

## North-South Cycle Superhighway:

### Farringdon Road/ Charterhouse Street Collision Analysis

ODE Technical Note 2016	
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Charterhouse St runs north east to south west intersecting with Farringdon Rd which runs north to South creating a crossroads. The North arm of the junction is known as Farringdon Rd and the south arm is Farringdon St. All 4 arms of the junction are 2 way however right turns are banned from Farringdon St (S) to Charterhouse St (NE) and from Charterhouse St (NE) to Farringdon Rd (N).

#### Site Observations:

- Smithfield Market concerned with left turning HGV and other vehicles accessing the market in conflict with southbound cyclists from Farringdon Rd.
- High number of pedestrians from Farringdon Station
- Crossrail site currently occupies eastern footway on Farringdon Road (north junction arm)

#### Collision analysis [36 months to March 2016]:

- In the 3 year period covered by the accident data there were 15 collisions.
- There were 18 casualties as a result of these collisions, 2 were serious.

#### Classification of collisions and LB City of London comparisons

Of the 15 collisions in the 3 year period there were:

Type of collision	Frequency of each category involved in collisions	Percentage
KSI	2	13%
Pedestrian	5	33%
Cyclist	6	40%
Powered 2 wheeler	5	33%
Right turner	6	40%
Left turner	1	7%
Non-dry	5	33%
Dark	8	53%

Average rates of collisions at ATS junctions in LB City of London and Inner London Boroughs per year:

Type of collision	Comparative Percentage (LB COL)	Comparative Percentage (Inner London)
KSI	15%	12%
Pedestrian	27%	23%
Cyclist	44%	28%
Powered 2 wheeler	25%	23%
Right turner	21%	22%
Left turner	10%	10%
Non-dry	13%	17%
Dark	30%	35%

Farringdon Road/ Charterhouse Street Collisions Compared to LB City of London and Inner London give way/ uncontrolled junctions:

Type of collision	Compared to LB City of London percentages	Compared to Inner London percentages
KSI	87%	108%
Pedestrian	122%	143%
Cyclist	91%	143%
Powered 2 wheeler	132%	143%
Right turner	190%	182%
Left turner	70%	70%
Non-dry	254%	194%
Dark	177%	151%

The Inner London Boroughs dataset is the larger of the two so rates are more reliably compared to it. Therefore at Farringdon Road/ Charterhouse Street collisions involving **Pedestrians, cyclists, powered 2 wheelers, right turners, non-dry and dark conditions** are above the inner London Boroughs average rates at ATS junctions. It should be noted that the rates at the Farringdon Road/ Charterhouse Street junction are particularly high for **non-dry conditions**.

### Trends

- Out of the 15 collisions 3 (20%) involved a vehicle turning from N to SW and a vehicle heading straight from S to N. **This is the most common accident type.**
- Out of the 15 collisions 5 (33%) involved a vehicle heading straight across the junction and hitting, or swerving to avoid, a pedestrian on various arms on the junction.
- Of the 15 collisions 3 (20%) were due to a banned turn movement. Of these 3:
  - 2 (66%) were a banned NE to N right turn
  - 1 (33%) were a banned S to NE right turn

## Cyclists

- Total cyclist collisions 6
- Total cyclist casualties: 6 (1 serious)
  
- Out of the 6 cyclist collisions 2 (33%) involved a right turning vehicle.
- Out of the 6 cyclist collisions 1 (17%) involved a vehicle turning left across the path of a cyclist heading straight (car turning left from NE to S, cyclist heading NE to SW).
- The remaining 3 collisions were all singular accidents 1 (31%) involved a pedestrian crossing in front of a cyclist, 1 (31%) involved a front to rear cyclist to cyclist collision and the remaining 1 (31%) involved a front to rear car to cyclist collision.

## Pedestrian

- Total pedestrian collisions 5 (1 'collision' involved a vehicle which swerved to avoid a pedestrian)
- Total pedestrian casualties: 4 (1 serious)
  
- Out of the 5 collisions 5 (100%) involved a vehicle heading straight across the junction and hitting, or swerving to avoid, a pedestrian.
  - Of these 5 collisions 2 (40%) were a vehicle heading N to S.
  - Of these 5 collisions 2 (40%) were a vehicle heading S to N.
  - Of these 5 collisions 1 (20%) were a vehicle heading SW to NE.
  
- Out of the 5 pedestrian collisions 4 (80%) involved a westbound pedestrian.
- Out of the 5 pedestrian collisions 3 (60%) involved a westbound pedestrian on the north arm of the junction
- Out of the 5 pedestrian collisions 1 (20%) was adjudged to be not partly or entirely the pedestrians fault.

## Right turners

- Total right turner collisions 6
- Total casualties in right turner collisions: 9 (0 serious)
  
- Out of the 6 right turn collisions 3 (50%) involved vehicle turning from N to SW and a vehicle heading straight from S to N. None of these accidents involved a cyclist.
- Out of the 6 right turn collisions 1 (17%) involved vehicle turning from S to NE. **This turn is currently banned.**
- Out of the 6 right turn collisions 1 (17%) involved vehicle turning from SW to S
- Out of the 6 right turn collisions 2 (33%) involved vehicle turning from NE to N, however both of these accidents involved no other vehicle. In one a taxi hit a bollard and the other a bus passenger fell off his seat due to the right turn. **This turn is currently banned.**

### Left turners

- Total right turner collisions 1
- Total casualties in right turner collisions: 1 (0 serious)
- Out of the 1 left turner collisions 1 (100%) involved a cyclist.

The data appears to show that the left turn hook from Farringdon Rd (N) to Charterhouse St (NE) is not currently an issue but should be monitored closely as the changes that North-South will make to the surrounding Junction layout may increase the issue as discussed in the following section.

### Non-dry

- Total right turner collisions 5
- Total non-dry casualties 7 (1 serious)
- Out of the 5 non-dry collisions 3 (60%) involved a pedestrian
- Out of the 5 non-dry collisions 1 (20%) involved a right turner
- Out of the 5 non-dry collisions 1 (20%) involved a left turner

### **Effects of North-South:**

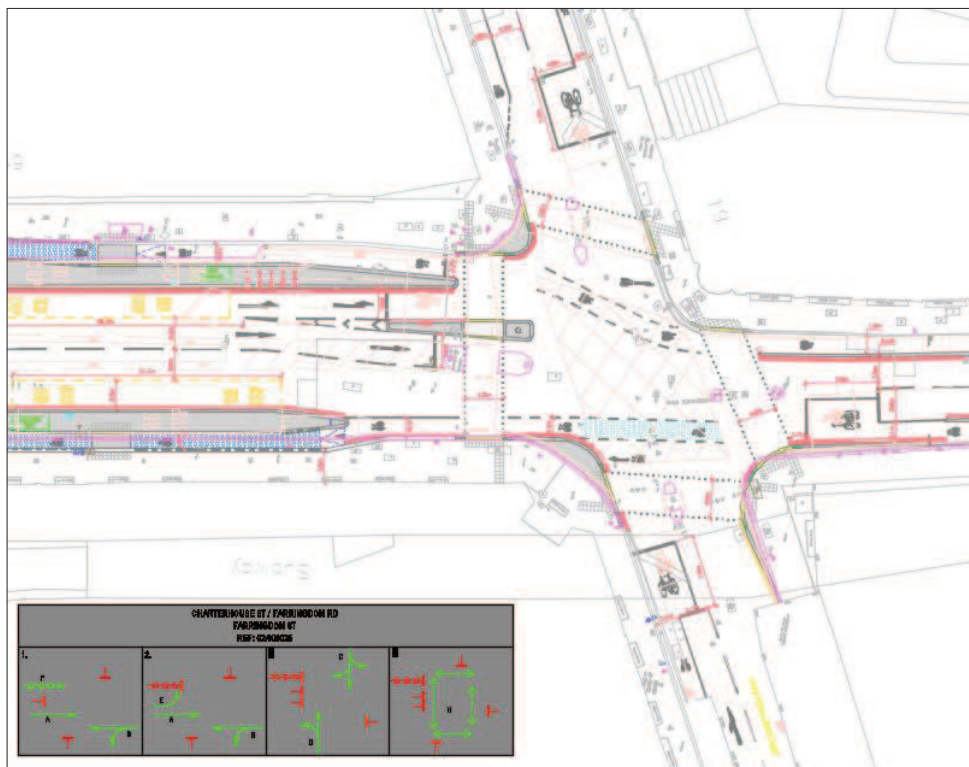
The design for the Farringdon Road/ Charterhouse Street junction is an ATS design is shown on the next page.

- Of the 15 collisions 3 (20%) should have been avoided if the current North South proposal was in place. All 3 of these collisions would be avoided through banning the Farringdon Rd to Charterhouse St (N to SW) right
- Of the 15 collisions 9 (60%) should have had a greater chance of being avoided if the current North South proposal was in place. Of these 9:
  - 5 (83%) involved a pedestrian and would have had a possible reduction in likelihood because the new proposals have controlled (currently uncontrolled) crossings which could encourage pedestrians to wait for the green pedestrian phase.
  - 1 (17%) involved a cyclist being hit from the rear by a vehicle on the approach to the junction (northern arm). The proposed design includes a wider cycle lane on the approach and across the junction which would have reduced the likelihood a vehicle hitting the rear of a cyclist.
  - 1 (17%) is a left hook as a car travelled NE to S while the cyclist attempted to go NE to SW. New lane markings and a wider cycle lane will improve visibility. An early release will enable cyclists to clear the turn before traffic and the tighter radius of the left turn will slow vehicles down.
  - 1 (17%) is a car making a SW to S right turn hits a NE to SW cyclist. Signal phasing will not remove the conflict but increase cycle lane markings in the junction will improve visibility and an early release will enable cyclists to clear the junction before right turners reach the middle of the junction.
  - 1 (17%) is due to a cyclist clipping another cyclist (both N to S) causing one of them to fall. The

likelihood of this should be reduced as the width of cycle lanes and depth of ASLs will increase room for cyclists. An Early release signal will also allow cyclists more time and potentially reduce rushed careless riding.

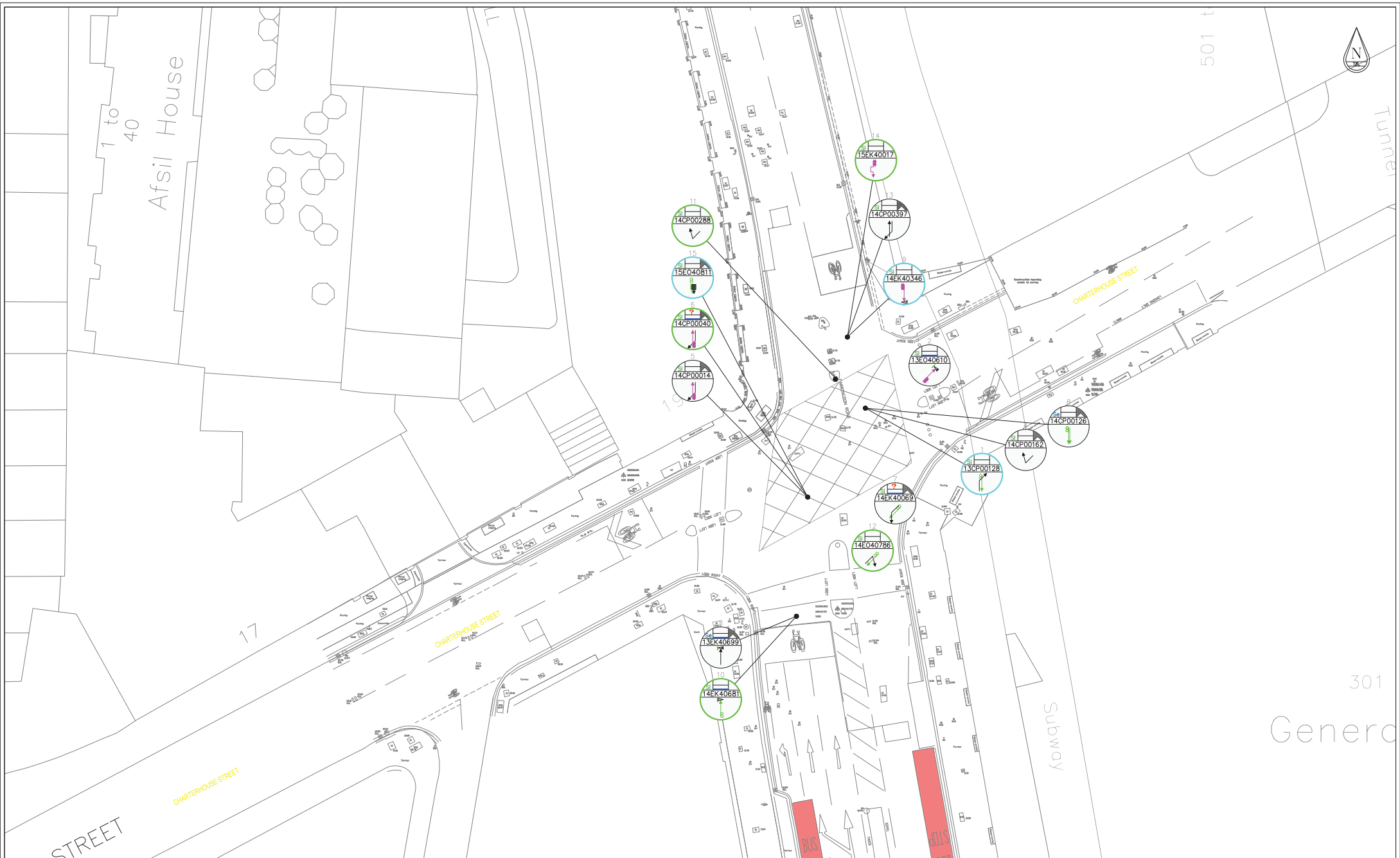
- Of the 3 collisions that the North South proposal could not have avoided:
  - 3 are due to banned turn movements being made. The design does no more to enforce the bans other than add additional arrows on the carriageway on the approach to junctions. Banned turn boards will be present on the new signals.
- Although now left hook collisions occurred from Farringdon Road to Charterhouse St (N to NE) there is a greater chance of this collision type being prevented because of proposed early release signals and 7.5m ASL for cyclists.
- The carriageway is to be resurfaced with improved skid resistance & repaired defects. This will reduce the likely hood of skidding and accidents in the wet.
- Road markings currently in poor state and will be refreshed by CSNS improving visibility in dark conditions

Layout for current proposed ATS junction at Farringdon Road/ Charterhouse Street:



**Key Accident Data:**

See the following drawing for the 15 collisions plotted at the Farringdon Road/ Charterhouse Street junction.



**BALLOON**

Accident Reference Number

Weather condition

Carrisway condition

Light / Dark

Police Reference Number

Manoeuvre & vehicle's

**SEVERITY**

SI SLIGHT INJURY

Se SERIOUS INJURY

Pa FATAL INJURY

**LIGHT CONDITIONS**

DARK WITH STREET LIGHTS

DARK WITHOUT STREET LIGHTS

DAYLIGHT

**VEATHER CONDITIONS**

FOG

RAIN

SNOW

HIGH WIND / RAIN

**ROAD CONDITIONS**

ROAD DEFECT

WET/DAMP

SNOW

ICE/FROST

**VEHICLE MANOEUVRE SYMBOL**

VEHICLE LOSS OF CONTROL

STATIONARY VEHICLE

PARKED VEHICLE

VEHICLE OVERTAKE

VEHICLE TURNING MANOEUVRE

SUDDEN BRAKING / STOPPING

REAR SHUNT

REAR SHUNT

SINGLE VEHICLE

LANE CHANGE / SIDESWIPE

**VEHICLE MANOEUVRE SYMBOL**

"U" TURN

VEHICLE STRIKING PEDESTRIAN

VEHICLE STRIKING PEDESTRIAN

VEHICLE REVERSING (IN DIRECTION OF ARROW)

PEDAL CYCLE

P2W

GOODS VEHICLE

PUBLIC SERVICE VEHICLE

**PEDESTRIAN SYMBOL**

PED MOVEMENT FROM NEARSIDE

PED MOVEMENT FROM OFFSIDE

PED MOVEMENT FACING TRAFFIC

PED MOVEMENT BACK TO TRAFFIC

PED UNKNOWN MOVEMENT

**KEY**

OCURRED DURING THE AM PEAK HOURS 07:00 - 09:59

OCURRED DURING THE PM PEAK HOURS 16:00 - 19:59

APPROXIMATE LOCATION OF EXISTING BUS STOP

City of London/ Camden

Cycle Superhighway North South Phase 2

FOR COMMENT

P01

Project No: 2001 Of 0002

CSNS\_P2-RSM-COL-ZZ-DR-TW-01-0001