Farringdon Road to link up with the proposed shared area on Cowcross Street to cater for eastbound cyclists.

Given the concerns raised about the number of pedestrians in the area, we have reviewed the design at this location and no longer feel that a shared footway on Greville Street is appropriate. Whilst it is acknowledged that eastbound cyclist volumes are likely to be very low, there remains an increased chance of conflict due to the volume of pedestrians forecast. Therefore, the ‘toucan’ crossing over Farringdon Road will be changed to a pelican crossing for pedestrians only (see section below on Junctions and Crossings). Cyclists will now be required to dismount at the junction of Saffron Hill when travelling eastbound on Greville Street.

### **Segregation at bus stops**

Some respondents suggested that more segregation was needed, particularly at bus stops on Farringdon Road. At this point in the route, the cycle track is predominantly segregated either by kerbs or stepped tracks on the main road. From Charterhouse Street, the cycle tracks will be at carriageway level with kerb segregation. At Greville Street, northbound cyclists will be signed onto Greville Street to continue north on quiet back streets. Southbound cyclists will be segregated from traffic in a stepped track.

There is insufficient space within the carriageway to accommodate Bus Stop Bypasses at the two southbound stops on Farringdon Road (B - Farringdon Station and H - Clerkenwell Road). If there is a bus in one of these stops, cyclists will need to pass it on the offside which means entering the adjacent traffic lane. Buses pulling into the stops would give-way to cyclists passing on the nearside.

There is only a single bus route on this road and the likelihood of a bus being in the stop as a cyclist passes will be relatively low. When there is no bus stopped, the bus cage effectively becomes the cycle lane. Coloured patches are proposed in the traffic lane to highlight the presence of cyclists passing buses to other drivers. Stop H - Clerkenwell Road has been relocated to the exit of the junction so that cyclists using the early release signals will likely pass the bus cage before a bus arrives.

The stepped cycle tracks form part of a wide facility for cyclists. Each level change, for example, at junctions and bus stops will be highlighted with a vertical feature at the start such as a bollard to alert motorists and cyclists. We have also proposed to extend the centre line road marking along Farringdon Road between Charterhouse Street and Ray Street to improve lane discipline for traffic, particularly when overtaking a stopped bus.

## **Suitability of back streets for a Cycle Superhighway**

See Section 2.1 on page 19 for our response on the suitability of back streets for the Cycle Superhighway.

### **Width of the cycle tracks**

The width of the stepped cycle track southbound on Farringdon Road is at least 2.5 metres wide along this section of the route. This exceeds TfL's minimum standards and will allow ample space for cyclists to overtake each other.

The cycle track on Greville Street is proposed to be 2 metres wide, also exceeding minimum standards. Given the forecasted pedestrian footfall on the street, it is important to maintain a significant amount of space for them once Farringdon Crossrail Station opens. If the track was wider, there would be a higher risk that pedestrians would walk in the cycle track.

### **Cycle track on Greville Street**

Some people commented on the position of the cycle track on Greville Street. The cycle track has been placed on the southern side of Greville Street to keep cyclists away from the pedestrian desire line which is on the northern side. On the southern side there are also no active frontages whilst there is significant activity on the northern side due to the location of a pub. In addition, if the cycle track was on the northern side of Greville Street, cyclists would have to pass through the pedestrian crossing across Farringdon Road before turning into Greville Street which would create more interaction with pedestrians.

Greville Street is on a gradient and the route and the incline was noted in our level of service assessments. Given the high pedestrian footfall in the area, this will actually provide a benefit in helping to slow cyclists down for that short section.

The track will be below the footway and this level difference plus the proposed street furniture including benches, cycle parking and tree planting will ensure that it no longer appears to be a road. This will deter motor vehicles from using it. In addition, cycle logos will mark the route.

## **Junction and crossing design**

### **Toucan crossing on Farringdon Road at Greville Street**

Some people commented that cyclists and pedestrians should be separated at the crossing on Farringdon Road at Greville Street or that the 'toucan' crossing is not suitable for cyclists due to the number of pedestrians in the area.

The wide 'toucan' crossing at Farringdon Station was proposed north of the cycle track to encourage pedestrians to cross away from the track and to match pedestrian desire lines between the Hatton Garden area and Farringdon Station.

Following a review of concerns raised during the consultation about high pedestrian footfall and interaction with cyclists we are now no longer proposing shared footway on Greville Street for eastbound cyclists (see above for further detail). We are also no longer proposing the 'toucan' crossing on Farringdon Road and instead this crossing will be a pelican crossing for pedestrians. It will remain 10 metres wide.

There will be a level difference between the footway and the cycle track and a change of materials to highlight its presence. To reduce the risk of a collision, the turning radius for cyclists is relatively sharp to encourage a slow manoeuvre.

### **Greville Street / Saffron Hill crossing**

Some respondents asked for more provision for pedestrians walking along Greville Street and crossing over Saffron Hill to reduce the chance of conflict between cyclists and pedestrians. There is a high flow of pedestrians here and our proposals included the widening of the footway on Greville Street facilitated by the closure of the section between Farringdon Road and Saffron Hill to motor traffic. The main pedestrian desire line is directly across the southern end of Saffron Hill where it meets Greville Street.

We investigated whether a formal pedestrian crossing could be provided at this location to cater for pedestrians. To account for sight-lines, a formal crossing would need to be located at least 5 metres from the junction - further north along Saffron Hill. This would place it away from the main pedestrian desire line for pedestrians and we do not feel that pedestrians would therefore use it. In addition, due to the constant flow of pedestrians throughout the day and light flow of traffic, it would be unlikely that a formal crossing such as a zebra crossing would be appropriate.

Instead we are proposing to provide a more prominent informal crossing point by raising the carriageway to a level flush with the footway and we will investigate treating the area with material changes to highlight the presence of the crossing to cyclists and vehicles. This will raise awareness of the junction to all users. We are also proposing to provide a give-way road marking at the north end of the cycle track to ensure that cyclists give-way when joining Saffron Hill. It should also be noted that the proposed change in the one-way direction of Kirby Street which runs parallel to Saffron Hill is intended to reduce the amount of through traffic using Saffron Hill and therefore passing pedestrians at this point.

## **Impact on other road users**

### **Parking and loading**

Some respondents raised concerns about the proposed changes to the parking and loading on Saffron Hill and Herbal Hill. Kerbside activity assessments were undertaken in this area to inform the level of parking and loading activity required. Stakeholder engagement was also carried out directly with local businesses along the route, including Farringdon Road to provide further input into the design. The scheme proposes to reduce loading and parking on Saffron and Herbal Hill during peak times when most cyclists will be using the route. At other times, provision has been provided for parking and loading in locations where it is required.

## **Section 4: Farringdon Road and Saffron Hill (between St Cross Street and Ray Street)**

Following feedback from the consultation we are proposing changes to the design of this section of the North-South Cycle Superhighway. These include:

- Changing the southbound cycle lane on the east side of Farringdon Road, south of Clerkenwell Road from an advisory to a mandatory cycle lane to provide a dedicated facility for cyclists
- Increasing the loading and waiting restrictions to no loading at any time on Clerkenwell Road on approach to the junction with Farringdon Road to prevent the cycle lanes from becoming obstructed by stopped traffic
- Changing the angle of the kerb-line for the cycle-only lane on the north-west arm of the Clerkenwell Road / Farringdon Road junction to provide a smoother route for cyclists
- Providing additional cycle parking on the north-west arm of the Clerkenwell Road / Farringdon Road junction
- Extending the centre line road marking on Farringdon road between Charterhouse and Ray Street to improve lane discipline

Proposals relating to other highway authorities will also be subject to formal borough approval. Our detailed response to the issues commonly raised and any design changes made in this section are below.

### **Route design**

#### **Preference for two-way cycle track**

See Section 2.1 on page 16 for our response on two-way tracks.

#### **Request for more segregation**

Some respondents suggested that more segregation was needed, particularly at bus stops on Farringdon Road. At this point in the route, southbound cyclists are predominantly segregated on the main road and northbound cyclists will be signed along on quiet back streets. Southbound cyclists will be segregated from traffic in a stepped track.

There is insufficient space within the carriageway to accommodate Bus Stop Bypasses at the two southbound stops on Farringdon Road (B - Farringdon Station and H - Clerkenwell Road). If there is a bus in one of these stops, cyclists will need to pass it on the offside which means entering the adjacent traffic lane. Buses pulling into the stops would give-way to cyclists passing on the nearside.

There is only a single bus route on this road and the likelihood of a bus being in the stop as a cyclist passes will be relatively low. When there is no bus stopped, the bus

cage effectively becomes the cycle lane. Coloured patches are proposed in the traffic lane to highlight the presence of cyclists passing buses to other drivers. Stop H - Clerkenwell Road has been relocated to the exit of the junction so that cyclists using the early release signals will likely pass the bus cage before a bus arrives.

The stepped cycle tracks form part of a wide facility for cyclists. Each level change, for example, at junctions and bus stops will be highlighted with a vertical feature at the start such as a bollard to alert motorists and cyclists. We have also proposed to extend the centre line road marking along Farringdon Road between Charterhouse Street and Ray Street to improve lane discipline for traffic, particularly when overtaking a stopped bus.

On Clerkenwell Road, new mandatory cycle lanes would be provided between the junctions with Farringdon Road and Saffron / Herbal Hill. In addition, reallocation of road space will provide improved alignment of this route for cyclists, pedestrians and traffic.

### **Suitability of back streets for a Cycle Superhighway**

See Section 2.1 on page 19 for our response on the suitability of back streets for the Cycle Superhighway.

## **Junction and crossing design**

### **Clerkenwell Road junction with Farringdon Road**

Some respondents raised concerns about the cycle features at this junction and proposed banned turns. Comments about specific cycle infrastructure features included the two stage turns, early release, and Advanced Stop Lines (ASL). Some people were also concerned about left hook risks northbound on Farringdon Road.

Two stage turns are an effective method for allowing cyclists to turn safely at a junction by separating the turn into two stages. Two stage turns have been operating widely across London, including at a number of junctions along the first phase of the North-South route and are well used by cyclists. We recognise that new facilities such as this will take time for cyclists to get used to. However, a consistent design approach will help to build road user understanding on what they are and how to use them. Promotional media campaigns support the launch of routes and junctions with these features and users can see a video to help build understanding.

There are two banned turns proposed at this junction: left turn from Clerkenwell Road (west) to Farringdon Road (north) and from Farringdon Road (north) to Clerkenwell Road (east). The banned left turn for eastbound vehicles is due to the conversion of the left slip lane to a cycle-only lane. Traffic counts show that a maximum of 66 vehicles per hour make this movement. Alternative northbound routes include Roseberry Avenue or Farringdon Lane.

The banned left turn for southbound vehicles is to remove the left hook risk to cyclists travelling southbound. Traffic surveys show that a maximum of 45 vehicles per hour make this turn. Alternative routes include Farringdon Lane and St John Street via Charterhouse Street.

An existing banned left turn for traffic is in place from Clerkenwell Road (east) to Farringdon Road (south). We have not proposed to remove this ban as it would introduce a left hook risk for cyclists.

Farringdon Road northbound is not part of the signed Cycle Superhighway route. Traffic is permitted to turn left at this point and any cyclists that choose not to follow the signed route via Greville Street and stay on Farringdon Road would do so with traffic at this point. The deep 7.5m ASL and early release at the stop lines at Clerkenwell Road junction will provide cyclists at the junction with a head start in front of general traffic, reducing the risk of left hook risks.

### **Clerkenwell Road junction with Saffron / Herbal Hill**

The junction of Saffron and Herbal Hill with Clerkenwell Road is proposed to be signalised to assist cyclists crossing Clerkenwell Road on the Cycle Superhighway. The existing zebra crossing would be removed and a signalised pedestrian crossing provided in its place. There was concern raised about the impact on journey times that this change would cause. Our assessment of traffic modelling for the scheme took into account this change and shows negligible impacts on journey times.

## **Impact on other road users**

### **Parking and loading**

See Section 2.2 on page 35 for our response on parking and loading.

### **Impact on cyclists**

#### **Route alignment**

See Section 2.1 on page 12 for our response on route alignment.

## Section 5: Farringdon Road, Ray Street, Herbal Hill and Warner Street

Following feedback from the consultation we are proposing changes to the design of this section of the North-South Cycle Superhighway. These include:

- Changing the mandatory cycle lane to a stepped cycle track on Ray Street to provide greater separation of cyclists from traffic
- Providing an additional pedestrian refuge on the northern arm of the Farringdon Road / Ray Street junction and removing the southbound right turn pocket into Ray Street
- 'No entry' road markings added to Ray Street Bridge to highlight the proposed change in direction of one-way traffic
- Providing additional cycle parking on the southern footway of Ray Street Bridge

Proposals relating to other highway authorities will also be subject to formal borough approval. Our detailed response to the issues commonly raised and any design changes made in this section are below.

### Route design

#### Preference for two-way cycle track

See Section 2.1 on page 16 for our response on two-way tracks.

#### Request for more segregation

Some respondents suggested that more segregation was needed. At this point in the route, southbound cyclists are segregated on the main road and northbound cyclists will be signed along on quiet back streets. Southbound cyclists will be segregated from traffic in a stepped track, with vertical separation between the carriageway and footway as shown below.



*Stepped cycle tracks are vertically separated from the footway and main carriageway*

Each level change from the stepped track to carriageway, for example, at junctions and bus stops will be highlighted with a vertical feature at the start such as a bollard to alert motorists and cyclists.

On Ray Street and Ray Street Bridge, we have reversed the one-way direction of traffic flow to reduce the amount of rat running in the area. On Ray Street, we have reviewed the design and changed the mandatory cycle lane to a stepped cycle track to provide further separation of cyclists from traffic on the route. We are not proposing to convert the proposed mandatory cycle lane on Ray Street Bridge to a stepped cycle track because it is a very short section of road that is not part of the main Cycle Superhighway route.

### **Suitability of back streets for a Cycle Superhighway**

See Section 2.1 on page 19 for our response on the suitability of back streets for the Cycle Superhighway.

## **Junction and crossing design**

### **Ray Street junction with Farringdon Road**

Some people commented that improvements to crossings were required at the junction. There was also concern raised about left hook risks at this junction.

The scheme proposes to relocate the current signalised crossing at Farringdon Lane and incorporate it into a new signalised junction. This would include two new signalised pedestrian crossings on Ray Street and Ray Street Bridge. This provides pedestrians with safe crossing points on Farringdon Road, Ray Street and Ray Street Bridge. In addition, the direction of Ray Street Bridge, Farringdon Lane and Ray Street are proposed to be reversed to eastbound, northbound and westbound respectively. These measures are anticipated to improve the safety of the junction and reduce rat running.

Farringdon Road northbound is not part of the signed Cycle Superhighway route. Traffic is permitted to turn left at this point and any cyclists that choose not to follow the signed route and stay on Farringdon Road would do so with traffic at this point. There is insufficient space to separately signal the turning movements and insufficient capacity to separately signal cyclists. In addition, banning the movements would have a severe impact on access given the other changes in the area.

The 7.5m deep, part width Advanced Stop Line (ASL) and early release at the stop line will provide cyclists at the junction with a head start in front of general traffic, reducing the risk of left hook collisions.

## **Impact on other road users**

### **Parking and loading**

See Section 2.2 on page 35 for our response on parking and loading.

### **Impact on cyclists**

#### **Route alignment**

See Section 2.1 on page 12 for our response on route alignment.

## Section 6: Warner Street and Phoenix Place

Following feedback from the consultation we are proposing changes to the design of this section of the North-South Cycle Superhighway. These include:

- Relocating a proposed speed table further south on Phoenix Place to provide a more suitable pedestrian crossing location

Proposals relating to other highway authorities will also be subject to formal borough approval. Our detailed response to the issues commonly raised and any design changes made in this section are below.

### Route design

#### Request for more segregation

Some respondents suggested that more segregation was needed. Types of cycling intervention are categorised according to the degree of separation they offer between cyclists and motor vehicles. Where the street has a higher volume of traffic, improved level of service for cyclists can be achieved by more separation from traffic. TfL's London Cycling Design Standards (LCDS) recommends that for local streets, integration with other vehicles is appropriate. For connector or high roads, full separation or dedicated lanes are more suitable. The design for North-South is aimed at providing the most appropriate interventions, adapting to the street types. At this point in the route, northbound and southbound cyclists are signed along quiet back streets and segregation from traffic is not provided.

#### Traffic calming

Respondents provided comments about the need for increased traffic calming. Along this section of the route, speed humps would be replaced with speed tables which provide a smoother transition for cyclists as well as a flush surface for pedestrians to cross the road. This is the case throughout the route to provide consistent traffic calming.

It was noted in the consultation that the location of one of the speed tables on Phoenix Place was adjacent to an access point. We have changed the design and this speed table has now been relocated further south. Camden Council is investigating the potential to implement a zebra crossing at one of the proposed speed tables to provide a formal raised crossing point. This is to accommodate a predicted increase in pedestrian volumes as a result of developments in the surrounding area and will be subject to separate agreements.

#### Suitability of back streets for a Cycle Superhighway

See Section 2.1 on page 19 for our response on the suitability of back streets for the Cycle Superhighway.

## **Junction design**

### **Phoenix Place junction with Mount Pleasant**

Some respondents were concerned that the proposed change in the give way priorities at the junction of Warner Street and Mount Pleasant might have an impact on visibility. It was also noted that a Royal Mail access point is located at the corner of the junction and will continue to be in use both during construction and following redevelopment of the adjacent site.

We have proposed the change in priority of this junction to prioritise the North-South route. Our designs show that sight lines for the proposed layout would be within acceptable limits; however we acknowledge that the access point on the corner of the junction could introduce confusion and will continue to engage with the Royal Mail to reduce the potential for this.

## **Section 7: Pakenham Street, Calthorpe Street and Cubitt Street**

There are no proposed changes for this section of the route and we are recommending that the design is taken forward as consulted. Our responses to the issues commonly raised in this section are below.

### **Route design**

#### **Request for more segregation**

Some respondents suggested that more segregation was needed. Types of cycling intervention are categorised according to the degree of separation they offer between cyclists and motor vehicles. Where the street has a higher volume of traffic, improved level of service for cyclists can be achieved by more separation from traffic. TfL's London Cycling Design Standards (LCDS) recommends that for local streets, integration with other vehicles is appropriate. For connector or high roads, full separation or dedicated lanes are more suitable. The design for North-South is aimed at providing the most appropriate interventions, adapting to the street types. At this point in the route, northbound and southbound cyclists are signed along quiet back streets and segregation from traffic is not provided.

#### **Cycle-only lanes between Calthorpe Street and Pakenham Street**

Some respondents suggested that the new cycle-only lanes between Calthorpe Street and Pakenham Street should be widened or extended or that the alignments be changed. The new north/south cycle-only facility would replace a traffic lane. It is proposed to be 3.6 metres wide. The east/west cycle-only lane is an existing facility and is 3.3 metres wide. Both sections meet TfL's minimum standards for two-way cycling and widening the cycle tracks would reduce urban realm space for pedestrians. Given that these sections are short, it is not anticipated that cyclists would benefit from the additional width. The angle of these two cycle-only facilities has been designed to encourage cyclists to slow down when approaching the junction. It is not possible to extend the length of these cycle-only facilities as this would impede vehicle access to properties and businesses along Pakenham Street and adjacent Wren Street.

#### **Width restriction on Calthorpe Street**

The width restriction on Calthorpe Street is in place to manage access by large vehicles. There was a query as to whether this could be converted to a modal filter for cyclists only. As Calthorpe Street is important for access to residences and businesses in the area, we do not feel that a modal filter would be suitable at this location and are satisfied that the proposed width restriction is appropriate.

## **Suitability of back streets for a Cycle Superhighway**

See Section 2.1 on page 19 for our response on the suitability of back streets for the Cycle Superhighway.

## **Junction and crossing design**

### **Calthorpe Street junction with Phoenix Place**

Some respondents were concerned that the provision to get cyclists across Calthorpe Street between Phoenix Place and Pakenham Street was not sufficient and additional provision is required.

Several respondents suggested that the priorities should be changed at the Calthorpe Street junction to give the North-South route priority. This was investigated, but was not considered to be appropriate as traffic volumes of Calthorpe Street are much higher than Phoenix Place. In addition, this would mean that the cycle-only cut-through from Pakenham Street would have priority over Calthorpe Street, which could be misleading for other traffic.

Other respondents suggested including a signalised crossing for cyclists over Calthorpe Street or a 'Tiger' crossing. The proposed design includes a new zebra crossing to replace the existing informal crossing point and realignment of kerbs to reduce the overall width of the carriageway at this point. This has been designed to provide cyclists with a shorter crossing distance. The zebra crossing will provide natural gaps in the flow of traffic allowing cyclists to cross.

### **Angle of cycle lanes**

The two cycle-only lanes from Calthorpe Street to Wren Street meet at right angles. This is intended to encourage cyclists to slow down and give-way on approach to the junction.

### **Pedestrian crossings**

Some respondents stated a preference for new crossings. The new zebra crossing on Calthorpe Street will provide pedestrians with a new crossing point. In addition, the junction would be raised to footway level to provide flush informal crossing points throughout.

## Section 8: Ampton Street, Sidmouth Street and Tavistock Place

Following feedback from the consultation we are proposing changes to the design of this section of the North-South Cycle Superhighway. These include:

- Removing the proposals for cycle parking on Ampton Street due to concerns regarding anti-social behaviour

Proposals relating to other highway authorities will also be subject to formal borough approval. Our detailed response to the issues commonly raised and any design changes made in this section are below.

### Route design

#### Request for more segregation

Some respondents suggested that more segregation was needed. Types of cycling intervention are categorised according to the degree of separation they offer between cyclists and motor vehicles. Where the street has a higher volume of traffic, improved level of service for cyclists can be achieved by more separation from traffic. TfL's London Cycling Design Standards (LCDS) recommends that for local streets, integration with other vehicles is appropriate. For connector or high roads, full separation or dedicated lanes are more suitable. The design for North-South is aimed at providing the most appropriate interventions, adapting to the street types. At this point in the route, northbound and southbound cyclists are signed along quiet back streets and segregation from traffic is not provided.

#### Cycle-only lane on Ampton Street

The route is proposed to pass through an existing cycle lane between Cubitt Street and Ampton Street. Some respondents were concerned that the width of the cycle lane might be insufficient or that it should be straightened or separated to split eastbound and westbound cyclists. Concerns were also raised about the sharpness of the corner on Cubitt Street.

The cycle lane is 3 metres wide, which meets minimum levels of service for a two-way track set out in the London Cycling Design Standards. The location of trees on either side of this cycle lane means that it cannot be widened or straightened without removing one or more trees, which is not supported by either TfL or Camden Council. Parallel to the cycle lane is a pedestrian only path. Converting this side to cycles only would restrict essential access for pedestrians. We are therefore not proposing to make any changes to the width of the cycle lane but we are proposing to change the round top humps to flat topped entry treatments.

The footway has been built out on the corner of Cubitt Street to encourage cyclists to slow down when accessing the cycle-only lane on Ampton Street. This is to increase visibility between cyclists joining and leaving the path.

## **Cycle-only lane between Ampton Street and Gray's Inn Road**

Some people commented on the existing cycle-only lane between Ampton Street and Gray's Inn Road. This would be widened to 4 metres (2 metres in each direction) to allow more space for cyclists at the junction and to improve the flow of cyclists. Vehicles would be prevented from passing through this section with a vertical feature.

## **Suitability of back streets for a Cycle Superhighway**

See Section 2.1 on page 19 for our response on the suitability of back streets for the Cycle Superhighway.

## **Traffic calming**

Respondents provided comments about the need for increased traffic calming. There is an existing raised table at the junction of Ampton Street and Ampton Place. In addition, modal filters for cyclists prevent vehicles from entering Ampton Street from the east and west ends. In addition, parking bays are in place on either side of the street.

Due to Ampton Street being closed to motor vehicle access and vehicle flows being low, we do not anticipate high motor vehicle speeds at this location and thus the risk of conflicts between motor vehicles, cyclists and pedestrians is low.

## **Bicycle parking on Ampton Street**

Concerns were raised about the proposals to implement bicycle parking on Ampton Street close to the junction with Gray's Inn Road due to existing anti-social behaviour. We have therefore removed this proposal from our designs.

## **Request to increase parking**

Some people asked for more parking at this location on the route. As highway authority, Camden Council's policy is to avoid the installation of new on-street parking which encourages an increase in car use throughout the borough, and associated negative effects such as increases in congestion and air pollution. Therefore, no additional bays are proposed.

## **Junction and crossing design**

### **Gray's Inn Road junction with Sidmouth Street**

Some people raised concerns that the proposed early release facility for cyclists on Sidmouth Street would not be safe. The early release is provided to allow cyclists in the Advanced Stop Line (ASL) on Sidmouth Street to proceed ahead of general traffic into the cycle-only facility on Ampton Street.

## **Pedestrian crossings**

Some people commented that pedestrian crossings should be improved. Formal pedestrian crossings are provided at the Gray's Inn Road junction with Sidmouth Street. Future improvements to pedestrian crossings in this location have been consulted on by Camden Council as part of separate schemes and are planned to be constructed soon.

## **Section 9: Tavistock Place and Judd Street**

Following feedback from the consultation we are proposing changes to the design of this section of the North-South Cycle Superhighway. These include:

- Retaining the existing pelican crossing on Judd Street rather than converting it to a zebra crossing

Proposals relating to other highway authorities will also be subject to formal borough approval. Our detailed response to the issues commonly raised and any design changes made in this section are below.

### **Design and route alignment**

#### **Alignment on Judd Street**

A number of concerns were raised about the alignment of the route along Judd Street where the RNIB Headquarters are situated and the impact that this would have on the independence and accessibility of pedestrians, especially those with visual impairments.

As explained in Section 2.1, terminating the route on Judd Street provides the potential for an ongoing connection for cyclists further north via Camden Council's proposed Central London Grid scheme across Euston Road to Midland Road. As a back street section of the route, the interventions are light-touch and we have not proposed cycle lanes or segregation. Cyclists will be directed along Judd Street and will do so with general traffic, as they currently do. Camden Council recently consulted on schemes in the local area which are anticipated to reduce the volume of through traffic on Judd Street to enhance the environment for pedestrians, cyclists and local residents.

There will be some changes to waiting and loading restrictions, with single yellow lines being converted to double yellow lines. This will not however impact the ability for visitors to be dropped-off at the RNIB or to other locations along Judd Street.

#### **Cyclist volumes on Judd Street**

Concerns were raised about increased volumes of cyclists impacting accessibility and confidence of visitors of the RNIB. We have proposed to retain the pelican crossing on Judd Street. Footways will not be impacted by the changes and it will still be possible for visitors to the RNIB to be dropped-off on Judd Street. In addition, it is anticipated that traffic volumes will be reduced as a result of surrounding schemes which would benefit pedestrians; decisions on these have yet to be made.

## **Traffic volumes on Judd Street**

Some respondents asked for traffic speeds and volumes to be reduced on Judd Street. The proposals for North-South include a raised junction at Cromer Street and Bidborough Street to reduce the speed vehicles pass through the junctions.

Two other locally proposed schemes by Camden Council and TfL also look to reduce traffic volumes and speeds along Judd Street: Brunswick Square which will filter traffic from the south and Midland Road / Judd Street which proposes to close Judd Street at its junction with Euston Road or make it one-way only for traffic. Modal filters would allow cyclists to pass through two-ways. The outcome of the consultations for these schemes will be announced at a later date.

## **Zebra crossing on Judd Street**

A significant number of concerns were raised about the proposal to replace the pelican crossing on Judd Street with a zebra crossing. This proposal was deemed to impact particularly on visually impaired people accessing the RNIB who rely on the audible signals and rotating cone. Of those concerned, most asked for the pelican crossing to be retained.

The zebra crossing was proposed as a more suitable crossing type due to the anticipated reduction in traffic volumes along Judd Street as a result of surrounding proposed schemes such as Brunswick Square and Midland Road / Judd Street.

TfL and Camden Council considered the responses to the consultation and have decided to retain the pelican crossing. TfL has also met with the RNIB on a number of occasions to discuss the scheme and will continue to do so throughout its development.

## **Request for more segregation**

Some respondents suggested that more segregation was needed. Types of cycling intervention are categorised according to the degree of separation they offer between cyclists and motor vehicles. Where the street has a higher volume of traffic, improved level of service for cyclists can be achieved by more separation from traffic. TfL's London Cycling Design Standards (LCDS) recommends that for local streets, integration with other vehicles is appropriate. For connector or high roads, full separation or dedicated lanes are more suitable. The design for North-South is aimed at providing the most appropriate interventions, adapting to the street types. At this point in the route, northbound and southbound cyclists are signed along quiet back streets and segregation from traffic is not provided.

## **Suitability of back streets for a Cycle Superhighway**

See Section 2.1 on page 19 for our response on the suitability of back streets for the Cycle Superhighway.

## **Connection with King's Cross**

Some respondents queried how cyclists will get safety from Judd Street to King's Cross. The North-South route terminates at the northern end of Judd Street, from where we expect cyclists will continue to many different destinations across the King's Cross area. There is a separate scheme that provides a cycle crossing over Euston Road and along Midland Road (subject to a separate consultation). This would enable cyclists to reach the King's Cross area and beyond.

## **Junction and crossing design**

### **Tavistock Place junction with Judd Street**

Some people commented on banned turns, Advanced Stop Line (ASL) and early release signals at this junction.

ASLs are proposed at junctions to provide a space for cyclists to wait ahead of general traffic at the stop line. This allows them to proceed ahead of traffic when the lights turn green. ASLs are sometimes accompanied by a cycle feeder lane or cycle gate. At the junction of Judd Street and Tavistock Place, a cycle feeder lane is not proposed as cyclists continuing on North-South will be turning right and it is safer for them to approach in the primary position than the inside.

Some respondents were concerned that this would impede access to the ASL for large cycles. Road markings on the approach to this arm of the junction are provided in the centre of the carriageway to encourage cyclists to adopt the primary cycle position (in line with traffic rather than on the nearside).

The Tavistock Place and Judd Street junction forms part of Camden Council's Tavistock Place scheme and any changes to this junction will be carried out separately as part of that scheme.

### **Pedestrian crossings**

Some people commented that pedestrian crossings should be improved. Formal pedestrian crossings are provided at the Tavistock Place junction with Judd Street. Future improvements to this junction are to be proposed by Camden Council and are not part of this scheme. On Judd Street, two formal crossings are provided with an existing zebra crossing and an existing pelican crossing. The junctions of Judd Street with Cromer Street and Bidborough Street are to be raised to footway level to provide flush informal points for pedestrians.

## **2.3 Issues raised by individual stakeholders**

Our responses to individual stakeholder concerns not addressed in Sections 2.1 and 2.2 are outlined below.

### **Local Authorities, local representatives and national bodies**

#### **City of London Corporation**

Raised concerns about the location where the two-way track is split and the junction design at West Smithfield which have been addressed in Sections 2.1 and 2.2 of this report.

#### **Camden Council**

Raised concerns about prioritisation of pedestrians and provisions for cyclists continuing on Farringdon Road northbound which have been addressed in this report. It also asked that TfL undertake monitoring of key borough roads after the implementation of the scheme to assess the impact of increased journey times and traffic reassignment. Whilst we do not expect journey times to increase as part of the changes included in this scheme, we will continue to liaise closely with our key partners and stakeholders during and after construction to address any issues should they arise.

#### **Caroline Pidgeon MBE AM, London Assembly Liberal Democrat Group**

Reiterated concerns raised by the RNIB which have been addressed in this report and through direct engagement with RNIB.

#### **Julian Fulbrook, Labour Councillor for Holborn and Covent Garden and Camden Cycling Champion**

Concerns about the route along Greville Street and Saffron Hill and the number of pedestrians coming out of Farringdon Station have been addressed in this report.

Specific concerns were also raised about access and deliveries for residents of the Ziggurat building (60-66 Saffron Hill). Whilst increased waiting and loading restrictions are proposed along Saffron Hill, the existing parking and disabled bays outside the Ziggurat building are not proposed to be changed and therefore access not impacted. Off peak loading will be available outside 55-59 Saffron Hill in close proximity to the Ziggurat building. As Saffron Hill is a very narrow street (less than 5 metres in places from kerb to kerb), we have introduced increased restrictions on waiting and loading restrictions to prevent the street from becoming blocked during peak times.

## Historic England

Raised no immediate concerns with the proposals.

## Emergency Services

### City of London Police

Concerns raised about the position of parking bays behind the cycle track are addressed in the report. They queried whether the stepped track will cross the West Smithfield junction. Concern was also raised that the stepped cycle track could increase the risk of loss of control collisions for cyclists and motorcyclists, particularly when accessing parking bays.

The stepped cycle track proposed forms part of a continuous and wide facility for cyclists and each level change at the start of the track will be highlighted with wands. The kerb at the motorcycle parking will be low. This means that the gradient of the angled kerb would be gentle – see example below.



*Angled kerbs at edge of stepped track with gentle gradient*

The southbound stepped cycle track begins to the south of the West Smithfield junction and vehicle swept paths have been tracked to ensure they do not overrun the facility.

### London Fire Brigade and London Fire and Emergency Planning Authority

Though in support of the proposals, there were some concerns raised with regard to implementation of one-way traffic and cycle lanes and the impact this may have on access. Where changes to one-way streets are proposed, motor vehicle access to businesses and residents are not restricted. Where cycle lanes are proposed, sufficient road width is maintained for motor vehicles. Where road closures or

banned turns have been proposed, alternative motor vehicle access routes are available.

## **Accessibility Groups**

### **Guide Dogs**

Commented on the need to segregate cyclists but not to the detriment of pedestrians. A range of improvements for pedestrians are proposed as part of the scheme and have been described in Sections 2.1 and 2.2 of this report. Concerns about the alignment of the route on Judd Street raised by the RNIB were reiterated by Guide Dogs and are addressed in this report.

### **National Federation of the Blind in the UK**

Recommended that the pelican crossing on Judd Street is retained which is addressed earlier in this report.

### **Sutton Vision**

Sutton Vision was concerned that visually impaired people who know the area around Judd Street would find changes and having to re-learn the area very difficult. As a back street route, we have not proposed substantial changes on Judd Street. Instead, cycle logos are proposed on the carriageway and footways will remain as existing. The full rationale for alignment on Judd Street is included in Section 2.1.

### **Royal National Institute of Blind People (RNIB)**

Our response to concerns raised regarding the route alignment on Judd Street and the zebra crossing by the RNIB Headquarters are set-out earlier in this report. The RNIB also commented on our proposal to raise some junctions to footway level. At these locations, a shallow upstand will be maintained to enable pedestrians, including those with visual impairments to detect the edge of the footway. Engagement with the RNIB will continue throughout the design of this scheme to address any remaining concerns.

### **London Visual Impairment Forum, Thomas Pocklington Trust and England Vision Strategy**

Supported the RNIB's response – see above.

## **Transport and road user groups**

### **Confederation of Passenger Transport**

Concerns related to impacts on traffic, public transport, bus stops and safety of the scheme are addressed earlier in this report. They also requested mixed use loading bays for the use of coaches. This scheme does not propose any loss of coach parking. Due to the requirement to balance the road space along the route to accommodate existing demand and services, we have not provided any new coach parking as part of this scheme.

### **London Taxi Drivers Association**

Concerns related to impact on traffic congestion and public transport users and are addressed earlier in this report.

### **London TravelWatch**

Concerns regarding bus stops and the route alignment are addressed earlier in this report.

### **Sustrans**

A number of concerns were raised by Sustrans which are addressed earlier in this report.

### **Vision Zero London**

Most of the concerns raised by Vision Zero London are addressed earlier in this report. A suggestion was also made to keep the zebra crossing on Clerkenwell Road with priority given to the Cycle Superhighway. The design proposal for this location is to convert the zebra crossing to a signalised crossing to enable the North-South route to be signalised across Clerkenwell Road. It was suggested that Clerkenwell Road should have protected cycle tracks. This is not part of the main North-South route however further improvements for cyclists may be proposed as part of the Central London Grid.

### **Wheels for Wellbeing**

Concerns raised by Wheels for Wellbeing are covered in earlier sections of this report.

### **Dial-a-Cab**

Concerns about congestion, pollution and journey times are addressed earlier in this report. Dial-a-Cab also recommended that additional restrictions are put in place for

cyclists such as insurance and identification however this is not something that would fall within the scope of a Cycle Superhighway scheme.

## **Cycle Groups**

### **Brent Cyclists**

All concerns raised are addressed in Sections 2.1 and 2.2 of this report.

### **CTC London representative**

All concerns raised are addressed in Sections 2.1 and 2.2 of this report.

### **Cycling Embassy of Great Britain**

All concerns raised are addressed in Sections 2.1 and 2.2 of this report.

### **London Cycling Campaign (LCC)**

Most concerns raised are addressed in Sections 2.1 and 2.2 of this report. LCC also recommended widening the cycle bypass lanes on Sidmouth Street to 1.5m. Though not shown on the consultation plans, the bypasses are proposed to be 1.5m in each direction. They also suggested that all schemes should be assessed against level of service indicators and latest design standards. The Cycling Level of Service tool (CLoS) and London Cycling Design Standards (LCDS) were used in the design of this scheme.

### **Camden Cycling Campaign (CCC)**

Some of the concerns raised by CCC are covered earlier in this report. They also suggested further interventions such as 'keep clear' markings and a banned left turn into Charterhouse Street from Farringdon Road. We are proposing to ban the turn from Farringdon Street into West Smithfield (except for cyclists) to reduce the chance of turning collisions. Charterhouse Street provides a viable alternative route for traffic travelling east and banning both left turns would restrict access to the Smithfield Market area. West Smithfield was considered to be a more suitable location for cyclists to turn left as it connects the North-South route with the proposed Central London Grid. We are not currently proposing any additional 'keep clear' markings however if it is observed that the cycle route is becoming blocked once the scheme is implemented, the requirement for additional road markings will be reviewed.

CCC also asked for clear signage where banned turns have an exception for cyclists – requirements for signage will be undertaken at the detailed design stage and will follow best practice and design guidance.

It was also suggested that all pedestrian guardrail is removed. Some guardrail is proposed to be removed on Ampton Street as part of this scheme. Removal of any further guardrail along the route will be subject to a safety review.

### **Islington Cyclists Action Group**

Endorsed comments from CCC – see above.

### **Bicycle Users Group at the London School of Hygiene & Tropical Medicine**

No concerns raised.

## **Business Groups**

### **Hatton Garden Business Improvement District (BID)**

Comments raised about the proposals on Greville Street and Saffron Hill are addressed earlier in the report. In addition, TfL and Camden Council officers have met with Hatton Garden BID to discuss their concerns and will continue to engage with them as appropriate. Timescales for implementation of the scheme are detailed in Section 1 of this report.

### **Royal Mail Group**

Comments raised are addressed in Sections 2.1 and 2.2 of this report. In addition we have met with the Royal Mail Group to discuss their feedback and will continue to engage with them as appropriate.

### **Smithfield Market Tenant's Association (and individual businesses within it)**

Raised concerns about traffic flows at the junction of West Smithfield and concerns over safety. They were also concerned about the proposal to reduce Snow Hill to one lane and suggested that the right turn be relocated to Charterhouse Street. As outlined in Sections 2.1 and 2.2 of this report, we are proposing to make significant changes to this junction and as part of this we are looking to retain two lanes on Snow Hill. We investigated the feasibility of moving the right turn from Snow Hill to Charterhouse Street, but concluded that right-turning traffic would block traffic proceeding ahead on Charterhouse Street as there is only a single lane approach here. Our proposal to signalise the West Smithfield junction is intended to improve

the safety of the junction for all road users. Impacts on traffic and journey times are still to be assessed and consulted on separately.

## **Businesses, employers and venues**

### **Sainsbury's Supermarkets Ltd**

Commented on the requirement for loading on the northbound side of Farringdon Road. Following engagement with the store, we have changed the design of this section of the route to include a part-time loading bay for the facilitation of their night time deliveries.

### **Knowledge Quarter**

Comments raised are addressed in Sections 2.1 and 2.2 of this report.

### **British Library**

No concerns raised.

### **University of London**

Comments raised are addressed in Sections 2.1 and 2.2 of this report.

### **Westminster Kingsway College**

Comments raised are addressed in Sections 2.1 and 2.2 of this report.

### **Bleeding Heart Restaurants**

Concerns related to the route alignment are covered earlier in this report. They also raised concerns regarding access for refuse vehicles, taxis and emergency services on Greville Street. The closure of the short section of Greville Street between Farringdon Road and Saffron Hill is not expected to restrict access for businesses and residents in the area. The pub on this section of Greville Street has a loading facility at its rear on Saffron Hill. Access to the remainder of Greville Street and Saffron Hill will still be available to motor vehicles and the one-way direction of Kirby Street is proposed to be changed to northbound to provide an alternative route for traffic, to discourage unnecessary through traffic on Saffron Hill.

## **Farringdon Street L.P.**

This response was submitted by SDG on behalf of Farringdon L.P. Most of the concerns raised are covered in Section 2.1 and 2.2 of this report. Reference is made to Shoe Lane, which is not part of the North-South route. Concerns are raised about the capacity of pedestrian crossing islands. There is one staggered crossing proposed on the route at Stonecutter Street. The crossing was built as part of the first phase of the North-South route but will be widened as part of this scheme so will have capacity to accommodate more pedestrians than it currently does. We will continue to engage with stakeholders such as SDG regarding changes to this crossing.

## **Resident Groups**

### **FAS Residents Association**

Concerns regarding Ampton Street are addressed in Section 2.2 of this report.

### **Ziggurat Freehold Limited (Residents Association)**

Most concerns are addressed earlier in this report. Regarding access and deliveries for residents of the Ziggurat building (60-66 Saffron Hill) - while increased waiting and loading restrictions are proposed along Saffron Hill, the existing parking and disabled bays outside the Ziggurat building are not proposed to be changed. Off-peak loading will be available outside 55-59 Saffron Hill in close proximity to the Ziggurat building. As Saffron Hill is a very narrow street (less than 5 metres in places from kerb to kerb), we have introduced increased restrictions on waiting and loading restrictions to prevent the street from becoming blocked during peak times.

### **Amwell Society**

Commented on the proposals to close Judd Street to through-traffic which are not part of the scope of this scheme and are subject to a separate consultation – see <https://consultations.wearecamden.org/culture-environment/midland>.