

Collisions Before and After the Removal of Pedestrian Railings at 70 Junctions and Crossings on the Transport for London Road Network



Review by:



Street Behaviour

For Client:



Transport for London

Contents

Executive Summary	3
1 Purpose	4
2 Background	4
3 Methodology	4
4 Raw Results	5
Railings Removal Sites	5
Whole TLRN	6
Whole TLRN v Railings Removal Sites	7
Site Specific Data	8
5 Reviewed Results	9
Set 1	9
Set 2	10
Comparison	11
6 Staggered Crossings	11
7 Results Analysis	12
7 Conclusion	13
Appendix A	
Railings Removal Sites Collision Summary	14
Appendix B	
Whole TLRN Collision Summary	15
Appendix C	
Reviewed Set 1 - Collision Summary and Omitted Collisions	20
Appendix D	
Reviewed Set 2 - Collision Summary and Omitted Collisions	23
Appendix E	
Staggered Crossings review	26
Appendix F	
Statistical Significance Tests	30
Appendix G	
Site Details	32
Appendix H	
Stats19 data for all sites (omitted from this report due to file size but available separately)	

Executive Summary

In 2011 TfL commenced a programme to remove large amounts of pedestrian railings on the TfL Road Network (TLRN). Street Behaviour was commissioned by TfL to review collisions 3 years before and after the removal of these railings at 70 junctions and crossings in London. The sites included 90 'staggered' crossings. Sites were chosen based on the following criteria:

- The removal date had been recorded
- 3 years worth of 'after' collision data was available
- No other major physical changes had taken place in the 3 years before or after the removal
- A significant amount of railings had been removed at each site
- The site included at least one crossing

Data was gathered and separated into collisions involving all users and pedestrians only for slight and killed and seriously injured (KSI).

The results showed that following the removal of railings at the 70 sites there was a statistically significant fall of 56% (43 to 19) in the number of collisions involving pedestrians who were killed or seriously injured. There was also a fall of 48% (109 to 57) in the number of KSI collisions for all users. Further analysis was undertaken in order to put these figures into a wider context. In the 6 to 3 year period before removal at these sites (when railings were retained), KSI collisions fell by 7% and 3% respectively. On the whole TLRN during the 3 year period after the removal of the railings, KSI collisions fell by 14% and 19% respectively.

The data at the 70 sites was further reviewed to remove unusual collisions (eg passengers falling over in buses). When these collisions were removed they roughly canceled each other out and the before/after reduction was similar at 53% and 47% for pedestrians and all users.

A detailed analysis was also carried out of every collision involving a pedestrian to try and identify those that occurred in the vicinity of 'staggered' crossings. This showed reductions of 76% (17 to 4) and 67% (9 to 3) in KSI collisions after railings were removed at 'reverse' and 'forward' staggered crossings (the former being statistically significant).

1. Purpose

Street Behaviour was commissioned by TfL to review collisions before and after the removal of pedestrian railings at 70 junctions and crossings in London on the Transport for London Road Network (TLRN).

2. Background

Railings alongside crossings are a common feature throughout the country. They have usually been installed with the justification of safety for pedestrians by guiding them towards a designated crossing point and/or preventing them from crossing in other areas. However there was a desire for them to be removed, primarily to improve pedestrian amenity and the urban realm. In late 2011 TfL began a project involving the large scale removal of railings on the TfL Network in central London. The removals went further than those in the past and included whole junctions and a large number of 'staggered' crossings. This study includes 90 such crossings.

3. Methodology

1. Sites were included in the study based on 5 main criteria:
 - The removal date had been recorded
 - 3 years worth of 'after' collision data was available
 - No other major physical changes had taken place in the 3 years before or after the removal
 - A significant amount of railings had been removed at each site
 - The site included at least one crossing
2. STATS19 collision data was obtained for each site with a radius of 40-50m.
3. Data was separated into collisions involving slight, serious and fatal injuries for all users, and just those that included a pedestrian. All figures are the number of collisions.
4. In order to compare any change against background trends, collision data for the whole TLRN was obtained. As most of the removals took place in 2012, an average was taken for 3 years before and after every month in 2012.
5. In order to obtain a further historical baseline, data for the period 3 to 6 years before the removals at each site was also obtained.
6. TfL's road safety target is to reduce the number of people killed or seriously injured (KSI). There is no target for 'slight'. Also given that the purpose of the railings is to influence pedestrian behaviour and safety, the study has focused on pedestrian KSI collisions.
7. This report contains both 'raw' unedited figures and data which has been further reviewed to omit collisions deemed not to be relevant. By its nature and the less than perfect information in the police collision reports, reviewing data involves an element of subjectivity. All reviewed collision can be found in the appendixes listed by reference number for the reader to review. A separate comprehensive spreadsheet also exists which links all together.
8. Results for the removal sites have been checked for statistical significance using the paired student T test at the 95% confidence level which compares the mean for individual sites.

✓ = indicates the change is statistically significant




✗ = indicates the change is *not* statistically significant




Before = with railings, After = without railings




4. Raw Results




Railings Removal Sites




The tables below show the changes in collisions before and after the removal of railings. Comparing the '6 to 3 year before' period to the '3 years before' period shows how collisions varied during 2 periods when the railings were retained. It effectively acts as control to compare the after period with.




All			
6 to 3 Years Before	3 Years Before	3 years after	
705	744	719	
+5% 		-3% 	

All Involving pedestrians			
6 to 3 Years Before	3 Years Before	3 years after	
182	185	180	
+2% 		-3% 	

Slight			
6 to 3 Years Before	3 Years Before	3 years after	
593	635	662	
+7% 		+4% 	

Slight Involving pedestrians			
6 to 3 Years Before	3 Years Before	3 years after	
136	142	161	
+4% 		+13% 	

KSI			
6 to 3 Years Before	3 Years Before	3 years after	
112	109	57	
-3% 		-48% 	

KSI involving pedestrians			
6 to 3 Years Before	3 Years Before	3 years after	
46	43	19	
-7% 		-56% 	

As can be seen there were statistically significant reductions in the number of KSIs and KSIs involving pedestrians. These reductions were also much higher than the historical reduction over the previous 6 years suggesting that something has caused this to occur.

Whole TfL Network

TfL undertakes a variety of road safety activities that are not site specific (for example advertising campaigns) that may have an impact on reducing collisions. The data below shows the number of collisions on the whole TfL Network over the same 9 year period to allow the results at the removal sites to be seen in a wider context. As these are total figures rather than individual sites it is not possible to carry out the same statistical significance test.

All			
6 to 3 Years Before	3 Years Before	3 years after	
19848	21374	21899	
+8%		+2%	

All Involving pedestrians			
6 to 3 Years Before	3 Years Before	3 years after	
3129	3320	3409	
+6%		+3%	

Slight			
6 to 3 Years Before	3 Years Before	3 years after	
16979	18820	19831	
+11%		+5%	

Slight Involving pedestrians			
6 to 3 Years Before	3 Years Before	3 years after	
2237	2543	2744	
+14%		+8%	

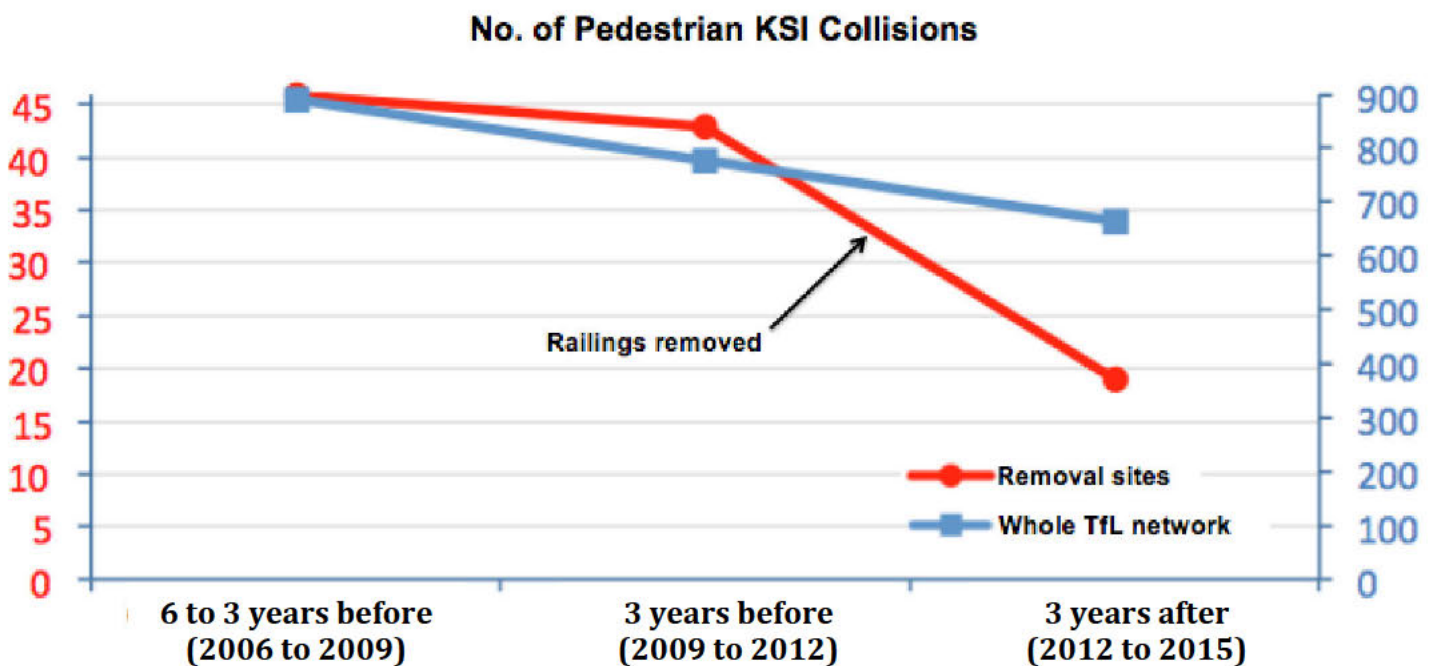
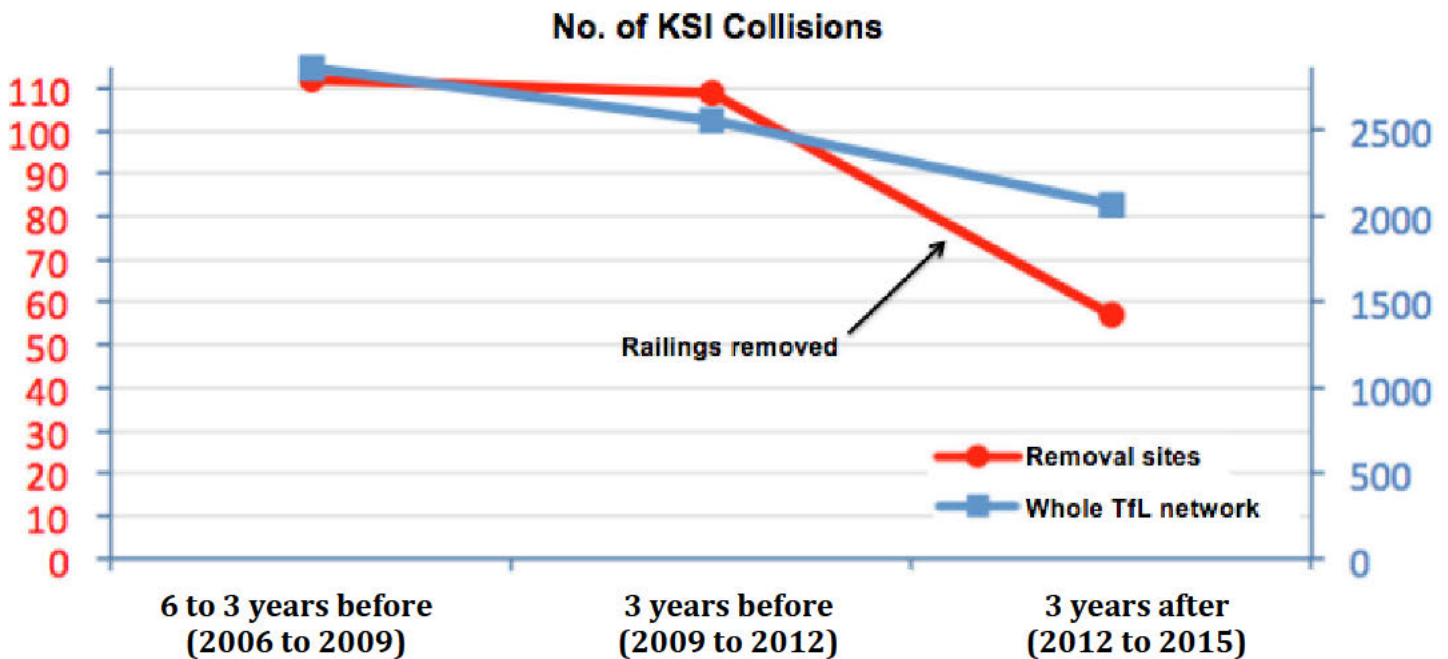
KSI			
6 to 3 Years Before	3 Years Before	3 years after	
2869	2554	2068	
-11%		-19%	

KSI Involving pedestrians			
6 to 3 Years Before	3 Years Before	3 years after	
892	777	665	
-13%		-14%	

The figures show that KSIs have been falling on the whole TfL network. Comparing the 6 to 3 year period to the 3 year period before, this was at a slightly higher rate than at the railing removal sites. However in the 3 year before and after periods this was at much lower rate than the railing removal sites. This shows that KSIs fell at a much higher level at the railings removal sites compared to the TfL network as a whole.

Whole TLRN v railings removal sites

The information from the previous two pages has been combined together to show a comparison graphically. The graphs below show the KSI results for the whole TfL network against the removal sites.



Although there has been a slight downward trend in KSI collisions on the whole TfL network and historically at the study sites, the graphs show that there was a much larger significant downward shift in the number of collisions after railings were removed at the study sites.

Site Specific Data

Click on the map below for a link to view the change in KSI pedestrian collisions at each site. When you click each site there is also a link to Google Street View.

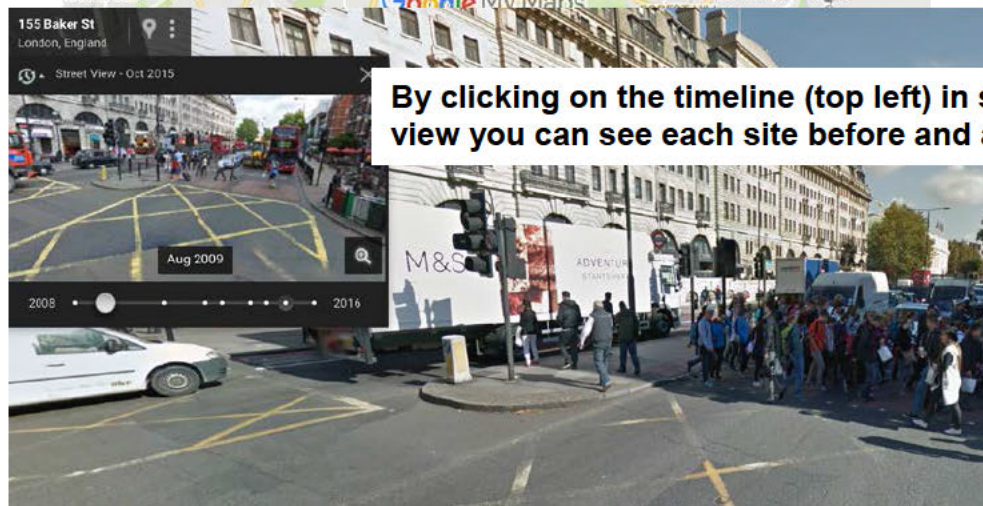
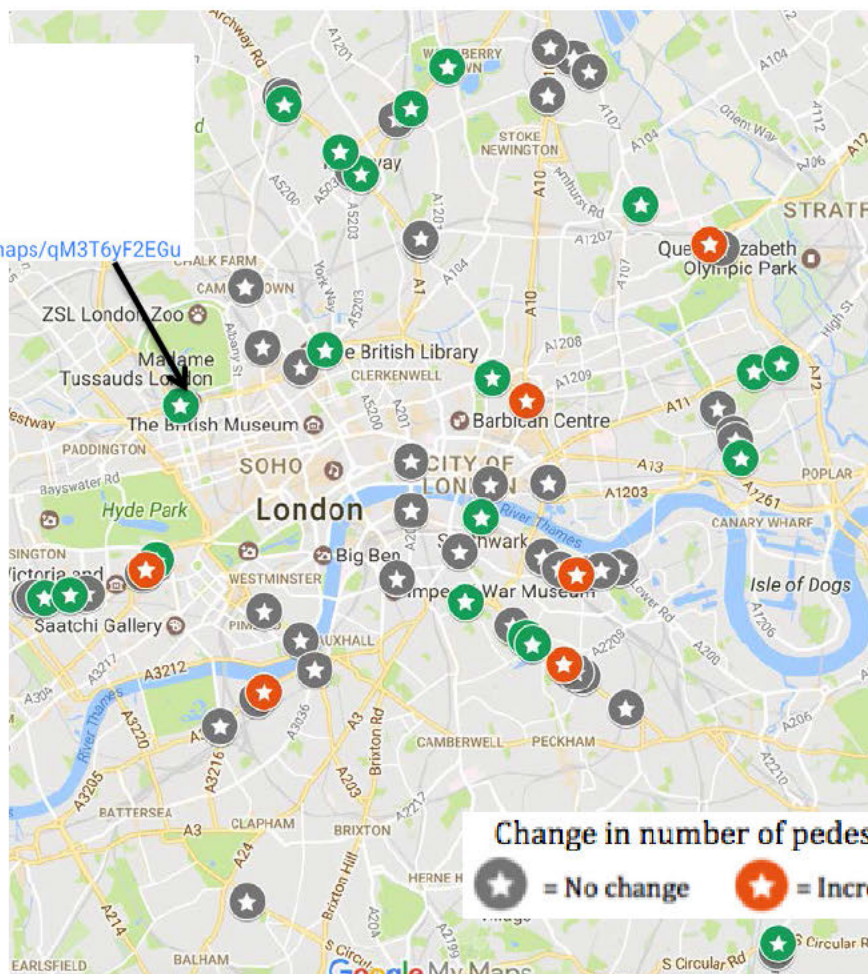
-1

description

Removal date 01/09/11

Site 46

KSI: Before 2, After 1

Street view: <https://goo.gl/maps/qM3T6yF2EGu>


In total of the 70 sites, at 19 there was a reduction in pedestrian KSI collisions, at 6 there was an increase and at 45 there was no change. At the sites where there was an increase, all were an increase of 1 collision. At the sites where there was a reduction, these ranged between 1 and 3.













5. Reviewed Results

Set 1

A review was carried out of every individual collision in the 3 years before and after to identify and omit the items below based on the description within the collision report.

(due to the large amount of data analysis involved this review was not carried out on the 6 to 3 years before data)

Item	No. of collisions omitted			No. of ped collisions omitted		
	Before	After	Total	Before	After	Total
At stand alone crossings, where the collision occurred more than 50m from the crossing (except at sites 14, 20 and 35 where railings were also removed from considerable lengths to the side)	26	33	59	4	10	14
Collisions with extenuating circumstances. Examples include drunk drivers and scaffolding falling from a building	4	3	7	2	2	4
Passengers falling over on buses (code C001)	27	18	45			
Total	58	53	111	6	12	18

All			
3 Years Before	3 Years After	% change	
687	666	-3% 	
All involving pedestrians			
3 Years Before	3 Years After	% change	
180	168	-7% 	
Slight			
3 Years Before	3 Years After	% change	
583	611	+5% 	
Slight involving pedestrians			
3 Years Before	3 Years After	% change	
139	149	+7% 	
KSI			
3 Years Before	3 Years After	% change	
104	55	-47% 	
KSI involving pedestrians			
3 Years Before	3 Years After	% change	
41	19	-54% 	













Set 2

At the 15 stand alone crossing sites, all had all the railings within the staggered crossing removed. Of the 55 junctions, 47 had railings removed from all arms, 2 had railings retained on 1 or more arms and at 6 there was no railings to start with on some arms. For these 8 junctions, a review has been carried out of the pedestrian collisions to, where possible, identify and remove those that occurred on arms that had no railings removed. More site details can be found in Appendix G.










This type of analysis can be quite subjective in terms of the specific collisions but mainly the fact of doing it all. The presence or lack off railings on one arm of a junction may have no effect on another arm, in which case this analysis is prudent. However this is based on the assumption that railings only influence their immediate vicinity. On the other hand, the area of influence could be greater than the specific arm and it may have an impact on driver and pedestrian behaviour elsewhere in the junction. For example pedestrians could choose different routes to avoid the railings and drivers may reduce their speed and drive more cautiously through the whole junction. Nonetheless it has been carried out and readers can choose to use or disregard the information. The same also applies to the staggered crossing analysis on the following pages.

The review of these 8 junctions resulted in the omission of 15 pedestrian collisions, 8 before and 7 after.










The resulting data after the above has been removed and combined with the reviewed data from set 1 are shown below:

All			
3 Years Before	3 Years After	% change	
679	659	-3% 	
All involving pedestrians			
3 Years Before	3 Years After	% change	
172	161	-6% 	
Slight			
3 Years Before	3 Years After	% change	
576	604	+5% 	
Slight involving pedestrians			
3 Years Before	3 Years After	% change	
132	142	+8% 	
KSI			
3 Years Before	3 Years After	% change	
103	55	-47% 	
KSI involving pedestrians			
3 Years Before	3 Years After	% change	
40	19	-53% 	

Comparison of raw v reviewed results for all collisions

	% change 3 years after v before		
	All	Slight	KSI
Raw data	-3% 	+4% 	-48% 
Reviewed set 1	-3% 	+5% 	-47% 
Reviewed set 2	-3% 	+5% 	-47% 

Comparison of raw v reviewed results for pedestrian collisions

	% change 3 years after v before		
	All	Slight	KSI
Raw data	-3% 	+13% 	-56% 
Reviewed set 1	-7% 	+7% 	-54% 
Reviewed set 2	-6% 	+8% 	-53% 

Comparing the raw data to the reviewed data has shown hardly any change, and no change to the fact that there was statistically significant falls in KSI collisions. In general the process of omitting collisions deemed not to be relevant has cancelled each other out in the before and after periods, as may have been expected.

6. Staggered Crossings

There are two main types of staggered crossing. A 'reverse' staggered crossing is where pedestrians walk in the central island away from oncoming traffic. A forward staggered crossing is where they walk towards oncoming traffic

Example of a reverse staggered crossing




Example of a forward staggered crossing





In the study there are 58 reverse and 32 forward staggered crossings. This review has analysed the specific location within a site of each pedestrian collision 3 years before and after and recorded those within the vicinity of a staggered crossing.

Collisions involving pedestrians in the vicinity of:


'Reverse' Staggered Crossings


All involving pedestrians		
3 Years Before	3 Years After	% change
56	43	-23% 


Slight involving pedestrians		
3 Years Before	3 Years After	% change
39	39	0% 

KSI involving pedestrians		
3 Years Before	3 Years After	% change
17	4	-76% 

'Forward' Staggered Crossings

All involving pedestrians		
3 Years Before	3 Years After	% change
41	23	-44% 

Slight involving pedestrians		
3 Years Before	3 Years After	% change
32	20	-38% 

KSI involving pedestrians		
3 Years Before	3 Years After	% change
9	3	-67% 

The results show the only statistically significant changes were a 76% reduction in KSI collisions involving pedestrians at reverse staggered crossings (17 to 4), and a 44% reduction in all collisions involving pedestrians at forward staggered crossings (41 to 23).

7. Results Analysis

Why have KSIs dropped so much after the removal of railings?

Knowing the exact reason why this change has occurred is difficult to pinpoint. However the Engineer at TfL responsible for the railings removal programme (Sam Wright) gives some insight based on his experience of observing the sites before and after. "Railings can sometimes give drivers 'tunnel vision' and a feeling that pedestrians are safely tucked behind them. Without the railings people tend to cross in more locations on an 'ad hoc' basis. Rather than this being more dangerous, the feeling that pedestrians could step out from anywhere appears to make drivers slow down and pay more care and attention. In addition the railings caused some pedestrians to become trapped in the road, taking longer to reach the safety of the footway. Removing them means they now actually spend less time in the road. As a result, junctions and crossings are safer without railings".

8. Conclusion

Following the removal of pedestrian railings at 70 junctions and crossings in London there was a statistically significant fall of 56% in the number of collisions involving pedestrians who were killed or seriously injured. There was also a fall of 48% in the number of KSI collisions for all users. This compares to a background trend on the whole TfL Road Network of falls of 14% and 19% respectively.

Upon reviewing the data to remove collisions which may not be relevant, the reductions in KSI collisions were 53% and 47% for pedestrians and all users.

Further detailed analysis was carried out to identify pedestrian collisions that occurred in the vicinity of 'reverse' and 'forward' staggered crossings. This showed reductions of 76% and 67% in KSI collisions at each type respectively with the former being statistically significant.

For further information contact:

info@street-behaviour.co.uk or pedestrianguardrail@tfl.gov.uk

Appendix A

Removal Sites Collision Summary –

3 Years Before and After
6 to 3 Years before

3 Years Before and After Collision Data

Site No.	Location	Type	No. R/S crossings	No. F/S crossings	Raw Data																													
					All Collisions															Just Pedestrian Collisions														
					Before					After					Difference					Before					After					Difference				
					Slight	Serious	Fatal	Total	KSI total	Slight	Serious	Fatal	Total	KSI total	Slight	Serious	Fatal	Total	KSI total	Slight	Serious	Fatal	Total	KSI total	Slight	Serious	Fatal	Total	KSI total	Slight	Serious	Fatal	Total	KSI total
1	Archway Rd / Archway Gyratory – north arm of gyratory	J	1	0	8	0	0	8	0	4	0	0	4	0	-4	0	0	-4	0	2	0	0	2	0	1	0	0	1	0	-1	0	0	-1	0
2	Bassborough Gardens / Grosvenor Rd	J	4	0	22	2	0	24	2	26	2	0	28	2	4	0	0	4	0	1	1	0	2	1	3	1	0	4	1	2	0	0	2	0
3	Battersea Park Rd / Queenstown Rd	J	0	0	10	0	0	10	0	10	0	0	10	0	0	0	0	0	0	2	0	0	2	0	5	0	0	5	0	3	0	0	3	0
4	Blackfriars Rd / Southwark St	J	1	2	10	3	0	13	3	9	1	0	10	1	-1	-2	0	-3	-2	3	1	0	4	1	2	1	0	3	1	-1	0	0	-1	0
5	Borough High St / Marshalsea Rd	J	1	2	6	2	0	8	2	14	1	0	15	1	8	-1	0	7	-1	5	0	0	5	0	5	0	0	5	0	0	0	0	0	0
6	Bow Rd / Alfred St – to the east of the junction	SAC	0	1	16	4	0	20	4	16	2	0	18	2	0	-2	0	-2	-2	2	3	0	5	3	2	0	0	2	0	0	-3	0	-3	-3
7	Bow Rd / Fairfield Rd	J	0	1	14	4	0	18	4	10	1	0	11	1	-4	-3	0	-7	-3	5	2	0	7	2	3	1	0	4	1	-2	-1	0	-3	-1
8	Bromley Rd / Catford Rd	J	0	1	6	2	0	8	2	6	0	0	6	0	0	-2	0	-2	-2	0	1	0	1	1	2	0	0	2	0	2	-1	0	1	-1
9	Bromley Rd / Sangley Rd	J	0	1	3	0	0	3	0	9	0	0	9	0	6	0	0	6	0	0	0	0	0	0	5	0	0	5	0	5	0	0	5	0
10	Brompton Rd / Beauchamp Place	J	0	1	6	0	0	6	0	5	0	0	5	0	-1	0	0	-1	0	3	0	0	3	0	2	0	0	2	0	-1	0	0	-1	0
11	Brompton Rd / Brompton Place	SAC	0	1	7	0	0	7	0	5	1	0	6	1	-2	1	0	-1	1	4	0	0	4	0	3	1	0	4	1	-1	1	0	0	1
12	Brompton Rd / Hans Crescent	SAC	1	0	7	2	0	9	2	2	1	0	3	1	-5	-1	0	-6	-1	2	1	0	3	1	0	0	0	0	0	-2	-1	0	-3	-1
13	Brompton Rd to the west of Lancelot Place	SAC	0	1	7	0	0	7	0	2	0	0	2	0	-5	0	0	-5	0	1	0	0	1	0	2	0	0	2	0	1	0	0	1	0
14	Burdett Rd / Ackroyd Drive	SAC	0	1	2	0	0	2	0	1	0	0	1	0	-1	0	0	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	Burdett Rd / Bow Common Lane	J	2	0	7	1	0	8	1	9	0	0	9	0	2	-1	0	1	-1	1	0	0	1	0	2	0	0	2	0	1	0	0	1	0
16	Burdett Rd / St Pauls Way	J	1	1	18	0	0	18	0	25	1	0	26	1	7	1	0	8	1	0	0	0	0	1	0	0	0	1	0	1	0	0	1	0
17	Burdett Rd / Thomas Rd	SAC	1	0	5	2	0	7	2	8	0	0	8	0	3	-2	0	1	-2	1	1	0	2	1	1	0	0	1	0	0	-1	0	-1	-1
18	Camden Rd / Caledonian Rd	J	0	0	6	1	0	7	1	3	0	0	3	0	-3	-1	0	-4	-1	2	0	0	2	0	1	0	0	1	0	-1	0	0	-1	0
19	Clapton Common bet Braydon Rd & Portland Ave	SAC	0	1	2	0	0	2	0	7	0	0	7	0	5	0	0	5	0	1	0	0	1	0	0	0	0	0	0	-1	0	0	-1	0
20	Clapton Common bet Osbaldeston Rd & Oldhill St	SAC	0	1	6	1	0	7	1	6	0	0	6	0	0	-1	0	-1	-1	3	0	0	3	0	0	0	0	0	0	-3	0	0	-3	0
21	Cromwell Rd / Collingham Rd	J	1	0	3	1	0	4	1	4	0	0	4	0	1	-1	0	0	-1	1	1	0	2	1	3	0	0	3	0	2	-1	0	1	-1
22	Cromwell Rd / Gloucester Rd	J	0	0	13	2	0	15	2	13	0	0	13	0	0	-2	0	-2	-2	2	1	0	3	1	11	0	0	11	0	9	-1	0	8	-1
23	Cromwell Rd / Knaresborough Place	J	1	0	3	0	0	3	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	2	0	0	2	0
24	Cromwell Rd / Marloes Rd	J	1	0	5	1	0	6	1	0	1	0	1	1	-5	0	0	-5	0	2	1	0	3	1	0	1	0	1	1	-2	0	0	-2	0
25	Cromwell Rd / Queens Gate	J	4	0	11	3	0	14	3	9	1	0	10	1	-2	-2	0	-4	-2	3	0	0	3	0	1	0	0	1	0	-2	0	0	-2	0
26	Euston Rd / Dukes Rd Churchway	J	0	0	9	0	0	9	0	6	0	1	7	1	-3	0	1	-2	1	2	0	0	2	0	1	0	0	1	0	-1	0	0	-1	0
27	Euston Rd / Pancras Rd	J	1	0	23	4	0	27	4	8	0	0	8	0	-15	-4	0	-19	-4	5	2	0	7	2	2	0	0	2	0	-3	-2	0	-5	-2
28	Hampstead Rd o/s BP station - ped refuge	SAC	1	0	4	1	0	5	1	1	0	0	1	0	-3	-1	0	-4	-1	1	0	0	1	0	0	0	0	0	0	-1	0	0	-1	0
29	Highbury Corner / Canonbury Rd	J	0	0	3	0	0	3	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	Highbury Corner / St Pauls Rd	J	0	0	7	0	0	7	0	5	0	0	5	0	-2	0	0	-2	0	4	0	0	4	0	1	0	0	1	0	-3	0	0	-3	0
31	Holloway Rd / Loraine Rd	SAC	1	0	5	0	0	5	0	5	0	0	5	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	-3	0	0	-3	0
32	Holloway Rd / Sandridge St	J	1	0	12	2	0	14	2	9	1	0	10	1	-3	-1	0	-4	-1	1	2	0	3	2	2	0	0	2	0	1	-2	0	-1	-2
33	Holloway Rd / Tufnell Park Rd - traffic island	J	1	0	10	1	0	11	1	9	0	0	9	0	-1	-1	0	-2	-1	5	1	0	6	1	3	0	0	3	0	-2	-1	0	-3	-1
34	Jamaica Rd / Abbey St	J	1	1	5	2	0	7	2	8	1	0	9	1	3	-1	0	2	-1	0	0	0	0	0	2	0	0	2	0	2	0	0	2	0
35	Jamaica Rd / Bermondsey LU Station	SAC	0	1	2	0	0	2	0	3	0	0	3	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	-1	0	0	-1	0
36	Jamaica Rd / Bevington St / St James's Rd	J	1	2	10	1	0	11	1	6	2	0	8	2	-4	1	0	-3	1	2	0	0	2	0	0	1	0	1	1	-2	1	0	-1	1
37	Jamaica Rd / Rotherhithe Tunnel Rdbt - traffic island west	J	0	1	12	1	0	13	1	8	0	0	8	0	-4	-1	0	-5	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	Jamaica Rd / Tooley St / Shad Thames	J	2	0	4	1	1	6	2	1	2	0	3	2	-3	1	-1	-3	0	2	0	0	2	0	0	0	0	0	0	-2	0	0	-2	0
39	Jamaica Rd / West Ln / Southwark Pk Rd	J	1	0	4	0	0	4	0	6	0	0	6	0	2	0	0	2	0															

6-3 Years Before Removal Collision Data

Site No.	Location	Type	No. R/S crossings	No. F/S crossings	Raw Data									
					All Collisions					Just Pedestrian Collisions				
					Slight	Serious	Fatal	Total	KSI total	Slight	Serious	Fatal	Total	KSI total
1	Archway Rd / Archway Gyratory – north arm of gyratory	J	1	0	2	0	0	2	0	1	0	0	1	0
2	Bassborough Gardens / Grosvenor Rd	J	4	0	19	3	1	23	4	3	1	1	5	2
3	Battersea Park Rd / Queensdown Rd	J	0	0	12	1	0	13	1	3	1	0	4	1
4	Blackfriars Rd / Southwark St	J	1	2	10	1	0	11	1	2	0	0	2	0
5	Borough High St / Marshalsea Rd	J	1	2	17	2	0	19	2	4	1	0	5	1
6	Bow Rd / Alfred St – to the east of the junction	SAC	0	1	8	3	0	11	3	1	2	0	3	2
7	Bow Rd / Fairfield Rd	J	0	1	11	0	0	11	0	1	0	0	1	0
8	Bromley Rd / Catford Rd	J	0	1	7	3	0	10	3	2	1	0	3	1
9	Bromley Rd / Sangley Rd	J	0	1	5	0	0	5	0	0	0	0	0	0
10	Brompton Rd / Beauchamp Place	J	0	1	8	1	0	9	1	3	1	0	4	1
11	Brompton Rd / Brompton Place	SAC	0	1	4	0	0	4	0	3	0	0	3	0
12	Brompton Rd / Hans Crescent	SAC	1	0	3	0	0	3	0	0	0	0	0	0
13	Brompton Rd to the west of Lancelot Place	SAC	0	1	7	0	0	7	0	4	0	0	4	0
14	Burdett Rd / Ackroyd Drive	SAC	0	1	0	1	0	1	1	0	0	0	0	0
15	Burdett Rd / Bow Common Lane	J	2	0	5	1	0	6	1	2	0	0	2	0
16	Burdett Rd / St Pauls Way	J	1	1	19	5	0	24	5	3	1	0	4	1
17	Burdett Rd / Thomas Rd	SAC	1	0	3	2	0	5	2	1	1	0	2	1
18	Camden Rd / Caledonian Rd	J	0	0	3	1	0	4	1	0	1	0	1	1
19	Clapton Common bet Braydon Rd & Portland Ave	SAC	0	1	8	1	0	9	1	0	0	0	0	0
20	Clapton Common bet Osbaldeston Rd & Oldhill St	SAC	0	1	4	1	0	5	1	1	0	0	1	0
21	Cromwell Rd / Collingham Rd	J	1	0	4	1	0	5	1	2	1	0	3	1
22	Cromwell Rd / Gloucester Rd	J	0	0	17	2	0	19	2	12	2	0	14	2
23	Cromwell Rd / Knaresborough Place	J	1	0	5	3	0	8	3	0	2	0	2	2
24	Cromwell Rd / Marloes Rd	J	1	0	8	1	0	9	1	3	0	0	3	0
25	Cromwell Rd / Queens Gate	J	4	0	9	0	0	9	0	2	0	0	2	0
26	Euston Rd / Dukes Rd Churchway	J	0	0	8	2	0	10	2	1	0	0	1	0
27	Euston Rd / Pancras Rd	J	1	0	6	2	1	9	3	4	0	1	5	1
28	Hampstead Rd o/s BP station - ped refuge	SAC	1	0	3	2	0	5	2	0	1	0	1	1
29	Highbury Corner / Canonbury Rd	J	0	0	1	0	0	1	0	0	0	0	0	0
30	Highbury Corner / St Pauls Rd	J	0	0	4	1	0	5	1	0	0	0	0	0
31	Holloway Rd / Loraine Rd	SAC	1	0	4	0	0	4	0	1	0	0	1	0
32	Holloway Rd / Sandridge St	J	1	0	8	1	0	9	1	3	0	0	3	0
33	Holloway Rd / Tufnell Park Rd - traffic island	J	1	0	4	0	0	4	0	0	0	0	0	0
34	Jamaica Rd / Abbey St	J	1	1	7	1	0	8	1	0	0	0	0	0
35	Jamaica Rd / Bermondsey LU Station	SAC	0	1	5	0	0	5	0	1	0	0	1	0
36	Jamaica Rd / Bevington St / St James's Rd	J	1	2	7	2	0	9	2	0	1	0	1	1
37	Jamaica Rd / Rotherhithe Tunnel Rdbt - traffic island west	J	0	1	3	1	0	4	1	0	0	0	0	0
38	Jamaica Rd / Tooley St / Shad Thames	J	2	0	3	1	0	4	1	0	1	0	1	1
39	Jamaica Rd / West Ln / Southwark Pk Rd	J	1	0	10	0	0	10	0	0	0	0	0	0
40	Kentish Town Rd / Camden Rd	J	0	0	23	6	0	29	6	9	5	0	14	5
41	Kenworthy Rd / Wick Rd	J	0	0	4	0	0	4	0	1	0	0	1	0
42	London Bridge / Duke St Hill	J	2	0	12	3	0	15	3	7	2	0	9	2
43	Lower Clapton Rd / Urswick Rd	J	0	1	12	2	0	14	2	4	1	0	5	1
44	Ludgate Circus	J	2	0	15	3	0	18	3	5	0	0	5	0
45	Mansell St / Goodman's Yard	J	0	0	2	1	0	3	1	0	0	0	0	0
46	Marlybone Rd / Baker St	J	2	0	27	7	0	34	7	5	3	0	8	3
47	New Kent Rd to the middle east of Balfour St	SAC	0	1	6	0	0	6	0	1	0	0	1	0
48	Nine Elms Lane southwest of Cringle St	SAC	0	1	2	1	0	3	1	0	0	0	0	0
49	Nine Elms Lane / Kirtling St	J	1	1	3	1	0	4	1	0	0	0	0	0
50	Nine Elms Lane / Wandsworth Rd	J	0	1	9	1	0	10	1	1	1	0	2	1
51	Old Kent Rd / Dunton Rd	J	1	0	4	1	0	5	1	1	0	0	1	0
52	Old Kent Rd / Hendre Rd	J	0	1	12	0	0	12	0	4	0	0	4	0
53	Old Kent Rd / Humphrey Str / Albany Rd	J	2	2	21	0	0	21	0	4	0	0	4	0
54	Old Kent Rd / Ilderton Rd	J	2	0	12	1	0	13	1	4	0	0	4	0
55	Old Kent Rd / Malt St	J	2	0	8	2	0	10	2	1	1	0	2	1
56	Old Kent Rd / Olmar St	J	2	0	3	0	0	3	0	0	0	0	0	0
57	Old Kent Rd / Peckham Park Rd	J	1	0	4	0	0	4	0	0	0	0	0	0
58	Old Kent Rd / St James Rd	J	2	0	16	7	0	23	7	1	2	0	3	2
59	Old Str / Vince Str	SAC	1	0	12	4	0	16	4	2	2	0	4	2
60	Poynders Rd / Cavendish Rd	J	0	0	0	1	0	1	1	0	0	0	0	0
61	Seven Sisters Rd / Blackstock Rd	J	0	1	13	3	0	16	3	4	1	0	5	1
62	Seven Sisters Rd / Green Lanes Rd	J	2	2	36	7	0	43	7	3	1	0	4	1
63	Seven Sisters Rd / Isledon Rd	J	1	0	8	3	0	11	3	2	2	0	4	2
64	Shoreditch High St / Great Eastern St	J	4	0	21	3	0	24	3	2	1	0	3	1
65	St George's Rd / Lambeth Rd	J	0	0	2	1	1	4	2	0	0	1	1	1
66	St John's Way / Archway Gyratory – east arm of gyratory	J	0	0	1	1	0	2	1	1	0	0	1	0
67	Stamford Hill / Clapton Common	J	1	0	20	2	1	23	3	8	2	0	10	2
68	Stamford Hill to the north of Windus Rd - o/s Morrisons	SAC	1	0	2	0	0	2	0	2	0	0	2	0
69	Vauxhall Bridge Rd / Warwick Way	J	0	0	10	0	1	11	1	1	0	1	2	1
70	Wick Rd/ Cadogan Terrace	J	0	1	2	0	0	2	0	0	0	0	0	0
Totals			58	32	593	107	5	705	112	136	42	4	182	46



Appendix B

All TLRN Collision Summary

All Personal injury collisions on the TLRN

Jan 2009-Dec 2015									
Average of 12 months before and after Jan to Dec 12									
No. of Collisions									
Year	Month	1 Fatal	2 Serious	3 Slight	Total	3 years before and after			
2009	January	6	68	369	443	KSI			
2009	February	3	52	331	386	Before After			
2009	March	4	50	488	542	Jan 12	2516	2217	
2009	April	5	90	461	556	Feb 12	2515	2205	
2009	May	2	61	506	569	Mar 12	2531	2177	
2009	June	6	78	525	609	Apr 12	2566	2142	
2009	July	3	70	528	601	May 12	2527	2140	
2009	August	2	61	509	572	Jun 12	2557	2087	% change
2009	September	3	72	549	624	Jul 12	2538	2063	
2009	October	3	72	557	632	Aug 12	2560	2025	
2009	November	4	74	555	633	Sep 12	2582	1985	
2009	December	9	65	437	511	Oct 12	2581	1962	
2010	January	2	45	430	477	Nov 12	2595	1915	
2010	February	5	61	446	512	Dec 12	2581	1896	
2010	March	0	94	541	635	Avg	2554	2068	-19%
2010	April	7	58	448	513				
2010	May	2	85	525	612				
2010	June	2	81	558	641	Slight			
2010	July	6	65	562	633	Jan 12	18478	19690	
2010	August	1	58	501	560	Feb 12	18587	19719	
2010	September	3	68	564	635	Mar 12	18705	19722	
2010	October	7	86	607	700	Apr 12	18793	19666	
2010	November	3	72	564	639	May 12	18786	19742	
2010	December	3	27	389	419	Jun 12	18829	19760	% change
2011	January	4	38	423	465	Jul 12	18814	19858	
2011	February	2	55	424	481	Aug 12	18896	19944	
2011	March	11	59	565	635	Sep 12	18958	19930	
2011	April	2	70	516	588	Oct 12	18964	19957	
2011	May	4	76	619	699	Nov 12	19019	19971	
2011	June	3	69	580	652	Dec 12	19005	20008	
2011	July	5	60	647	712	Avg	18820	19831	5%
2011	August	4	59	462	525				
2011	September	1	78	551	630				
2011	October	6	75	620	701	All			
2011	November	8	63	580	651	Jan 12	20994	21907	
2011	December	3	57	541	601	Feb 12	21102	21924	
2012	January	3	70	478	551	Mar 12	21236	21899	
2012	February	5	66	449	520	Apr 12	21359	21808	
2012	March	6	83	576	665	May 12	21313	21882	
2012	April	2	54	454	510	Jun 12	21386	21847	% change
2012	May	3	90	549	642	Jul 12	21352	21921	
2012	June	2	63	510	575	Aug 12	21456	21969	
2012	July	3	92	610	705	Sep 12	21540	21915	
2012	August	4	81	571	656	Oct 12	21545	21919	
2012	September	2	72	555	629	Nov 12	21614	21886	
2012	October	3	86	612	701	Dec 12	21586	21904	
2012	November	5	59	541	605	Avg	21374	21898	2%
2012	December	6	71	472	549				
2013	January	1	49	368	418				
2013	February	1	48	393	442				
2013	March	5	49	444	498				
2013	April	3	52	482	537				
2013	May	6	56	532	594				
2013	June	4	44	596	644				
2013	July	3	60	597	660				
2013	August	7	47	571	625				
2013	September	5	46	591	642				
2013	October	3	73	653	729				
2013	November	4	63	586	653				
2013	December	3	53	479	535				
2014	January	3	51	527	581				
2014	February	2	45	517	564				
2014	March	1	41	559	601				
2014	April	5	37	524	566				
2014	May	4	56	564	624				
2014	June	1	51	644	696				
2014	July	6	50	623	679				
2014	August	4	41	618	663				
2014	September	4	46	621	671				
2014	October	7	62	707	776				
2014	November	4	40	637	681				
2014	December	7	33	480	520				
2015	January	6	55	507	568				
2015	February	5	38	452	495				
2015	March	6	48	520	574				
2015	April	3	51	530	584				
2015	May	2	38	567	607				
2015	June	2	39	608	649				
2015	July	3	54	696	753				
2015	August	4	41	557	602				
2015	September	3	48	582	633				
2015	October	1	41	626	668				
2015	November	1	44	578	623				
2015	December	4	32	534	570				

Collisions involving pedestrians on the TLRN

Jan 2009-Dec 2015									
Average of 12 months before and after Jan to Dec 12									
No. of Collisions									
Year	Month	1 Fatal	2 Serious	3 Slight	Total	3 years before and after			
2009	January	2	17	49	68	KSI			
2009	February	1	13	54	68	Before After			
2009	March	3	21	59	83	Jan 12	741	730	
2009	April	1	21	48	70	Feb 12	747	727	
2009	May	0	19	59	78	Mar 12	761	712	
2009	June	4	18	66	88	Apr 12	764	695	
2009	July	2	20	59	81	May 12	762	687	
2009	August	1	11	59	71	Jun 12	777	667	% change
2009	September	1	22	66	89	Jul 12	776	655	
2009	October	2	26	86	114	Aug 12	789	639	
2009	November	2	20	86	108	Sep 12	804	632	
2009	December	7	21	75	103	Oct 12	798	627	
2010	January	1	16	67	84	Nov 12	805	604	
2010	February	2	23	71	96	Dec 12	803	600	
2010	March	0	27	67	94	Avg	777	665	-14%
2010	April	1	17	58	76				
2010	May	1	20	67	88				
2010	June	0	15	67	82	Slight			
2010	July	2	17	66	85	Jan 12	2479	2705	
2010	August	0	15	56	71	Feb 12	2495	2726	
2010	September	2	20	88	110	Mar 12	2505	2741	
2010	October	3	23	83	109	Apr 12	2521	2730	
2010	November	2	22	76	100	May 12	2554	2722	
2010	December	1	9	77	87	Jun 12	2557	2739	
2011	January	1	10	66	77	Jul 12	2563	2742	% change
2011	February	0	13	63	76	Aug 12	2576	2764	
2011	March	7	20	93	120	Sep 12	2580	2757	
2011	April	0	14	60	74	Oct 12	2568	2776	
2011	May	2	21	67	90	Nov 12	2557	2761	
2011	June	2	17	78	97	Dec 12	2558	2768	
2011	July	2	15	72	89	Avg	2543	2744	8%
2011	August	2	17	58	77				
2011	September	0	26	70	96				
2011	October	3	24	77	104	All			
2011	November	4	19	79	102	Jan 12	3220	3435	
2011	December	2	26	87	115	Feb 12	3242	3453	
2012	January	2	23	65	90	Mar 12	3266	3453	
2012	February	4	24	64	92	Apr 12	3285	3425	
2012	March	2	25	75	102	May 12	3316	3409	
2012	April	1	19	81	101	Jun 12	3334	3406	% change
2012	May	3	31	62	96	Jul 12	3339	3397	
2012	June	1	20	72	93	Aug 12	3365	3403	
2012	July	2	33	72	107	Sep 12	3384	3389	
2012	August	2	25	63	90	Oct 12	3366	3403	
2012	September	1	16	54	71	Nov 12	3362	3365	
2012	October	3	32	75	110	Dec 12	3361	3368	
2012	November	1	19	87	107	Avg	3320	3409	3%
2012	December	4	33	84	121				
2013	January	1	20	60	81				
2013	February	1	17	67	85				
2013	March	2	17	65	84				
2013	April	2	19	51	72				
2013	May	2	17	67	86				
2013	June	1	13	76	90				
2013	July	1	12	82	95				
2013	August	2	14	71	87				
2013	September	3	11	78	92				
2013	October	2	23	95	120				
2013	November	1	20	93	114				
2013	December	2	20	90	112				
2014	January	2	20	82	104				
2014	February	2	14	87	103				
2014	March	1	7	74	82				
2014	April	3	12	81	96				
2014	May	3	17	75	95				
2014	June	0	12	73	85				
2014	July	2	8	75	85				
2014	August	2	9	64	75				
2014	September	1	14	86	101				
2014	October	5	18	87	110				
2014	November	1	14	95	110				
2014	December	3	11	77	91				
2015	January	2	20	86	108				
2015	February	1	12	79	92				
2015	March	2	8	64	74				
2015	April	1	11	73	85				
2015	May	2	12	79	93				
2015	June	1	8	75	84				
2015	July	1	18	94	113				
2015	August	3	17	56	76				
2015	September	1	11	73	85				
2015	October	0	12	60	72				
2015	November	1	15	94	110				
2015	December	1	11	81	93				



Appendix C

Reviewed Set 1 –

Collision Summary Omitted Collisions

3 Years Before and After Collision Data - Reviewed data set 1

Site No.	Location	Type	No. R/S crossings	No. F/S crossings
1	Archway Rd / Archway Gyratory – north arm of gyratory	J	1	0
2	Bassborough Gardens / Grosvenor Rd	J	4	0
3	Battersea Park Rd / Queenstown Rd	J	0	0
4	Blackfriars Rd / Southwark St	J	1	2
5	Borough High St / Marshalsea Rd	J	1	2
6	Bow Rd / Alfred St – to the east of the junction	SAC	0	1
7	Bow Rd / Fairfield Rd	J	0	1
8	Bromley Rd / Catford Rd	J	0	1
9	Bromley Rd / Sangley Rd	J	0	1
10	Brompton Rd / Beauchamp Place	J	0	1
11	Brompton Rd / Brompton Place	SAC	0	1
12	Brompton Rd / Hans Crescent	SAC	1	0
13	Brompton Rd to the west of Lancelot Place	SAC	0	1
14	Burdett Rd / Ackroyd Drive	SAC	0	1
15	Burdett Rd / Bow Common Lane	J	2	0
16	Burdett Rd / St Pauls Way	J	1	1
17	Burdett Rd / Thomas Rd	SAC	1	0
18	Camden Rd / Caledonian Rd	J	0	0
19	Clapton Common bet Braydon Rd & Portland Ave	SAC	0	1
20	Clapton Common bet Osbaldeston Rd & Oldhill St	SAC	0	1
21	Cromwell Rd / Collingham Rd	J	1	0
22	Cromwell Rd / Gloucester Rd	J	0	0
23	Cromwell Rd / Knaresborough Place	J	1	0
24	Cromwell Rd / Marloes Rd	J	1	0
25	Cromwell Rd / Queens Gate	J	4	0
26	Euston Rd / Dukes Rd Churchway	J	0	0
27	Euston Rd / Pancras Rd	J	1	0
28	Hampstead Rd o/s BP station - ped refuge	SAC	1	0
29	Highbury Corner / Canonbury Rd	J	0	0
30	Highbury Corner / St Pauls Rd	J	0	0
31	Holloway Rd / Loraine Rd	SAC	1	0
32	Holloway Rd / Sandridge St	J	1	0
33	Holloway Rd / Tufnell Park Rd - traffic island	J	1	0
34	Jamaica Rd / Abbey St	J	1	1
35	Jamaica Rd / Bermondsey LU Station	SAC	0	1
36	Jamaica Rd / Bevington St / St James's Rd	J	1	2
37	Jamaica Rd / Ro herithe Tunnel Rdbt - traffic island west	J	0	1
38	Jamaica Rd / Tooley St / Shad Thames	J	2	0
39	Jamaica Rd / West Ln / Southwark Pk Rd	J	1	0
40	Kentish Town Rd / Camden Rd	J	0	0
41	Kenworthy Rd / Wick Rd	J	0	0
42	London Bridge / Duke St Hill	J	2	0
43	Lower Clapton Rd / Urswick Rd	J	0	1
44	Ludgate Circus	J	2	0
45	Mansell St / Goodman's Yard	J	0	0
46	Marlybone Rd / Baker St	J	2	0
47	New Kent Rd to the middle east of Balfour St	SAC	0	1
48	Nine Elms Lane sou hwest of Cringle St	SAC	0	1
49	Nine Elms Lane / Kirtling St	J	1	1
50	Nine Elms Lane / Wandsworth Rd	J	0	1
51	Old Kent Rd / Dunton Rd	J	1	0
52	Old Kent Rd / Hendre Rd	J	0	1
53	Old Kent Rd / Humphrey Str / Albany Rd	J	2	2
54	Old Kent Rd / Ilderton Rd	J	2	0
55	Old Kent Rd / Malt St	J	2	0
56	Old Kent Rd / Olmar St	J	2	0
57	Old Kent Rd / Peckham Park Rd	J	1	0
58	Old Kent Rd / St James Rd	J	2	0
59	Old Str / Vince Str	SAC	1	0
60	Poynders Rd / Cavendish Rd	J	0	0
61	Seven Sisters Rd / Blackstock Rd	J	0	1
62	Seven Sisters Rd / Green Lanes Rd	J	2	2
63	Seven Sisters Rd / Isledon Rd	J	1	0
64	Shoreditch High St / Great Eastern St	J	4	0
65	St George's Rd / Lambeth Rd	J	0	0
66	St John's Way / Archway Gyratory – east arm of gyratory	J	0	0
67	Stamford Hill / Clapton Common	J	1	0
68	Stamford Hill to the north of Windus Rd - o/s Morrisons	SAC	1	0
69	Vauxhall Bridge Rd / Warwick Way	J	0	0
70	Wick Rd/ Cadogan Terrace	J	0	1
Totals			58	32

All collisions														
Before					After					Difference				
Slight	Serious	Fatal	Total	KSI total	Slight	Serious	Fatal	Total	KSI total	Slight	Serious	Fatal	Total	KSI total
8	0	0	8	0	4	0	0	4	0	-4	0	0	-4	0
21	2	0	23	2	26	2	0	28	2	5	0	0	5	0
10	0	0	10	0	10	0	0	10	0	0	0	0	0	0
10	3	0	13	3	9	1	0	10	1	-1	-2	0	-3	-2
5	2	0	7	2	13	1	0	14	1	8	-1	0	7	-1
13	4	0	17	4	10	2	0	12	2	-3	-2	0	-5	-2
13	4	0	17	4	10	1	0	11	1	-3	-3	0	-6	-3
4	2	0	6	2	5	0	0	5	0	1	-2	0	-1	-2
3	0	0	3	0	9	0	0	9	0	6	0	0	6	0
6	0	0	6	0	5	0	0	5	0	-1	0	0	-1	0
6	0	0	6	0	3	1	0	4	1	-3	1	0	-2	1
4	2	0	6	2	2	1	0	3	1	-2	-1	0	-3	-1
1	0	0	1	0	0	0	0	0	0	-1	0	0	-1	0
2	0	0	2	0	1	0	0	1	0	-1	0	0	-1	0
7	1	0	8	1	9	0	0	9	0	2	-1	0	1	-1
18	0	0	18	0	25	1	0	26	1	7	1	0	8	1
5	2	0	7	2	6	0	0	6	0	1	-2	0	-1	-2
5	1	0	6	1	3	0	0	3	0	-2	-1	0	-3	-1
2	0	0	2	0	3	0	0	3	0	1	0	0	1	0
5	1	0	6	1	6	0	0	6	0	1	-1	0	0	-1
3	0	0	3	0	3	0	0	3	0	0	0	0	0	0
13	2	0	15	2	13	0	0	13	0	0	-2	0	-2	-2
3	0	0	3	0	1	0	0	1	0	-2	0	0	-2	0
5	1	0	6	1	0	1	0	1	1	-5	0	0	-5	0
11	3	0	14	3	9	1	0	10	1	-2	-2	0	-4	-2
9	0	0	9	0	5	0	1	6	1	-4	0	1	-3	1
19	4	0	23	4	7	0	0	7	0	-12	-4	0	-16	-4
4	1	0	5	1	0	0	0	0	0	-4	-1	0	-5	-1
3	0	0	3	0	3	0	0	3	0	0	0	0	0	0
7	0	0	7	0	5	0	0	5	0	-2	0	0	-2	0
3	0	0	3	0	3	0	0	3	0	0	0	0	0	0
12	2	0	14	2	9	1	0	10	1	-3	-1	0	-4	-1
10	1	0	11	1	9	0	0	9	0	-1	-1	0	-2	-1
5	2	0	7	2	8	1	0	9	1	3	-1	0	2	-1
2	0	0	2	0	3	0	0	3	0	1	0	0	1	0
10	1	0	11	1	5	2	0	7	2	-5	1	0	-4	1
11	1	0	12	1	8	0	0	8	0	-3	-1	0	-4	-1
4	1	1	6	2	1	2	0	3	2	-3	1	-1	-3	0
4	0	0	4	0	5	0	0	5	0	1	0	0	1	0
26	3	0	29	3	19	3	0	22	3	-7	0	0	-7	0
4	0	0	4	0	6	1	0	7	1	2	1	0	3	1
13	4	1	18	5	13	2	0	15	2	0	-2	-1	-3	-3
4	3	1	8	4	5	3	0	8	3	1	0	-1	0	-1
24	2	0	26	2	30	4	2	36	6	6	2	2	10	4
5	0	0	5	0	4	1	0	5	1	-1	1	0	0	1
16	2	0	18	2	22	1	0	23	1	6	-1	0	5	-1
4	1	0	5	1	6	0	0	6	0	2	-1	0	1	-1
2	0	0	2	0	1	2	0	3	2	-1	2	0	1	2
4	0	0	4	0	3	0	0	3	0	-1	0	0	-1	0
10	1	0	11	1	15	1	0	16	1	5	0	0	5	0
9	5	0	14	5	16	1	0	17	1	7	-4	0	3	-4
9	1	0	10	1	9	0	0	9	0	0	-1	0	-1	-1
15	2	0	17	2	14	0	1	15	1	-1	-2	1	-2	-1
5	0	0	5	0	9	0	0	9	0	4	0	0	4	0
4	1	0	5	1	7	2	0	9	2	3	1	0	4	1
2	0	0	2	0	5	0	0	5	0	3	0	0	3	0
3	1	0	4	1	10	0	0	10	0	7	-1	0	6	-1
8	3	0	11	3	10	1	0	11	1	2	-2	0	0	-2
2	2	0	4	2	4	1	0	5	1	2	-1	0	1	-1
0	0	0	0	0	4	0	0	4	0	4	0	0	4	0
14	6	0	20	6	15	0	0	15	0	1	-6	0	-5	-6
43	10	0	53	10	53	0	0	53	0	10	-10	0	0	-10
8	1	0	9	1	16	2	0	18	2	8	1	0	9	1
18	2	0	20	2	22	5	0	27	5	4	3	0	7	3
3	0	0	3	0	4	0	0	4	0	1	0	0	1	0
3	0	0	3	0	4	0	0	4	0	1	0	0	1	0
24	6	0	30	6	16	3	0	19	3	-8	-3	0	-11	-3
2	0	0	2	0	2	0	0	2	0	0	0	0	0	0
11	2	0	13	2	9	0	0	9	0	-2	-2	0	-4	-2
2	0	0	2	0	2	0	0	2	0	0	0	0	0	0

5% -50% -3% -47%

Pedestrian collisions														
Before					After					Difference				
Slight	Serious	Fatal	Total	KSI total	Slight	Serious	Fatal	Total	KSI total	Slight	Serious	Fatal	Total	KSI total
2	0	0	2	0	1	0	0	1	0	-1	0	0	-1	0
1	1	0	2	1	3	1	0	4	1	2	0	0	2	0
2	0	0	2	0	5	0	0	5	0	3	0	0	3	0
3	1	0	4	1	2	1	0	3	1	-1	0	0	-1	0
4	0	0	4	0	5	0	0	5	0	1	0	0	1	0
2	3	0	5	3	1	0	0	1	0	-1	-3	0	-4	-3
5	2	0	7	2	3	1	0	4	1	-2	-1	0	-3	-1
0	1	0	1	1	2	0	0	2	0	2	-1	0	1	-1
0	0	0	0	0	5	0	0	5	0	5	0	0	5	0
3	0	0	3	0	2	0	0	2	0	-1	0	0	-1	0
4	0	0	4	0	2	1	0	3	1	-2	1	0	-1	1
2	1	0	3	1	0	0	0	0	0	-2	-1	0	-3	-1
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	1	0	2	0	0	2	0	1	0	0	1	0
0	0	0	0	0	1	0	0	1	0	1	0	0	1	0
1	1	0	2	1	1	0	0	1	0	0	-1	0	-1	-1
2	0	0	2	0	1	0	0	1	0	-1	0	0	-1	0
1	0	0	1	0	0	0	0	0	0	-1	0	0	-1	0
3	0	0	3	0	0	0	0	0	0	-3	0	0	-3	0
1	0	0	1	0	2	0	0	2	0	1	0	0	1	0
2	1	0	3	1	11	0	0	11	0	9	-1	0	8	-1
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	1	0	3	1	0	1	0	1	1	-2	0	0	-2	0
3	0	0	3	0	1	0	0	1	0	-2	0	0	-2	0
2	0	0	2	0	1	0	0	1	0	-1	0	0	-1	0
5	2	0	7	2	2	0	0	2	0	-3	-2	0	-5	-2
1	0	0	1	0	0	0	0	0	0	-1	0	0	-1	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	4	0	1	0	0	1	0	-3	0	0	-3	0
3	0	0	3	0	0	0	0	0	0	-3	0	0	-3	0
1	2	0	3	2	2	0	0	2	0	1	-2	0	-1	-2
5	1	0	6	1	3	0	0	3	0	-2	-1	0	-3	-1
0	0	0	0	0	2	0	0	2	0	2	0	0	2	0
1	0	0	1	0	0	0	0	0	0	-1	0	0	-1	0
2	0	0	2	0	0	1	0	1	1	-2	1	0	-1	1
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	2	0	0	0	0	0	0	-2	0	0	-2	0
1	0	0	1	0	1	0	0	1	0	0	0	0	0	0
10	2	0	12	2	6	2	0	8	2	-4	0	0	-4	0
0	0	0	0	0	0	1	0	1	1	0	1	0	1	1
4	2	1	7	3	7	0	0	7	0	3	-2	-1	0	-3
0	1	1	2	2	1	1	0	2	1	1	0	-1	0	-1
5	0	0	5	0	9	0	0	9	0	4	0	0	4	0
1	0	0	1	0	1	0	0	1	0	0	0	0	0	0
5	2	0	7	2	8	1	0	9	1	3	-1	0	2	-1
2	1	0	3	1	1	0	0	1	0	-1	-1	0	-2	-1
0	0	0	0	0	0	1	0	1	1	0	1	0	1	1
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	2	0	1	0	0	1	0	-1	0	0	-1	0
1	2	0	3	2	6	0	0	6	0	5	-2	0	3	-2
3	0	0	3	0	1	0	0	1	0	-2	0	0	-2	0
4	1	0	5	1	2	0	0	2	0	-2	-1	0	-3	-1
0	0	0	0	0	1	0	0	1	0	1	0	0	1	0
2	0	0	2	0	2	1	0	3	1	0	1	0	1	1
0	0	0	0	0	1	0	0	1	0	1	0	0	1	0
0	0	0	0	0	3	0	0	3	0	3	0	0	3	0
0	0	0	0	0	1	0	0	1	0	1	0	0	1	0
2	2	0	4	2	1	1	0	2	1	-1	-1	0	-2	-1
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	3	0	8	3	5	0	0	5	0	0	-3	0	-3	-3
5	2	0	7	2	8	0	0	8	0	3	-2	0	1	-2
3	1	0	4	1	4	1	0	5	1	1	0	0	1	0
3	1	0	4	1	5	2	0	7	2	2	1	0	3	1
0	0	0	0	0	1	0	0	1	0	1	0	0	1	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	2	0	9	2	9	2	0	11	2	2	0	0	2	0
1	0	0	1	0	1	0	0	1	0	0	0	0	0	0
3	0	0	3	0	2	0	0	2	0	-1	0	0	-1	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
139	39	2	180	41	149	19	0	168	19	10	-20	-2	-12	-22

Omitted Collisions Set 1			1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		22		23		24		25		26		27		28		29		30		31		32		33		34		35		36		37		38		39		40		41		42		43		44		45		46		47		48		49		50		51		52		53		54		55		56		57		58		59		60		61		62		63		64		65		66		67		68		69		70		71		72		73		74		75		76		77		78		79		80		81		82		83		84		85		86		87		88		89		90		91		92		93		94		95		96		97		98		99		100		101		102		103		104		105		106		107		108		109		110		111		112		113		114		115		116		117		118		119		120		121		122		123		124		125		126		127		128		129		130		131		132		133		134		135		136		137		138		139		140		141		142		143		144		145		146		147		148		149		150		151		152		153		154		155		156		157		158		159		160		161		162		163		164		165		166		167		168		169		170		171		172		173		174		175		176		177		178		179		180		181		182		183		184		185		186		187		188		189		190		191		192		193		194		195		196		197		198		199		200		201		202		203		204		205		206		207		208		209		210		211		212		213		214		215		216		217		218		219		220		221		222		223		224		225		226		227		228		229		230		231		232		233		234		235		236		237		238		239		240		241		242		243		244		245		246		247		248		249		250		251		252		253		254		255		256		257		258		259		260		261		262		263		264		265		266		267		268		269		270		271		272		273		274		275		276		277		278		279		280		281		282		283		284		285		286		287		288		289		290		291		292		293		294		295		296		297		298		299		300		301		302		303		304		305		306		307		308		309		310		311		312		313		314		315		316		317		318		319		320		321		322		323		324		325		326		327		328		329		330		331		332		333		334		335		336		337		338		339		340		341		342		343		344		345		346		347		348		349		350		351		352		353		354		355		356		357		358		359		360		361		362		363		364		365		366		367		368		369		370		371		372		373		374		375		376		377		378		379		380		381		382		383		384		385		386		387		388		389		390		391		392		393		394		395		396		397		398		399		400		401		402		403		404		405		406		407		408		409		410		411		412		413		414		415		416		417		418		419		420		421		422		423		424		425		426		427		428		429		430		431		432		433		434		435		436		437		438		439		440		441		442		443		444		445		446		447		448		449		450		451		452		453		454		455		456		457		458		459		460		461		462		463		464		465		466		467		468		469		470		471		472		473		474		475		476		477		478		479		480		481		482		483		484		485		486		487		488		489		490		491		492		493		494		495		496		497		498		499		500		501		502		503		504		505		506		507		508		509		510		511		512		513		514		515		516		517		518		519		520		521		522		523		524		525		526		527		528		529		530		531		532		533		534		535		536		537		538		539		540		541		542		543		544		545		546		547		548		549		550		551		552		553		554		555		556		557		558		559		560		561		562		563		564		565		566		567		568		569		570		571		572		573		574		575		576		577		578		579		580		581		582		583		584		585		586		587		588		589		590		591		592		593		594		595		596		597		598		599		600		601		602		603		604		605		606		607		608		609		610		611		612		613		614		615		616		617		618		619		620		621		622		623		624		625		626		627		628		629		630		631		632		633		634		635		636		637		638		639		640		641		642		643		644		645		646		647		648		649		650		651		652		653		654		655		656		657		658		659		660		661		662		663		664		665		666		667		668		669		670		671		672		673		674		675		676		677		678		679		680		681		682		683		684		685		686		687		688		689		690		691		692		693		694		695		696		697		698		699		700		701		702		703		704		705		706		707		708		709		710		711		712		713		714		715		716		717		718		719		720		721		722		723		724		725		726		727		728		729		730		731		732		733		734		735		736		737		738		739		740		741		742		743		744		745		746		747		748		749		750		751		752		753		754		755		756		757		758		759		760		761		762		763		764		765		766		767		768		769		770		771		772		773		774		775		776		777		778		779		780		781		782		783		784		785		786		787		788		789		790		791		792		793		794		795		796		797		798		799		800		801		802		803		804		805		806		807		808		809		810		811		812		813		814		815		816		817		818		819		820		821		822		823		824		825		826		827		828		829		830		831		832		833		834		835		836		837		838		839		840		841		842		843		844		845		846		847		848		849		850		851		852		853		854		855		856		857		858		859		860		861		862		863		864		865		866		867		868		869		870		871		872		873		874		875		876		877		878		879		880		881		882		883		884		885		886		887		888		889		890		891		892		893		894		895		896		897		898		899		900		901		902		903		904		905		906		907		908		909		910		911		912		913		914		915		916		917		918		919		920		921		922		923		924		925		926		927		928		929		930		931		932		933		934		935		936		937		938		939		940		941		942		943		944		945		946		947		948		949		950		951		952		953		954		955		956		957		958		959		960		961		962		963		964		965		966		967		968		969		970		971		972		973		974		975		976		977		978		979		980		981		982		983		984		985		986		987		988		989		990		991		992		993		994		995		996		997		998		999		1000		1001		1002		1003		1004		1005		1006		1007		1008		1009		1010		1011		1012		1013		1014		1015		1016		1017		1018		1019		1020		1021		1022		1023		1024		1025		1026		1027		1028		1029		1030		1031		1032		1033		1034		1035		1036		1037		1038		1039		1040		1041		1042		1043		1044		1045		1046		1047		1048		1049		1050		1051		1052		1053		1054		1055		1056		1057		1058		1059		1060		1061		1062		1063		1064		1065		1066		1067		1068		1069		1070		1071		1072		1073		1074		1075		1076		1077		1078		1079		1080		1081		1082		1083		1084		1085		1086		1087		1088		1089		1090		1091		1092		1093		1094		1095		1096		1097		1098		1099		1100		1101		1102		1103		1104		1105		1106		1107		1108		1109		1110		1111		1112		1113		1114		1115		1116		1117		1118		1119		1120		1121		1122		112	
--------------------------	--	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	-----	--



Appendix D

Reviewed Set 2 –

Collision Summary Omitted Collisions

3 Years Before and After Collision Data - Reviewed data set 2

Site No.	Location	Type	No. R/S crossings	No. F/S crossings	All collisions															Pedestrian collisions														
					Before					After					Difference					Before					After					Difference				
					Slight	Serious	Fatal	Total	KSI total	Slight	Serious	Fatal	Total	KSI total	Slight	Serious	Fatal	Total	KSI total	Slight	Serious	Fatal	Total	KSI total	Slight	Serious	Fatal	Total	KSI total	Slight	Serious	Fatal	Total	KSI total
1	Archway Rd / Archway Gyratory – north arm of gyratory	J	1	0	8	0	0	8	0	4	0	0	4	0	-4	0	0	-4	0	2	0	2	0	1	0	-1	0	0	-1	0	0	0		
2	Bassborough Gardens / Grosvenor Rd	J	4	0	21	2	0	23	2	26	2	0	28	2	5	0	0	5	0	1	1	0	2	1	3	1	0	4	1	2	0	0		
3	Battersea Park Rd / Queenstown Rd	J	0	0	10	0	0	10	0	10	0	0	10	0	0	0	0	0	0	2	0	2	0	5	0	5	0	5	0	3	0	3		
4	Blackfriars Rd / Southwark St	J	1	2	10	3	0	13	3	9	1	0	10	1	-1	-2	0	-3	-2	4	0	4	1	2	1	0	3	1	-1	0	0	-1		
5	Borough High St / Marshalsea Rd	J	1	2	5	2	0	7	2	13	1	0	14	1	8	-1	0	7	-1	4	0	4	0	5	0	0	5	0	1	0	0	1		
6	Bow Rd / Alfred St – to the east of the junction	SAC	0	1	13	4	0	17	4	10	2	0	12	2	-3	-2	0	-5	-2	2	3	0	5	3	1	0	0	1	0	-1	-3	0	-4	
7	Bow Rd / Fairfield Rd	J	0	1	12	3	0	15	3	10	1	0	11	1	-2	-2	0	-4	-2	4	1	0	5	1	3	1	0	4	1	-1	0	0	-1	
8	Bromley Rd / Catford Rd	J	0	1	4	2	0	6	2	5	0	0	5	0	1	-2	0	-1	-2	0	1	0	1	1	2	0	0	2	0	2	-1	0	-1	
9	Bromley Rd / Sangley Rd	J	0	1	3	0	0	3	0	9	0	0	9	0	6	0	0	6	0	0	0	0	0	5	0	0	5	0	5	0	0	5		
10	Brompton Rd / Beauchamp Place	J	0	1	4	0	0	4	0	3	0	0	3	0	-1	0	0	-1	0	4	0	0	1	0	0	0	0	0	-1	0	0	-1		
11	Brompton Rd / Brompton Place	SAC	0	1	6	0	0	6	0	3	1	0	4	1	-3	1	0	-2	1	6	0	0	4	0	2	1	0	3	1	-2	1	0	-1	
12	Brompton Rd / Hans Crescent	SAC	1	0	4	2	0	6	2	2	1	0	3	1	-2	-1	0	-3	-1	0	0	0	3	1	0	0	0	0	-2	-1	0	-3		
13	Brompton Rd / to the west of Lancelot Place	SAC	0	1	1	0	0	1	0	0	0	0	0	0	-1	0	0	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
14	Burdett Rd / Ackroyd Drive	SAC	0	1	2	0	0	2	0	1	0	0	1	0	-1	0	0	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
15	Burdett Rd / Bow Common Lane	J	2	0	7	1	0	8	1	9	0	0	9	0	2	-1	0	1	-1	0	0	0	1	0	2	0	0	2	0	1	0	0	1	
16	Burdett Rd / St Pauls Way	J	1	1	18	0	0	18	0	25	1	0	26	1	7	1	0	8	1	0	0	0	1	0	0	0	1	0	1	0	0	1	0	
17	Burdett Rd / Thomas Rd	SAC	1	0	5	2	0	7	2	6	0	0	6	0	1	-2	0	-1	-2	0	1	0	2	1	1	0	0	1	0	0	-1	0	-1	
18	Camden Rd / Caledonian Rd	J	0	0	5	1	0	6	1	3	0	0	3	0	-2	-1	0	-3	-1	0	0	0	1	0	0	-1	0	0	-1	0	0	-1		
19	Clapton Common bet Braydon Rd & Portland Ave	SAC	0	1	2	0	0	2	0	3	0	0	3	0	1	0	0	1	0	0	0	0	0	0	0	-1	0	0	-1	0	0	-1		
20	Clapton Common bet Osbaldeston Rd & Oldhill St	SAC	0	1	5	1	0	6	1	6	0	0	6	0	1	-1	0	0	-1	0	0	0	0	0	0	-3	0	0	-3	0	0	-3		
21	Cromwell Rd / Collingham Rd	J	1	0	3	0	0	3	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1		
22	Cromwell Rd / Gloucester Rd	J	0	0	13	2	0	15	2	13	0	0	13	0	0	-2	0	-2	-2	2	1	0	3	1	11	0	0	11	0	9	-1	0	8	
23	Cromwell Rd / Knaresborough Place	J	1	0	3	0	0	3	0	1	0	0	1	0	-2	0	0	-2	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
24	Cromwell Rd / Marloes Rd	J	1	0	5	1	0	6	1	0	1	0	1	1	-5	0	0	-5	0	2	1	0	3	1	0	1	0	1	1	-2	0	0	-2	
25	Cromwell Rd / Queens Gate	J	4	0	11	3	0	14	3	9	1	0	10	1	-2	-2	0	-4	-2	3	0	0	3	0	1	0	0	1	0	-2	0	0	-2	
26	Euston Rd / Dukes Rd Churchway	J	0	0	9	0	0	9	0	5	0	1	6	1	-4	0	1	-3	1	0	0	0	1	0	0	-1	0	0	-1	0	0	-1		
27	Euston Rd / Pancras Rd	J	1	0	19	4	0	23	4	7	0	0	7	0	-12	-4	0	-16	-4	5	2	0	7	2	2	0	0	2	0	-3	-2	0	-5	
28	Hampstead Rd o/s BP station - ped refuge	SAC	1	0	4	1	0	5	1	0	0	0	0	0	-4	-1	0	-5	-1	1	0	0	1	0	0	0	0	0	-1	0	0	-1		
29	Highbury Corner / Canonbury Rd	J	0	0	3	0	0	3	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
30	Highbury Corner / St Pauls Rd	J	0	0	7	0	0	7	0	5	0	0	5	0	-2	0	0	-2	0	4	0	0	4	0	1	0	0	1	0	-3	0	0	-3	
31	Holloway Rd / Loraine Rd	SAC	1	0	3	0	0	3	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	-3	0	0	-3	
32	Holloway Rd / Sandridge St	J	1	0	12	2	0	14	2	9	1	0	10	1	-3	-1	0	-4	-1	1	2	0	3	2	2	0	0	2	0	1	-2	0	-1	
33	Holloway Rd / Tufnell Park Rd - traffic island	J	1	0	10	1	0	11	1	9	0	0	9	0	-1	-1	0	-2	-1	5	1	0	6	1	3	0	0	3	0	-2	-1	0	-3	
34	Jamaica Rd / Abbey St	J	1	1	5	2	0	7	2	8	1	0	9	1	3	-1	0	2	-1	0	0	0	0	2	0	0	2	0	2	0	0	2	0	
35	Jamaica Rd / Bermondsey LU Station	SAC	0	1	2	0	0	2	0	3	0	0	3	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	-1	0	0	-1		
36	Jamaica Rd / Bevington St / St James's Rd	J	1	2	10	1	0	11	1	5	2	0	7	2	-5	1	0	-4	1	2	0	0	2	0	0	1	0	1	1	-2	1	0	-1	
37	Jamaica Rd / Rotherhithe Tunnel Rd - traffic island west	J	0	1	11	1	0	12	1	8	0	0	8	0	-3	-1	0	-4	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
38	Jamaica Rd / Tooley St / Shad Thames	J	2	0	4	1	1	6	2	1	2	0	3	2	-3	1	-1	-3	0	2	0	0	2	0	0	0	0	0	-2	0	0	-2	0	
39	Jamaica Rd / West Ln / Southwark Pk Rd	J	1	0	4	0	0	4	0	5	0	0	5	0	1	0	0	1	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	
40	Ken ish Town Rd / Camden Rd	J	0	0	26	3	0	29	3	19	3	0	22	3	-7	0	0	-7	0	0	0	0	12	2	6	2	0	8	2	-4	0	0	-4	
41	Kenworthy Rd / Wick Rd	J	0	0	4	0	0	4	0	6	1	0	7	1	2	1	0	3	1	0	0	0	0	0	0	1	0	1	0	1	0	1	1	
42	London Bridge / Duke St Hill	J	2	0	13	4	1	18	5	13	2	0	15	2	0	-2	-1	-3	-3	4	2	1	7	3	7	0	0	7	0	3	-2	-1	0	-3
43	Lower Clapton Rd / Urswick Rd	J	0	1	4	3	1	8	4	5	3	0	8	3	1	0	-1	0	-1	0	1	0	1	2	2	1	1	0	0	-1	0	0	-1	
44	Ludgate Circus	J	2	0	20	2	0	22	2	26	4	2	32	6	6	2	2	10	4	1	0	0	1	0	5	0	0	5	0	4	0	0	4	
45	Mansell St / Goodman's Yard	J	0	0	5	0	0	5	0	4	1	0	5	1	-1	1	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	
46	Marlybone Rd / Baker St	J	2	0	16	2	0	18	2	22	1	0	23	1	6	-1	0	5	-1	5	2	0	7	2	8	1	0	9	1	3	-1	0	2	
47	New Kent Rd to the middle east of Balfour St	SAC	0	1	4	1	0	5	1	6	0	0	6	0	2	-1	0	1	-1	2	1	0	3	1	1	0	0	1	0	-1	-1	0	-2	
48	Nine Elms Lane southwest of Cringle St	SAC	0	1	2	0	0	2	0	1	2	0	3	2	-1	2	0	1	2	0	0	0	0	0	0	1	0	1	1	0	1	0	1	
49	Nine Elms Lane / Kirtling St	J	1	1	4	0	0	4	0	3	0	0	3	0	-1	0	0	-1	0	4	0	0	4	0	3	0	0	0	0	0	0	0	0	
50	Nine Elms Lane / Wandsworth Rd	J	0	1	10	1	0	11	1	14	1	0	15	1	4	0	0	4	0	2	0	0	2	0	0	0	0	0	0	-2	0	0	-2	
51	Old Kent Rd / Dunton Rd	J	1	0	9	5	0	14	5	16	1	0	17	1	7	-4	0	3	-4	1	2	0	3	2	6	0	0	6	0	5	-2	0	3	
52	Old Kent Rd / Hendre Rd	J	0	1	9	1	0	10	1	9	0	0	9	0	0	-1	0	-1	-1	3	0	0	3	0	1	0	0	1	0	-2	0	0	-2	
53	Old Kent Rd / Humphrey Str / Albany Rd	J	2	2	15	2	0	17	2	14	0	1	15	1	-1	-2	1	-2	-1	4	1	0	5	1	2	0	0	2	0	-2	-1	0	-3	
54	Old Kent Rd / Ilderton Rd	J	2	0	5	0	0	5	0	9	0	0	9	0	4	0	0	4	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	
55	Old Kent Rd / Malt St	J	2	0	4	1	0	5	1	7	2	0	9	2	3	1	0	4	1	2	0	0	2	0	2	1	0	3	1	0	1	0	1	
56	Old Kent Rd / Olmar St	J	2	0	2	0	0	2	0	5	0	0	5	0	3	0	0	3	0	0	0	0	0	1	0	0	1	0	0	1	0	0	1	
57	Old																																	

Omitted Collisions - Set 2														Total removed			
				1		2		3		4		5					
Site	Location	Before/After	Type	Ref	Severity	Ref	Severity	Ref	Severity	Ref	Severity	Ref	Severity	Slight	Serious	Fatal	Total
7	Bow Rd / Fairfield Rd	Before After	J	10HT20944	Serious	11HT20427	Slight							1 0	1 0	0 0	2 0
10	Brompton Rd / Beauchamp Place	Before After	J	09BS70584 12BS70051	Slight Slight	09BS70511 12BS70344	Slight Slight							2 2	0 0	0 0	2 2
23	Cromwell Rd / Knaresborough Place	Before After	J											0 0	0 0	0 0	0 0
24	Cromwell Rd / Marloes Rd	Before After	J											0 0	0 0	0 0	0 0
38	Jamaica Rd / Rotherhithe Tunnel Rdbt - traffic island west	Before After	J											0 0	0 0	0 0	0 0
45	Ludgate Circus	Before After	J	09CP00333 12CP00176	Slight Slight	10CP00062 13CP00260	Slight Slight	10CP00296 14CP00263	Slight Slight	12CP00013 14CP00315	Slight Slight			4 4	0 0	0 0	4 4
51	Nine Elms Lane / Wandsworth Rd	Before After	J	14LX51203	Slight									0 1	0 0	0 0	0 1
62	Seven Sisters Rd / Blackstock Rd	Before After	J											0 0	0 0	0 0	0 0
Total														14	1	0	15
Total before														7	1	0	8
Total after														7	0	0	7



Appendix E

Ped Collisions in the Vicinity of Staggered Crossings

Ped Collisions in the Vicinity of Reverse Staggered Crossings

Site No.	Location	Type	No. R/S crossings	No. F/S crossings
1	Archway Rd / Archway Gyratory – north arm of gyratory	J	1	0
2	Bassborough Gardens / Grosvenor Rd	J	4	0
4	Blackfriars Rd / Southwark St	J	1	2
5	Borough High St / Marshalsea Rd	J	1	2
12	Brompton Rd / Hans Crescent	SAC	1	0
15	Burdett Rd / Bow Common Lane	J	2	0
16	Burdett Rd / St Pauls Way	J	1	1
17	Burdett Rd / Thomas Rd	SAC	1	0
21	Cromwell Rd / Collingham Rd	J	1	0
23	Cromwell Rd / Knaresborough Place	J	1	0
24	Cromwell Rd / Marloes Rd	J	1	0
25	Cromwell Rd / Queens Gate	J	4	0
27	Euston Rd / Pancras Rd	J	1	0
28	Hampstead Rd o/s BP station - ped refuge	SAC	1	0
31	Holloway Rd / Loraine Rd	SAC	1	0
32	Holloway Rd / Sandridge St	J	1	0
33	Holloway Rd / Tufnell Park Rd - traffic island	J	1	0
34	Jamaica Rd / Abbey St	J	1	1
36	Jamaica Rd / Bevington St / St James's Rd	J	1	2
38	Jamaica Rd / Tooley St / Shad Thames	J	2	0
39	Jamaica Rd / West Ln / Southwark Pk Rd	J	1	0
42	London Bridge / Duke St Hill	J	2	0
44	Ludgate Circus	J	2	0
46	Marlybone Rd / Baker St	J	2	0
49	Nine Elms Lane / Kirtling St	J	1	1
51	Old Kent Rd / Dunton Rd	J	1	0
53	Old Kent Rd / Humphrey Str / Albany Rd	J	2	2
54	Old Kent Rd / Ilderton Rd	J	2	0
55	Old Kent Rd / Malt St	J	2	0
56	Old Kent Rd / Olmar St	J	2	0
57	Old Kent Rd / Peckham Park Rd	J	1	0
58	Old Kent Rd / St James Rd	J	2	0
59	Old Str / Vince Str	SAC	1	0
62	Seven Sisters Rd / Green Lanes Rd	J	2	2
63	Seven Sisters Rd / Isledon Rd	J	1	0
64	Shoreditch High St / Great Eastern St	J	4	0
67	Stamford Hill / Clapton Common	J	1	0
68	Stamford Hill to the north of Windus Rd - o/s Morrisons	SAC	1	0
Totals			58	13

Pedestrian collisions															
Before					After					Difference					
Slight	Serious	Fatal	Total	KSI total	Slight	Serious	Fatal	Total	KSI total	Slight	Serious	Fatal	Total	KSI total	
1	0	0	1	0	0	0	0	0	0	-1	0	0	-1	0	
1	1	0	2	1	3	1	0	4	1	2	0	0	2	0	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	
2	1	0	3	1	0	0	0	0	0	-2	-1	0	-3	-1	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1	1	0	2	1	1	0	0	1	0	0	-1	0	-1	-1	
0	1	0	1	1	0	0	0	0	0	0	-1	0	-1	-1	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	1	0	3	1	0	1	0	1	1	-2	0	0	-2	0	
3	0	0	3	0	1	0	0	1	0	-2	0	0	-2	0	
1	2	0	3	2	0	0	0	0	0	-1	-2	0	-3	-2	
1	0	0	1	0	0	0	0	0	0	-1	0	0	-1	0	
3	0	0	3	0	0	0	0	0	0	-3	0	0	-3	0	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	0	0	2	0	0	0	0	0	0	-2	0	0	-2	0	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1	0	0	1	0	0	0	0	0	0	-1	0	0	-1	0	
4	0	1	5	1	4	0	0	4	0	0	0	-1	-1	-1	
1	0	0	1	0	5	0	0	5	0	4	0	0	4	0	
4	1	0	5	1	6	0	0	6	0	2	-1	0	1	-1	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1	2	0	3	2	1	0	0	1	0	0	-2	0	-2	-2	
0	1	0	1	1	2	0	0	2	0	2	-1	0	1	-1	
0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	
2	0	0	2	0	0	0	0	0	0	-2	0	0	-2	0	
0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	
0	0	0	0	0	2	0	0	2	0	2	0	0	2	0	
0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	
2	2	0	4	2	1	1	0	2	1	-1	-1	0	-2	-1	
0	2	0	2	2	3	0	0	3	0	3	-2	0	1	-2	
3	1	0	4	1	1	0	0	1	0	-2	-1	0	-3	-1	
3	0	0	3	0	4	1	0	5	1	1	1	0	2	1	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	
39	16	1	56	17	39	4	0	43	4	0	-12	-1	-13	-13	

0% -75% -23% **-76%**

Ped Collisions in the Vicinity of Forward Staggered Crossings

Site No.	Location	Type	No. R/S crossings	No. F/S crossings
4	Blackfriars Rd / Southwark St	J	1	2
5	Borough High St / Marshalsea Rd	J	1	2
6	Bow Rd / Alfred St – to the east of the junction	SAC	0	1
7	Bow Rd / Fairfield Rd	J	0	1
8	Bromley Rd / Catford Rd	J	0	1
9	Bromley Rd / Sangley Rd	J	0	1
10	Brompton Rd / Beauchamp Place	J	0	1
11	Brompton Rd / Brompton Place	SAC	0	1
13	Brompton Rd to the west of Lancelot Place	SAC	0	1
14	Burdett Rd / Ackroyd Drive	SAC	0	1
16	Burdett Rd / St Pauls Way	J	1	1
19	Clapton Common bet Braydon Rd & Portland Ave	SAC	0	1
20	Clapton Common bet Osbaldeston Rd & Oldhill St	SAC	0	1
34	Jamaica Rd / Abbey St	J	1	1
35	Jamaica Rd / Bermondsey LU Station	SAC	0	1
36	Jamaica Rd / Bevington St / St James's Rd	J	1	2
37	Jamaica Rd / Rotherhithe Tunnel Rdbt - traffic island west	J	0	1
43	Lower Clapton Rd / Urswick Rd	J	0	1
47	New Kent Rd to the middle east of Balfour St	SAC	0	1
48	Nine Elms Lane southwest of Cringle St	SAC	0	1
49	Nine Elms Lane / Kirtling St	J	1	1
50	Nine Elms Lane / Wandsworth Rd	J	0	1
52	Old Kent Rd / Hendre Rd	J	0	1
53	Old Kent Rd / Humphrey Str / Albany Rd	J	2	2
61	Seven Sisters Rd / Blackstock Rd	J	0	1
62	Seven Sisters Rd / Green Lanes Rd	J	2	2
70	Wick Rd/ Cadogan Terrace	J	0	1
Totals			10	32

Pedestrian collisions															
Before					After					Difference					
Slight	Serious	Fatal	Total	KSI total	Slight	Serious	Fatal	Total	KSI total	Slight	Serious	Fatal	Total	KSI total	
0	1	0	1	1	1	0	0	1	0	1	-1	0	0	-1	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	3	0	5	3	1	0	0	1	0	-1	-3	0	-4	-3	
4	1	0	5	1	2	0	0	2	0	-2	-1	0	-3	-1	
0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	
0	0	0	0	0	2	0	0	2	0	2	0	0	2	0	
1	0	0	1	0	0	0	0	0	0	-1	0	0	-1	0	
4	0	0	4	0	2	1	0	3	1	-2	1	0	-1	1	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	
1	0	0	1	0	0	0	0	0	0	-1	0	0	-1	0	
3	0	0	3	0	0	0	0	0	0	-3	0	0	-3	0	
0	0	0	0	0	2	0	0	2	0	2	0	0	2	0	
1	0	0	1	0	0	0	0	0	0	-1	0	0	-1	0	
0	0	0	0	0	0	1	0	1	1	0	1	0	1	1	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0	0	1	1	1	0	0	0	0	0	0	0	-1	-1	-1	
2	1	0	3	1	1	0	0	1	0	-1	-1	0	-2	-1	
0	0	0	0	0	0	1	0	1	1	0	1	0	1	1	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	0	0	2	0	0	0	0	0	0	-2	0	0	-2	0	
3	0	0	3	0	1	0	0	1	0	-2	0	0	-2	0	
4	0	0	4	0	0	0	0	0	0	-4	0	0	-4	0	
1	2	0	3	2	2	0	0	2	0	1	-2	0	-1	-2	
4	0	0	4	0	4	0	0	4	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
32	8	1	41	9	20	3	0	23	3	-12	-5	-1	-18	-6	

-38%	-63%		-44%	-67%
------	------	--	------	------



Appendix F

Statistical Significance Tests

All Sites

			Mean		T-Value	P-Value	Significant
			Before	After			
Raw data before and after	Slights	All	9.071	9.457	0.757	0.451	No
		Pedestrian	2.029	2.300	1.042	0.301	No
	Total	All	10.629	10.271	-0.638	0.525	No
		Pedestrian	2.643	2.571	-0.275	0.784	No
	KSI	All	1.557	0.814	-3.218	0.002	Yes
		Pedestrian	0.614	0.271	-3.191	0.002	Yes
Raw data 'before' after, 6 to 3 years before	Slights	All	8.471	9.071	1.090	0.279	No
		Pedestrian	1.943	2.029	0.350	0.727	No
	Total	All	#REF!	10.629	0.870	0.387	No
		Pedestrian	2.600	2.643	0.153	0.879	No
	KSI	All	1.600	1.557	-0.209	0.835	No
		Pedestrian	0.657	0.614	-0.382	0.704	No
Reviewed set 1 before and after	Slights	All	8.329	8.729	0.850	0.398	No
		Pedestrian	1.986	2.129	0.549	0.585	No
	Total	All	9.814	9.514	-0.575	0.567	No
		Pedestrian	2.571	2.400	-0.650	0.518	No
	KSI	All	1.486	0.786	-3.097	0.003	Yes
		Pedestrian	0.571	0.271	-2.872	0.005	Yes
Reviewed set 2 before and after	Slights	All	8.229	8.629	0.856	0.395	No
		Pedestrian	1.886	2.029	0.549	0.585	No
	Total	All	9.700	9.414	-0.554	0.582	No
		Pedestrian	2.464	2.319	-0.600	0.550	No
	KSI	All	1.486	0.786	-3.057	0.003	Yes
		Pedestrian	1.145	0.536	-2.872	0.005	Yes

Ped Collisions in the Vicinity of Reverse Staggered Crossings

	Mean		T-Value	P-Value	Significant
	Before	After			
Slights	1.324	1.279	0.000	1.000	No
Total	1.779	1.441	-1.305	0.200	No
KSI	0.456	0.162	-3.153	0.003	Yes

Ped Collisions in the Vicinity of Forward Staggered Crossings

	Mean		T-Value	P-Value	Significant
	Before	After			
Slights	1.436	1.128	-1.623	0.117	No
Total	1.015	0.746	-2.142	0.042	Yes
KSI	0.179	0.090	-1.363	0.185	No



Appendix G

Site Details

Site Details

Site No.	Location	Type	Date PGR Removed	No. R/S crossings	No. F/S crossings	Sides of junction PGR removed from	PGR retained on arm	Ped movements potentially unaffected
1	Archway Rd / Archway Gyratory – north arm of gyratory	J	01/04/12	1	0	All		
2	Bassborough Gardens / Grosvenor Rd	J	20/03/12	4	0	All		
3	Battersea Park Rd / Queenstown Rd	J	16/02/12	0	0	All		
4	Blackfriars Rd / Southwark St	J	03/04/12	1	2	All		
5	Borough High St / Marshalsea Rd	J	01/08/11	1	2	All		
6	Bow Rd / Alfred St – to the east of the junction	SAC	02/02/12	0	1			
7	Bow Rd / Fairfield Rd	J	19/07/12	0	1	East and west sides		East/west on south arm
8	Bromley Rd / Catford Rd	J	20/02/12	0	1	All		
9	Bromley Rd / Sangle Rd	J	20/02/12	0	1	All		
10	Brompton Rd / Beauchamp Place	J	18/01/12	0	1	North east side		East/west and north/south on west arm
11	Brompton Rd / Brompton Place	SAC	18/01/12	0	1			
12	Brompton Rd / Hans Crescent	SAC	28/02/12	1	0			
13	Brompton Rd / to the west of Lancelot Place	SAC	28/02/12	0	1			
14	Burdett Rd / Ackroyd Drive	SAC	30/04/12	0	1	Also removed from sides		
15	Burdett Rd / Bow Common Lane	J	30/04/12	2	0	All		
16	Burdett Rd / St Pauls Way	J	30/04/12	1	1	All		
17	Burdett Rd / Thomas Rd	SAC	30/04/12	1	0			
18	Camden Rd / Caledonian Rd	J	25/09/12	0	0	All		
19	Clapton Common bet Braydon Rd & Portland Ave	SAC	24/02/12	0	1			
20	Clapton Common bet Osbaldeston Rd & Oldhill St	SAC	24/02/12	0	1	Also removed from sides		
21	Cromwell Rd / Collingham Rd	J	18/01/12	1	0	All		
22	Cromwell Rd / Gloucester Rd	J	18/01/12	0	0	All		
23	Cromwell Rd / Knaresborough Place	J	17/01/12	1	0	East side		North/south on west arm and east/west on south side
24	Cromwell Rd / Marloes Rd	J	17/01/12	1	0	West and east side		East/west on North arm
25	Cromwell Rd / Queens Gate	J	18/01/12	4	0	All		
26	Euston Rd / Dukes Rd Churchway	J	22/01/12	0	0	All		
27	Euston Rd / Pancras Rd	J	19/01/12	1	0	All		
28	Hampstead Rd o/s BP station - ped refuge	SAC	06/01/12	1	0	Also from north side		
29	Highbury Corner / Canonbury Rd	J	01/04/12	0	0	All		
30	Highbury Corner / St Pauls Rd	J	01/04/12	0	0	All		
31	Holloway Rd / Loraine Rd	SAC	01/04/12	1	0			
32	Holloway Rd / Sandridge St	J	01/04/12	1	0	All		
33	Holloway Rd / Tufnell Park Rd - traffic island	J	01/04/12	1	0	All		
34	Jamaica Rd / Abbey St	J	02/03/12	1	1	All		
35	Jamaica Rd / Bermondsey LU Station	SAC	02/03/12	0	1	Also removed from sides		
36	Jamaica Rd / Bevington St / St James's Rd	J	02/03/12	1	2	All		
37	Jamaica Rd / Rotherhithe Tunnel Rd - traffic island west	J	02/03/12	0	1	Crossing and west side	East arm	North/south on east arm
38	Jamaica Rd / Tooley St / Shad Thames	J	02/03/12	2	0	All		
39	Jamaica Rd / West Ln / Southwark Pk Rd	J	02/03/12	1	0	All		
40	Kentish Town Rd / Camden Rd	J	22/01/12	0	0	All		
41	Kenworthy Rd / Wick Rd	J	05/03/12	0	0	All		
42	London Bridge / Duke St Hill	J	01/08/11	2	0	All		
43	Lower Clapton Rd / Urswick Rd	J	24/02/12	0	1	All		
44	Ludgate Circus	J	20/02/12	2	0	North and south sides		North/south on east and west arms
45	Mansell St / Goodman's Yard	J	01/03/12	0	0	All		
46	Marlybone Rd / Baker St	J	01/09/11	2	0	All		
47	New Kent Rd to the middle east of Balfour St	SAC	19/06/12	0	1			
48	Nine Elms Lane southwest of Cringle St	SAC	16/02/12	0	1			
49	Nine Elms Lane / Kirtling St	J	16/02/12	1	1	All		
50	Nine Elms Lane / Wandsworth Rd	J	16/02/12	0	1	South and west sides		East/west on North arm and north/south on east arm
51	Old Kent Rd / Dunton Rd	J	18/09/12	1	0	All		
52	Old Kent Rd / Hendre Rd	J	17/09/12	0	1	All		
53	Old Kent Rd / Humphrey Str / Albany Rd	J	18/09/12	2	2	All		
54	Old Kent Rd / Iderton Rd	J	18/09/12	2	0	All		
55	Old Kent Rd / Malt St	J	17/09/12	2	0	All		
56	Old Kent Rd / Olmar St	J	17/09/12	2	0	All		
57	Old Kent Rd / Peckham Park Rd	J	15/09/12	1	0	All		
58	Old Kent Rd / St James Rd	J	17/09/12	2	0	All		
59	Old Str / Vince Str	SAC	06/06/12	1	0			
60	Poynders Rd / Cavendish Rd	J	25/02/12	0	0	All		
61	Seven Sisters Rd / Blackstock Rd	J	25/09/12	0	1	East side	West arm	North/south on West arm
62	Seven Sisters Rd / Green Lanes Rd	J	14/06/12	2	2	All		
63	Seven Sisters Rd / Isledon Rd	J	20/09/12	1	0	All		
64	Shoreditch High St / Great Eastern St	J	08/06/12	4	0	All		
65	St George's Rd / Lambeth Rd	J	03/04/12	0	0	All		
66	St John's Way / Archway Gyratory – east arm of gyratory	J	01/04/12	0	0	All		
67	Stamford Hill / Clapton Common	J	08/06/12	1	0	All		
68	Stamford Hill to the north of Windus Rd - o/s Morrisons	SAC	08/06/12	1	0			
69	Vauxhall Bridge Rd / Warwick Way	J	20/03/12	0	0	All		
70	Wick Rd / Cadogan Terrace	J	05/03/12	0	1	All		
Totals				58	32			

J=Junction
SAC=Stand alone crossing
R/S=Reverse stagger
F/S=Forward stagger