

North-South Cycle Superhighway: Snow Hill- West Smithfield Collision Analysis

ODE Technical Note 2016	
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Version	1

Both Snow Hill and West Smithfield join Farringdon Street on its eastern side between Charterhouse Street to north and Holborn viaduct to the south. Snow Hill is exit only for both left and right turns and West Smithfield is entry only from both directions of the Farringdon St. The proposed North-South Cycle Superhighway Phase 2 passes through the junction along Farringdon St and will take the form of with flow cycle tracks on either side of the street.

Site Observations:

- Uncontrolled pedestrian crossings on the Snow Hill (SE) and West Smithfield (NE) arms
- High number of right turners into West Smithfield

Collision analysis [36 months to March 2016]:

- In the 3 year period covered by the accident data there were 17 collisions.
- There were 19 casualties as a result of these collisions, 6 were serious.

Classification of collisions and LB City of London comparisons

Of the 17 collisions in the 3 year period there were:

Type of collision	Frequency of each category involved in collisions	Percentage
KSI	6	35%
Pedestrian	0	0%
Cyclist	13	76%
Powered 2 wheeler	5	29%
Right turner	12	71%
Non-dry	3	18%
Dark	2	12%

Average rates of collisions at Give Way/ Uncontrolled 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%	11%
Pedestrian	26%	21%
Cyclist	48%	31%
Powered 2 wheeler	26%	27%
Right turner	25%	30%
Non-dry	13%	18%
Dark	28%	29%

Snow Hill/ West Smithfield/ Farringdon St 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	233%	318%
Pedestrian	0%	0%
Cyclist	158%	245%
Powered 2 wheeler	112%	107%
Right turner	284%	236%
Non-dry	138%	100%
Dark	42%	41%

Therefore at Snow Hill/ West Smithfield/ Farringdon St collisions involving **KSIs, cyclists and right turners** are significantly above the LB City of London average and inner London Boroughs average rates at give way/ uncontrolled junctions.

Trends

- Of the 17 collisions 4 (24%) were a vehicle turning from south to east i.e. Farringdon Street to West Smithfield and colliding with a southbound cyclist on Farringdon Street. **This is the most common accident type for this junction.**

Cyclists

- Total cyclist collisions 13
- Total cyclist casualties: 14 (5 serious)
- Out of the 13 cyclist collisions 2 (15%) involved a vehicle turning left from Snow Hill
- Out of the 13 cyclist collisions 4 (31%) involved a vehicle turning right from Snow Hill
- Out of the 13 cyclist collisions 4 (31%) involved a vehicle turning right into West Smithfield

Right turners

- 12 collisions involving right turns
- 6 (50%) of all right turn collisions involved a right turn from Snow Hill to Farringdon St
- 6 (50%) of all right turn collisions involved a right turn from Farringdon Street to West Smithfield
- 8 (66%) of all right turn collisions involved a cyclist being hit by a right turning vehicle
- 4 (33%) of all right turn collisions involved a cyclist being hit by vehicle turning right from Snow Hill to Farringdon St.
 - 3 (25%) of these were southbound cyclists

- 1 (8%) of these were northbound cyclists
- 4 (33%) of all right turn collisions involved a cyclist hit by a right turning vehicle from Farringdon St to West Smithfield
 - 4 (33%) of these were southbound cyclists

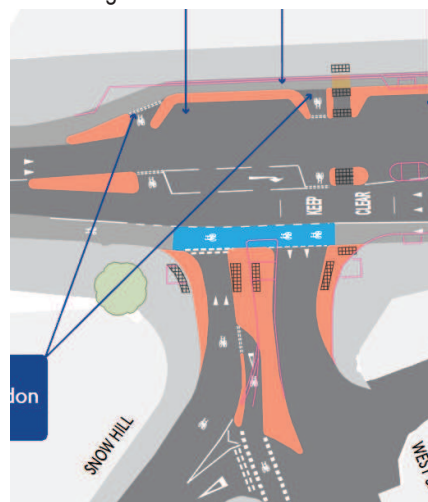
Affects of North-South:

There are options for both an uncontrolled and signalised junction for the Farringdon Street with Snow Hill and West Smithfield junction.

Uncontrolled

- Of the 17 collisions 2 (12%) should have been avoided with the current design for an uncontrolled junction. Of these 2 :
 - 1 (6%) collision involving a southbound cyclist hit from the rear (assumes cyclist uses new cycle track)
 - 1 (6%) collision involving a vehicle turning right from Snow Hill colliding with a northbound cyclist (assumes cyclist uses new cycle track)
- Of the 17 collisions 10 (59%) should have had a greater chance of being avoided with the current design for an uncontrolled junction. Of these 10:
 - 9 (53%) collisions involving southbound cyclists and vehicles turning into Snow Hill or out of West Smithfield. The proposed improved visibility of the cycle lane through cycle symbols and blue paint could have addressed the failure of the vehicles to spot cyclists.
 - 1 (6%) collision involving a northbound powered 2 wheeler and cyclist turning right onto West Smithfield. The proposed new right turn from the cycle track may reduce the chance of a vehicle hitting a right turning cyclist.

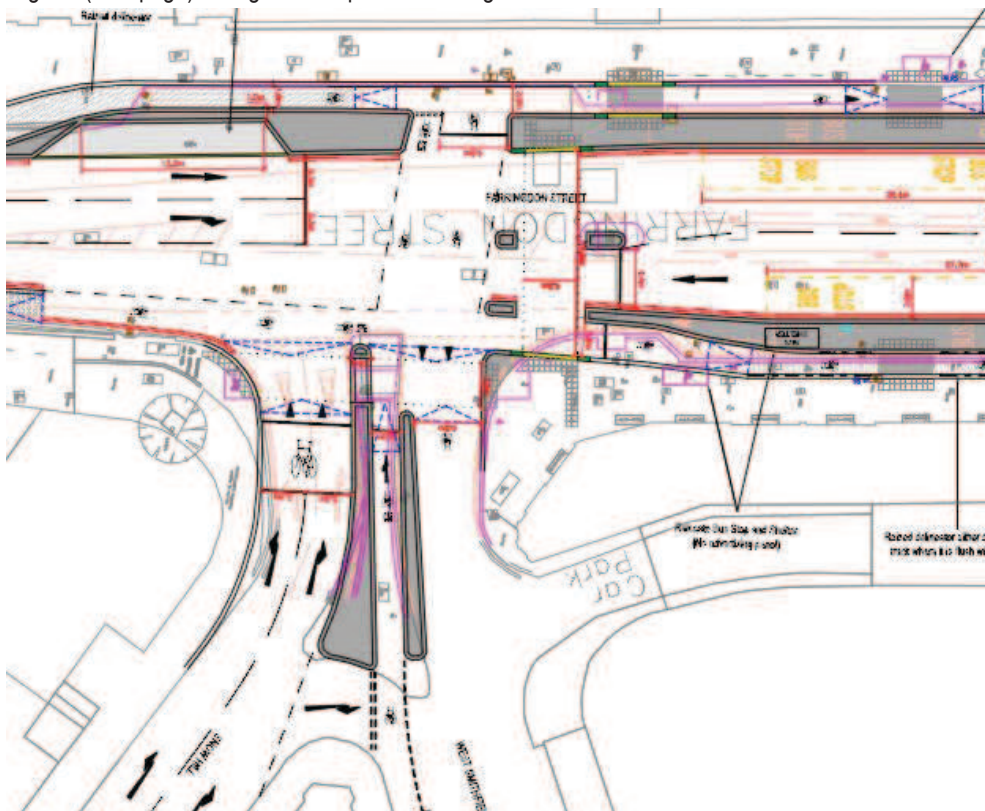
Layout for current proposed uncontrolled junction at Farringdon Street/ Snow Hill/ West Smithfield:

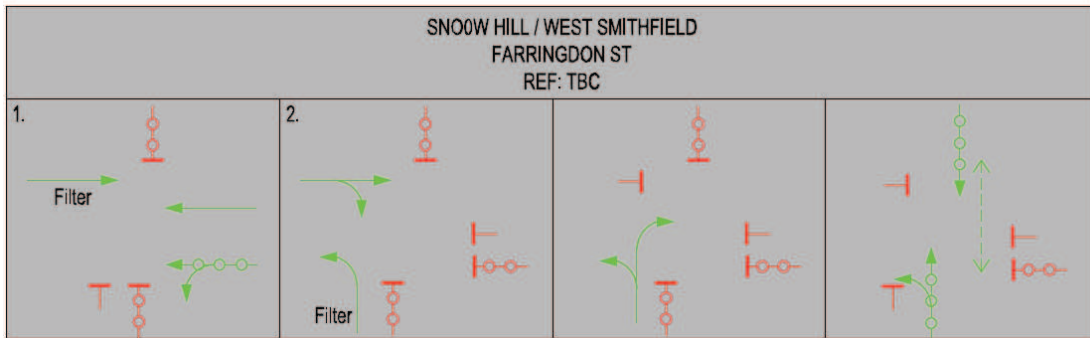


Signalised

- Of the 17 collisions 15 (88%) should have been avoided if there were a signalised junction. Of these 15:
 - 12 (71%) collisions involving vehicles turning right from Snow Hill or right into West Smithfield
 - 2 (12%) collisions involving vehicles turning left from Snow Hill
 - 1 (6%) collision involving an overtaking cyclist hit in the rear by a car (assumes cyclist uses new cycle track)
- The 2 collisions that the new layout could not have prevented were:
 - 2 cyclists carelessly colliding with the report stating “V1 and V2 unsure how they collided with each other”. Clearer Cycle signing and more space should reduce the chance of cyclists colliding but without knowing the exact cause of the accident it is difficult to explain how the scheme is directly help avoid it.
 - P2W skidding on oil after a car braked suddenly. Whilst NS P2 could resurface the junction and increase skid resistance the spillage of oil is not something that could be avoided.

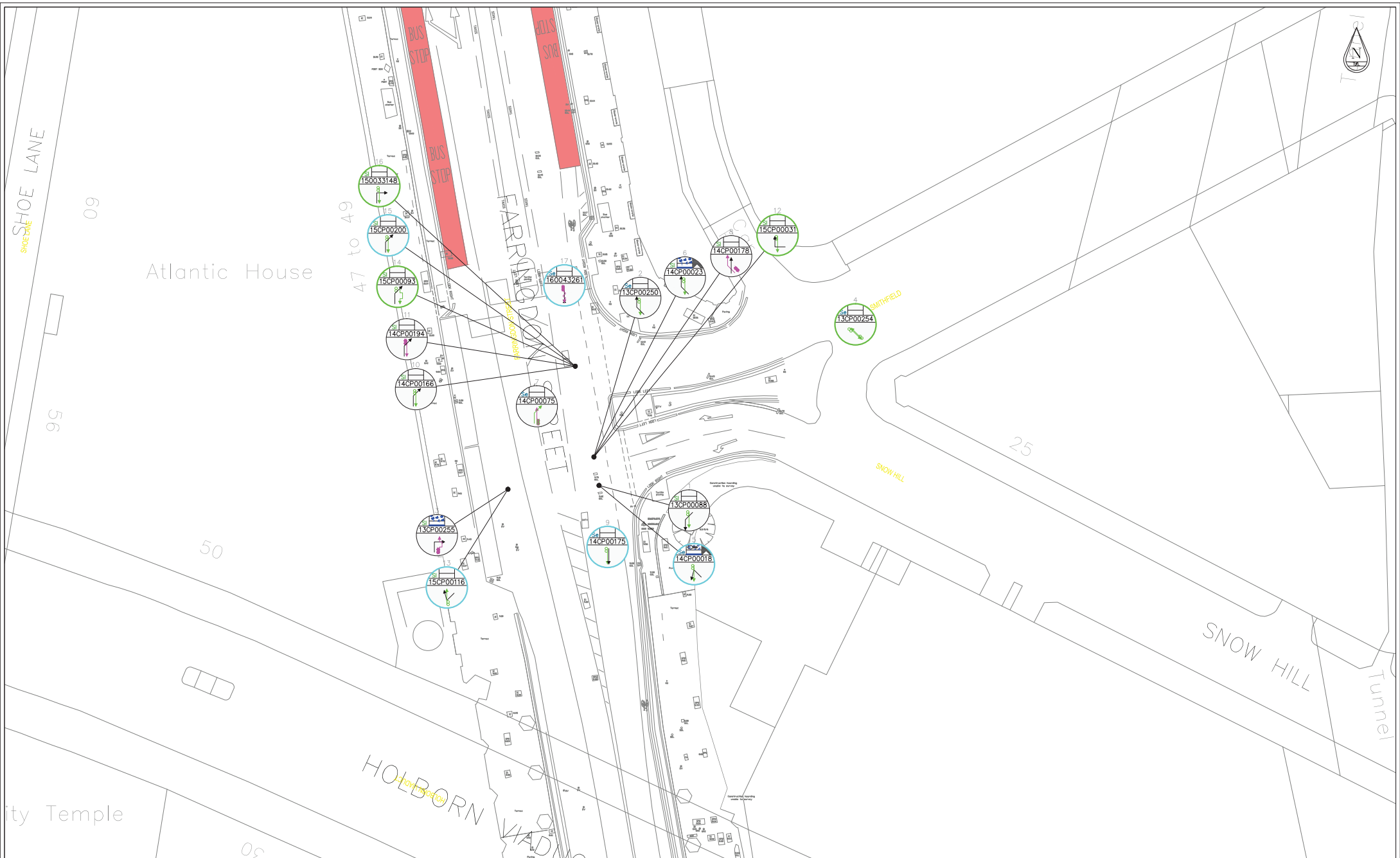
Layout and phase diagram (next page) for signalised option at Farrington Street/ Snow Hill/ West Smithfield:





Key Accident Data:

See the following drawing for the 17 collisions plotted at the Snow Hill/ West Smithfield/ Farringdon St junction.



<p>BALLOON</p> <p>Accident Severity (S - Slight, Se - Serious, Fa - Fatal)</p> <p>Police Reference Number</p> <p>Weather condition</p> <p>Carriageway</p> <p>Light / Dark</p> <p>Manoeuvre & vehicle's</p>	<p>SEVERITY</p> <p>SI SLIGHT INJURY</p> <p>Se SERIOUS INJURY</p> <p>Fa FATAL INJURY</p> <p>LIGHT CONDITIONS</p> <p>DARK WITH STREET LIGHTS</p> <p>DARK WITHOUT STREET LIGHTS</p> <p>DAYLIGHT</p>	<p>WEATHER CONDITIONS</p> <p>FOG</p> <p>RAIN</p> <p>SNOW</p> <p>HIGH WIND / RAIN</p> <p>ROAD CONDITIONS</p> <p>ROAD DEFECT</p> <p>WET/DAMP</p> <p>SNOW</p> <p>ICE/FROST</p>	<p>VEHICLE MANOEUVRE SYMBOL</p> <p>VEHICLE LOSS OF CONTROL</p> <p>STATIONARY VEHICLE</p> <p>PARKED VEHICLE</p> <p>VEHICLE OVERTAKE</p> <p>VEHICLE TURNING MANOEUVRE</p> <p>SUDDEN BRAKING / STOPPING</p> <p>REAR SHUNT</p> <p>REAR SHUNT</p> <p>SINGLE VEHICLE</p> <p>LANE CHANGE / SIDESWIPE</p>	<p>VEHICLE MANOEUVRE SYMBOL</p> <p>"U" TURN</p> <p>VEHICLE STRIKING PEDESTRIAN</p> <p>VEHICLE MOVEMENT FROM OFFSIDE</p> <p>VEHICLE STRIKING PEDESTRIAN</p> <p>VEHICLE REVERSING (IN DIRECTION OF ARROW)</p> <p>PEDAL CYCLE</p> <p>P2W</p> <p>GOODS VEHICLE</p> <p>PUBLIC SERVICE VEHICLE</p>	<p>PEDESTRIAN SYMBOL</p> <p>PED MOVEMENT FROM NEARSIDE</p> <p>PED MOVEMENT FROM OFFSIDE</p> <p>PED MOVEMENT FACING TRAFFIC</p> <p>PED MOVEMENT BACK TO TRAFFIC</p> <p>PED UNKNOWN MOVEMENT</p>	<p>KEY</p> <p>OCURRED DURING THE AM PEAK HOURS 07:00 - 09:59</p> <p>OCURRED DURING THE PM PEAK HOURS 16:00 - 19:59</p> <p>APPROXIMATE LOCATION OF EXISTING BUS STOP</p>		<table border="1"> <tr> <td>rev</td> <td>date</td> <td>details</td> <td>des</td> <td>chk</td> <td>app</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table> <p>City of London/ Camden</p> <p>North South Cycle Superhighway Phase 2</p>	rev	date	details	des	chk	app							<p>Transport for London Surface Transport</p> <p>Road Space Management Outcomes Design Engineering</p> <p>Palazzo 197 Blackhorse Road London SE1 8NU</p> <table border="1"> <tr> <td>date</td> <td>code</td> <td>des</td> <td>chk</td> <td>app</td> <td>rev</td> <td>date</td> <td>details</td> </tr> <tr> <td>26/09/16</td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table> <p>FOR COMMENT</p> <p>P01</p> <p>CSNS_P2-RSM-COL-ZZ-DR-TW-01-0002</p>	date	code	des	chk	app	rev	date	details	26/09/16							
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