

HIGHWAYS ADVISORY COMMITTEE

20 September 2011

Subject Heading:	Proposed Traffic Improvements at A125 Waterloo Road / Exchange Street Junction, Romford
Report Author and contact details:	M. Karim Principal Engineering Assistant highways@havering.gov.uk

The subject matter of this report deals with the following Council Objectives:

Clean, safe and green borough	<input checked="" type="checkbox"/>
Excellence in education and learning	<input type="checkbox"/>
Opportunities for all through economic, social and cultural activity	<input type="checkbox"/>
Value and enhance the life of every individual	<input checked="" type="checkbox"/>
High customer satisfaction and a stable council tax	<input type="checkbox"/>

SUMMARY

This report deals with the outcome of a consultation to relocate the existing pedestrian crossing in Waterloo Road on south side of Exchange Street to provide a direct route for pedestrians and cyclists between St Andrews Road and Exchange Street, Romford and proposals to alleviate traffic congestion in Exchange Street.

The scheme is located within **Brooklands** and **Romford Town** Wards.

RECOMMENDATIONS

That the Highway Advisory Committee having considered the representations recommends to the Cabinet Member for Community Empowerment that the following measures are implemented as listed below:

1. New Shared crossing in Waterloo Road by Exchange Street, Romford
 - 1.1 That the proposal to abandon the existing shared crossing in Waterloo Road, situated on north side of Exchange Street is carried out as shown on drawing no. QK011-of-201.
 - 1.2 That the proposal to provide a shared crossing in Waterloo Road on the south side of Exchange Street is implemented. The proposals are shown on drawing no. QK011-of-201.
 - 1.3 That the proposal to provide a dedicated cycle track commencing from the southern end of St Andrews Road, extending eastwards for 30 metres up to the western kerblines of the northbound carriageway of Waterloo Road are implemented. The proposal is shown on drawing no. QK011-of-201.
 - 1.4 That the proposal to provide a dedicated footway for pedestrians is implemented. The new footway would commence from the southern end of St Andrews Road and extend eastwards up to the western kerblines of the northbound carriageway of Waterloo Road. The proposal is shown on drawing no. QK011-of-201.
2. Shared cycle facility in Exchange Street

That the existing footway on south side of Exchange Street is converted for shared use for pedestrians and cyclists. The shared use will commence from the eastern kerb line of southbound carriageway of Waterloo Road, extending eastwards for 170 metres. The proposals are shown on drawing nos. QK011-of-201/202
3. Widening western end of Exchange Street, Romford
 - 3.1 That the proposals to widen the western end of Exchange Street at its junction with Waterloo Road are implemented. The widening would commence from the eastern kerblines of the southbound carriageway of Waterloo Road and continue eastwards for 40 metres along the southern kerblines of Exchange Street. The proposed measures are shown on drawing no. QK011-of-201.

New traffic lanes in Exchange Street, Romford

- 3.2 That the new layout of traffic lanes at the western end of Exchange Street at its junction with Waterloo Road are implemented as listed below. The proposals are shown on drawing no. QK011-of-201.
 - i) An addition of a traffic lane (near side) of 3 metres wide to be dedicated for left turning traffic from Exchange Street into Waterloo Road (southbound carriageway).
 - ii) The second traffic lane (off side) of 3 metres wide to be dedicated for right turning traffic from Exchange Street into Waterloo Road (northbound carriageway).
4. That the cost for implementing the proposals is £100,000 which would be met Transport for London through the Local Implementation Plan for 2011/12, so there would no cost to the Council.

REPORT DETAIL

Background

1. The scheme originally involved proposals to provide a new toucan crossing in Waterloo Road, south of Exchange Street, Romford. Waterloo Road junction with Exchange Street is a signalised junction. The junction is part of the strategic Link 90 of the London Cycle Network+. The cycle route (Link 90) commences from the borough's western boundary with Barking and Dagenham and it continues up to the M25 via Romford town centre and the Gallows Corner. Transport for London (TfL) is further developing cycle facilities along the A12 Colchester Road between the Gallows Corner and the M25 Motorway.
2. The existing crossing in Waterloo Road has 'sheep pen' facilities which is designed to accommodate considerable number of pedestrians and has staggered crossing points. Cyclists on their route to Romford are required to dismount from their bicycles at the southern end of St Andrews Road and walk with their bicycles to use the existing crossing to continue their journey into Exchange Street.
3. During the feasibility studies, it was noted that the existing arrangement involves detour to both pedestrians and cyclists whereby they cross Exchange Street and Waterloo Road in three separate stages. In addition, the footway on the north east corner of the junction (ie Waterloo Road/Exchange Street) is narrow and access is further restricted by a lamp column.
4. The studies identified provision for a more direct route for cyclists and pedestrians between Exchange Street and St Andrews Road. A new

controlled crossing should be provided, where feasible, in line of their route to avoid unnecessary detour between St Andrews Road and Exchange Street.

5. The studies further recommended to abandon the existing crossing in Waterloo Road on north side of Exchange Street and provide a shared crossing for cyclists and pedestrians on the south side of Exchange Street. The proposals are shown on drawing no. QK011-of-201.
6. Whilst the feasibility studies for a new crossing were under investigation, there was a problem reported by The Brewery Centre about excessive congestion developing in Exchange Street. The congestion mainly occurred on Sunday afternoons as the shopping centre closed there was a sudden surge of traffic in Exchange Street trying to exit the junction with Waterloo Road. During Christmas time, the congestion sometimes extends from the existing junction as far as the multi-storey (formerly known as Havana Close car park) of the Brewery Centre. The congestion extends up to 300 metres which equates to over 50 cars.
7. Feasibility studies were carried out to identify various measures to alleviate the congestion. The junction was modelled in details and the results of the output indicated that the option to widen the southern kerb line of Exchange Street at its junction with Waterloo Road would achieve positive results. The purpose of widening the carriageway is to incorporate an additional traffic lane i.e. first lane (near side) would be dedicated for left turning traffic whereas the second lane (off side) would be used for turning right.
8. Traffic Survey Data at Exchange Street/Waterloo Road junction
 - 8.1 Manual classified traffic counts were carried out at Exchange Street/Waterloo Road junction on the following days:
 - i) Thursday, 16th December 2010 - 7am to 7pm i.e. 12 hour period.
 - ii) Sunday, 30th January 2011, 10am to 7pm, 9 hour period.
 - iii) Sunday, 3rd April 2011, Mother's Day, 10am to 5pm, 7hour period.
 - 8.2 Vehicles were classified into standard categories and peak periods were established from the data collected as below:
 - AM peak 07:45–08:45, Inter peak 13:00–14:00, PM peak 16:15 – 17:15.
 - Sunday (30th Jan 2011), 12:15 -13:15.
 - Sunday (Mother's Day), 12:00 – 13:00.
 - 8.3 The schematic diagram, figure 8.1 summarises the AM, Inter Peak and PM peak hour flows, whereas figure 8.2 provides average and maximum queue lengths for each traffic lane.

Figure 8.1: Traffic Flows – Waterloo Road / Exchange Street Jun.

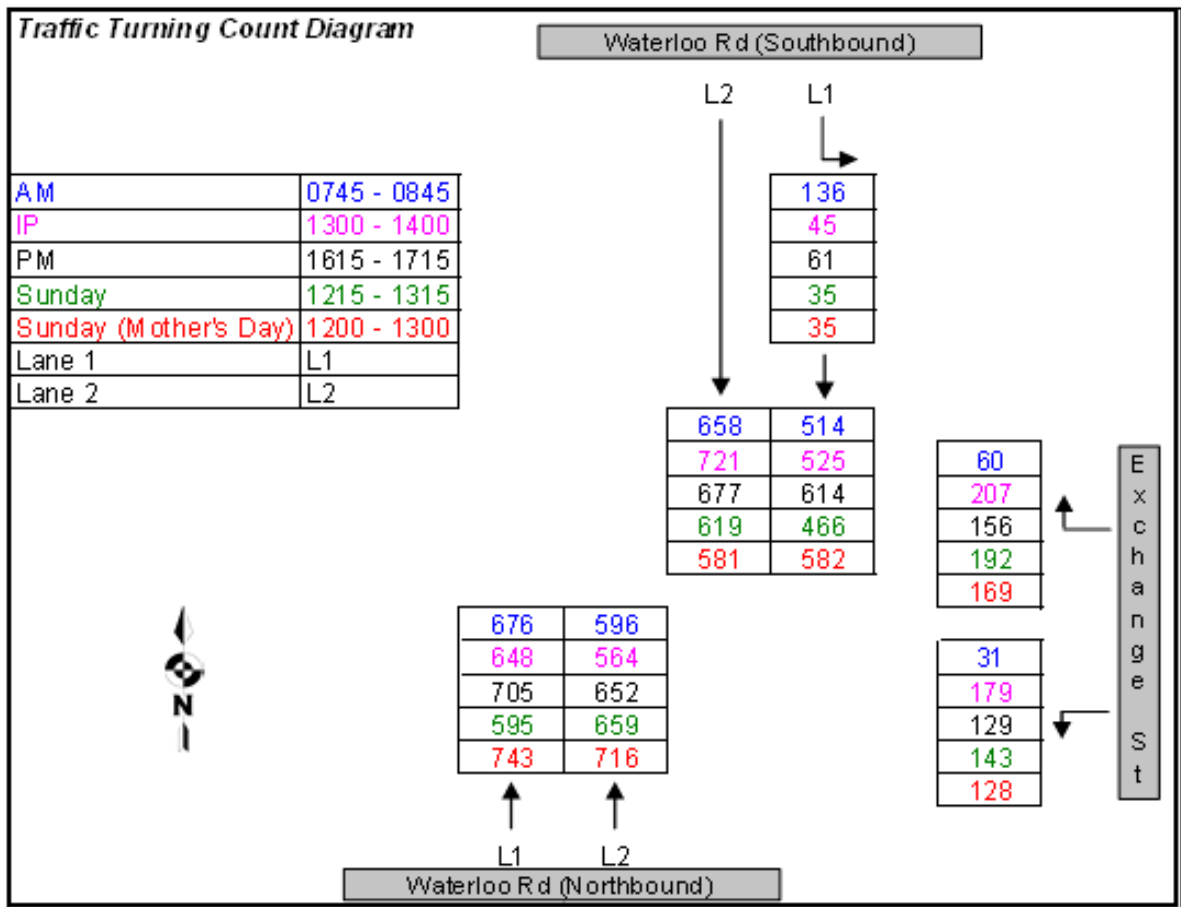
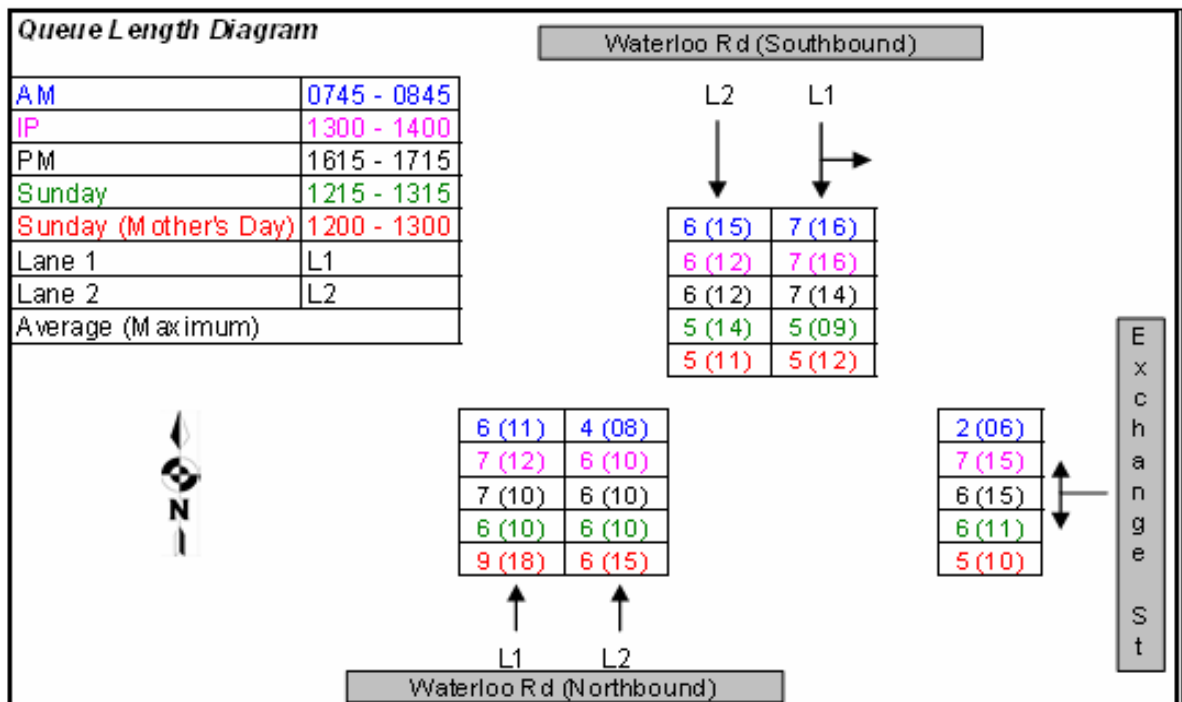


Figure 8.2: Queue Lengths – Waterloo Road/Exchange Street Jun



9. **Road Traffic Accidents and Road Safety Audits**

- 9.1 The collision accident data for three years (between April 2008 to December 2010) supplied by London Accident Analysis Unit was examined in details. During this period, there have been 9 injury accidents recorded, one which was a fatal, two resulted in serious injury and 6 injury resulted in slight injury. A summary of the accident analysis and locations are included in appendix A of this report.
- 9.2 Based on the type of accidents involved ranging from fatal to slight, it was considered necessary to undertake Road Safety Audits to ensure that any proposed measures are incorporated carefully in the design to ensure that safety is not compromised in the highway.

Road Safety Audits, Stages 1 and 2

- 9.3 Following a fatal accident in Waterloo Road in September 2009, Road Safety Audits (RSA) for stages 1 and 2 were undertaken by an independent Safety Auditor to identify any features of the design that could be removed or enhanced to improve safety of the scheme.
- 9.4 The recommendations of the audit were considered carefully and taken into account when designing the scheme. The auditors had raised concerns about the existing street furniture such as existing signs and guard railing would affect the forward visibility of drivers when approaching the overhead railway bridge. The recommendations of the report were considered carefully and these would be incorporated in the final design.
- 9.5 The above two audits were carried out at the feasibility and design stages whereas stage 3 audit would be carried out before the scheme comes into operation or within six months of the scheme being in operation thus providing an opportunity to review if the scheme has been constructed as designed.

10. **Results of the computer model**

- 10.1 In simulating the signalised junction, a traffic modelling program, LinSig was used to model the operation of existing junction. After validating the model i.e. verifying that the model has been correctly calibrated and is capable of producing valid predictions for various scenarios the following measures were tested:
- i) Remove the existing staggered pedestrian crossing located on north side of Exchange Street and relocate it on the south side of Exchange Street, as a straight pedestrian crossing adjacent to the railway bridge.
 - ii) Provision of an additional traffic lane in Exchange Street to alleviate traffic congestion particularly on weekends and during Christmas period when the shopping centre closes.

Modelling results on relocation of the pedestrian crossing

- 10.2 The results of modelling undertaken to relocate the existing pedestrian crossing from the north side of Exchange Street to south side of the junction indicated that the relocation of the crossing would not undermine the capacity of the junction and the Method of Control of the signals.
- 10.3 The existing and proposed Method of Controls of the signals are shown in figures 10.1 and 10.2. It can be seen in figure 10.2 that stage 3 is an all red which is dependent on pedestrian demand is similar to stage 3 of the existing Method of Control fig.10.1, therefore, the impact on traffic would be 'neutral'.

Figure 10.1: Existing Method of Signal Control

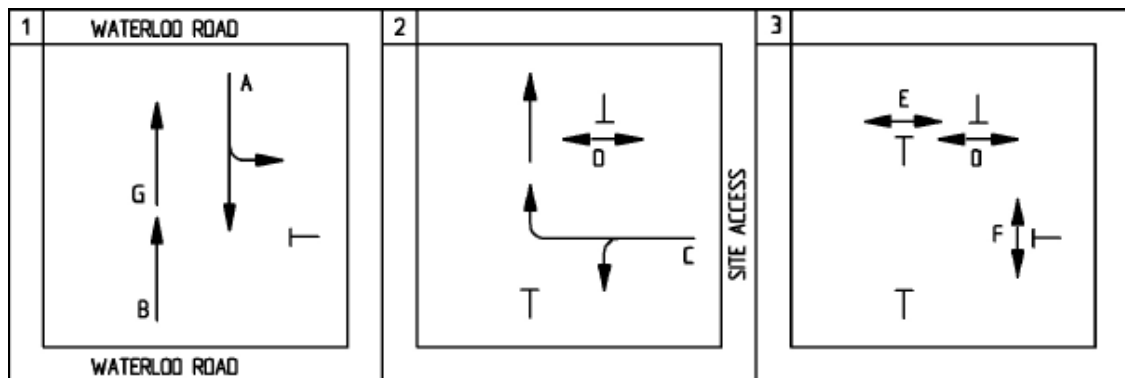
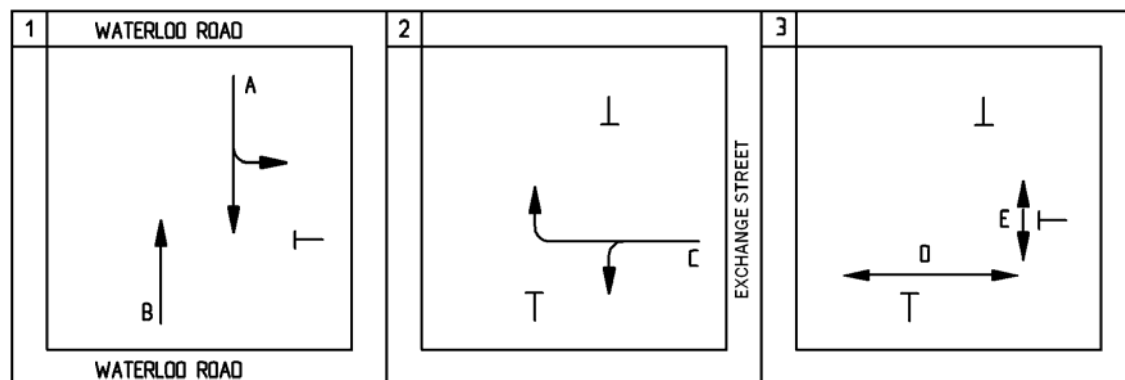


Figure 10.2: Proposed Method of Signal Control



Modelling results on additional traffic lane in Exchange Street

- 10.4 The width of the exit traffic lane in Exchange Street is 4.3 metres wide which permits both right and left turn movements which reduces the capacity. To overcome the problem, it was considered necessary to include an additional traffic lane in Exchange Street at its junction with Waterloo Road. The new lane (near side) would be dedicated for left turn traffic only whereas the off side lane would be dedicated for right turn movements. Each traffic lane would be 3 metres wide, therefore, an additional widening of 1.7 metres is proposed into the footway. The existing footway is wide enough to accommodate the widening.
- 10.5 The junction was modelled to establish if the addition of a dedicated left turn lane will reduce the queue lengths in Exchange Street or have a detrimental impact on the overall operation of the junction. The results of the model indicated that traffic queues will reduce in morning, Inter peak and PM peaks. This is noticeably seen in PM peaks including the Christmas period and on Mother's Day. It is, therefore, recommended that the widening of Exchange Street is carried out to provide a dedicated traffic lane for left turning traffic.
- 10.6 The provision of additional traffic lane in Exchange Street will facilitate the left turn for traffic and ease the traffic congestion on busy shopping periods such as Sundays, Christmas period, Mother's Day etc.

11. Details of proposed pedestrian crossing in Waterloo Road

- 11.1 The new crossing would be part of the main traffic signals and would operate as a single unit. This arrangement would not have any effect on Method of Control when pedestrians or cyclists initiate the demand.
- 11.2 Drop kerbs would be provided on both sides of Waterloo Road to facilitate the crossing. In addition, 4 metres wide section of the central reservation of the dual carriageway would be removed to provide access for cyclists. When cyclists or pedestrians arrive at the junction they would be required to press the push button on new signal poles which would be installed at convenient locations to enable them to cross Waterloo Road safely.
- 11.3 As part of the new signal arrangement, pedestrians and cyclists would receive their phase on 'All red' stage of the signal's cycle time which is already incorporated into the system. This method operates when traffic on all arms of the junction receives red lights and pedestrians or cyclists are permitted to cross the road safely.

12. Measures to widen Exchange Street (western end) at its junction with Waterloo Road, Romford

- 12.1 The problem about the congestion in Exchange Street would be overcome by widening the carriageway into the footway to provide an additional traffic lane at the western end of Exchange Street at its junction with Waterloo Road. The purpose is to relieve the traffic

congestion which develops particularly on Sunday afternoons as the shopping centre closes.

- 12.2 The widening would commence from the western kerbline of Waterloo Road and continue into Exchange Street along its southern kerbline for a distance of approx. 40 metres. The proposals are shown on the attached drawing no. QK011-of-201
- 12.3 The drawing shows that the first lane would be used for left turning traffic whereas the second lane would be dedicated for right turning traffic. It is anticipated that once the proposals are implemented this would improve the capacity of the junction.
- 12.4 In addition, there are proposals to widen the north-east corner of Waterloo Road / Exchange Street junction. This issue was identified in the Road Safety Audit about the potential conflict between heavy good vehicles turning left from Waterloo Road and vehicles waiting in Exchange Street.

13. Outcome of the consultation

- 13.1 Following the Approval in Principle by the Council's Highways Advisory Committee in April 2011, the next step in the process was to consult the local occupiers in the immediate vicinity of the proposals.
- 13.2 Approximately 465 letters were hand delivered in the consultation area. The emergency services ie Metropolitan Police, Ambulance and Fire Brigade were also consulted. In addition, other stakeholders included were the management of the Brewery and the Council's Road Safety Manager.
- 13.3 The closing date for receiving any comments was set for 19th August 2011. Only 11 responses were received and these were analysed carefully and a summary of the consultation is included in appendix B.
- 13.4 Although the response rate of the consultation is low, however, the main stakeholders such as emergency services, the management of Brewery Centre, Sainsbury etc have provided their positive responses. Further more, this does not imply that the support for the scheme is low but it is reasonable to say that those who have not responded possibly agree with the proposals and consider that there is no need for them to formally reply.

Conclusions

The traffic studies carried out showed that by relocating the existing staggered crossing in Waterloo Road on south side of Exchange Street will have neutral impact on traffic flow i.e. it will not undermine the overall capacity of the junction.

The new toucan crossing will improve crossing for pedestrians and cyclists by providing a more direct route between St Andrews Road and

Exchange Street. The new arrangement would reduce over crowding of street furniture at the existing junction.

The congestion problems in Exchange Street were also investigated in details. The results of the model indicated that the addition of a flared lane at its approach to the junction in Exchange Street will alleviate the traffic congestion during the peak periods and facilitate the left turn for traffic when exiting the junction.

IMPLICATIONS AND RISKS

Financial Implications and risks

The estimated cost of implementing the measures is £100,000, which would be met by Transport for London through the allocation of Local Implementation Plan for 2011/12 for the Romford Ring Road Improvements.

Legal Implications and risks

The proposals for a toucan crossing would require a Public Notice to be advertised in the local press. In addition, Notices would be installed on site so that any interested parties can provide their comments or objections.

The proposals to provide a cycle track and a footway at the southern end of St Andrews Road would require draft Traffic Management Orders under the Highways Act to be publicly advertised in the local press.

Human Resources Implications and risks

None.

Equalities and Social Inclusion Implications and risks

There would be some visual impact arising from the installation of the new signal equipment, road markings and direction signs but these are considered to be minimal in relation to improving the road safety. The proposals will also help to reduce over crowding of street furniture at the junction and this is in line with the Mayor of London's Transport Strategy.

The measures would be of particular benefit to cyclists, especially those without access to private cars. Provision of improved cycling facilities can contribute to a modal shift towards sustainable transport use and reduce the reliance on private cars.

The proposals would contribute towards the development of the Council's strategy as a 'Biking Borough' and the Council's emerging

Local Implementation Plan which is currently being developed for the submission to Transport for London.

BACKGROUND PAPERS

1. **Project scheme file: QK011** – HAC report on Proposed Traffic Improvements on A125 Waterloo Road/Exchange Street Junction, Romford including Road Safety Audit, Stages 1 and 2 by Jacobs Consultancy, October 2010.

Appendix A

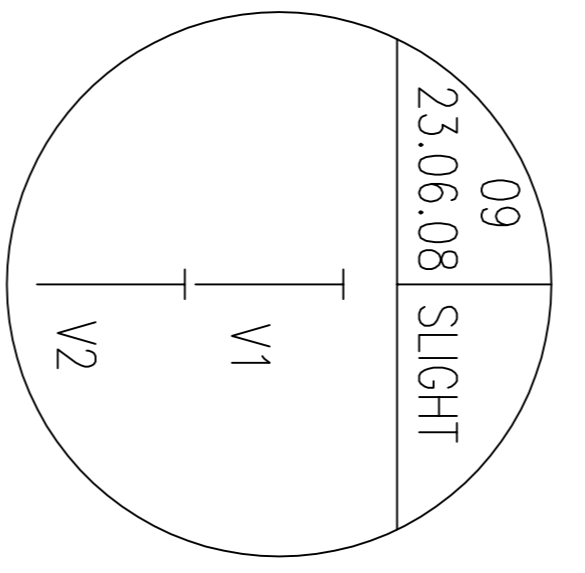
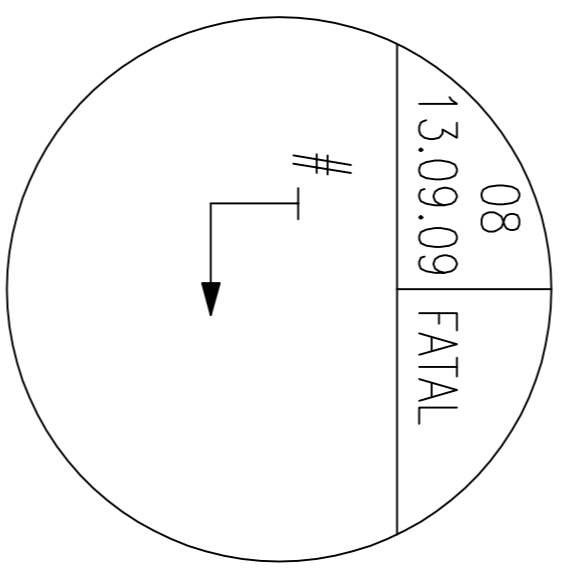
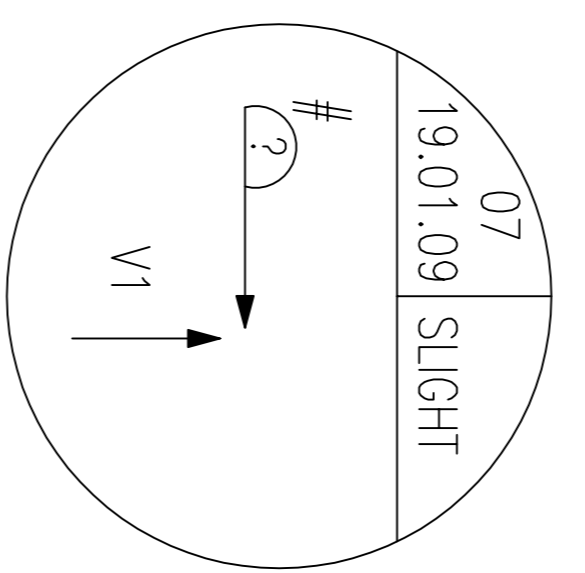
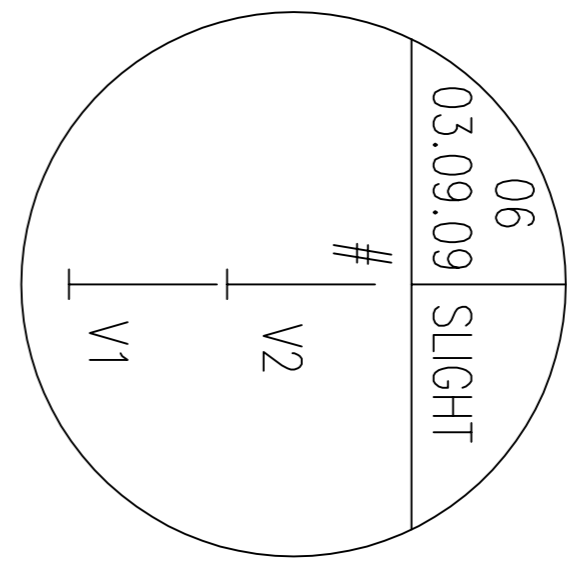
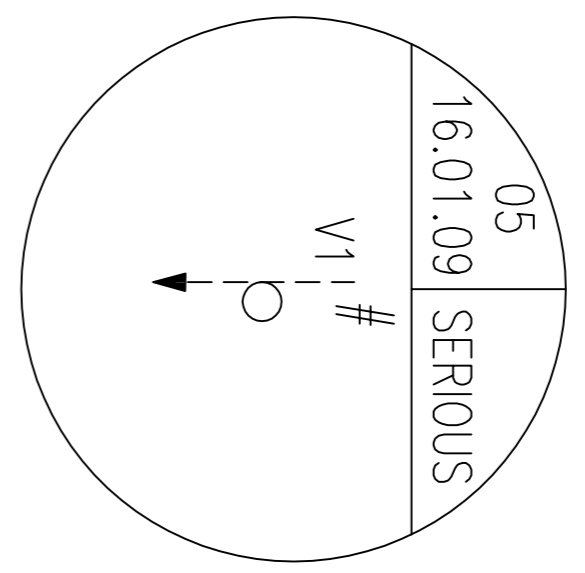
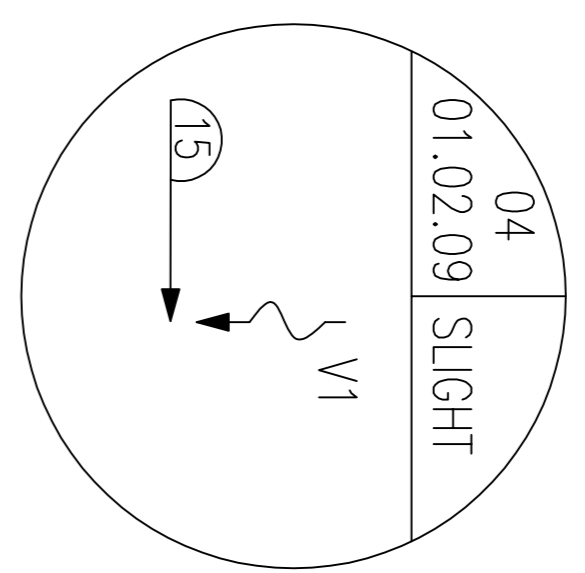
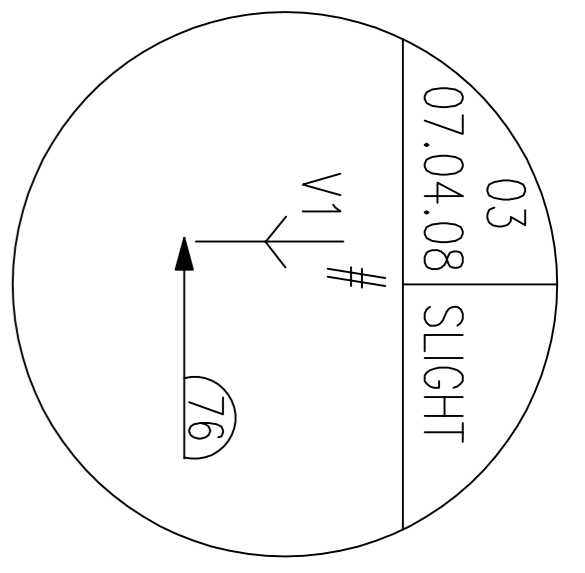
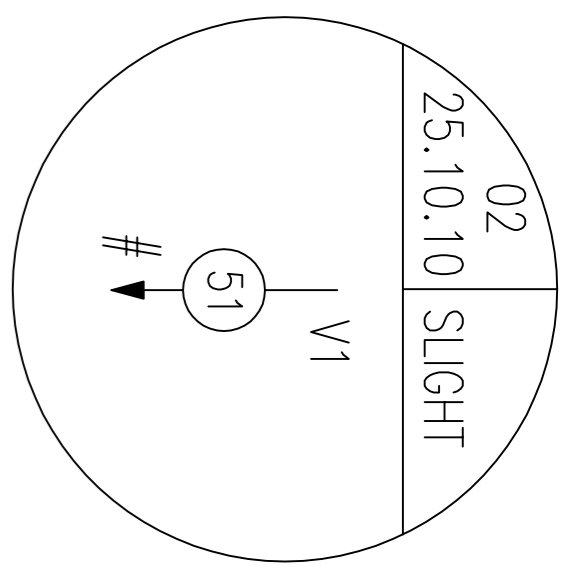
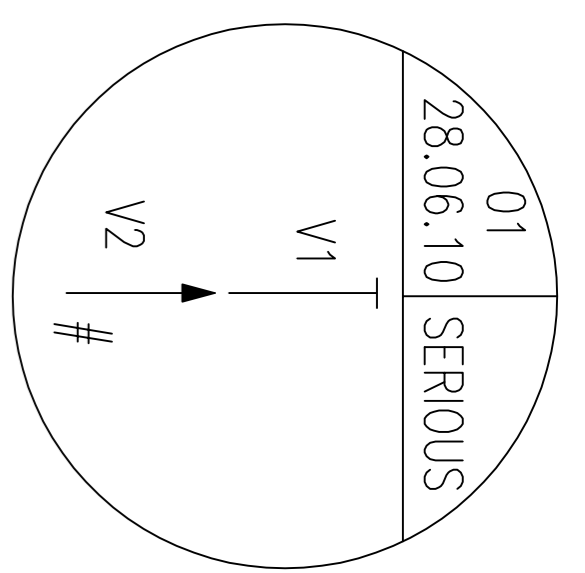
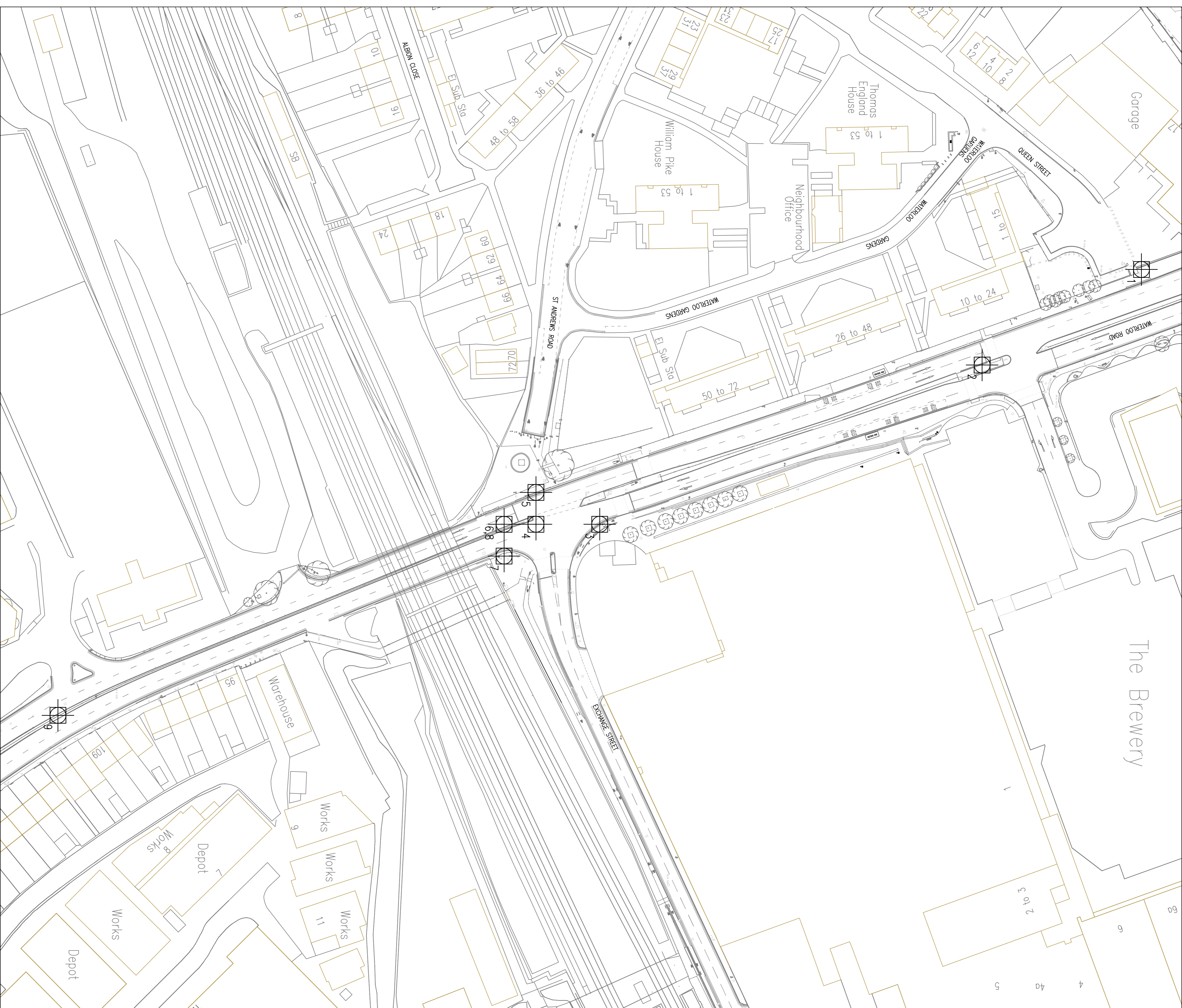
Summary and locations of Road Traffic Accidents

in

Waterloo Road between London Road and Rush Green Road

Summary of Traffic Accidents in Waterloo Road between London Road and Rush Green Road between April 2008 to October 2010

Date	Location	Severity	Description of Accident
20/06/10	Waterloo Road, 80 m south of High Street.	serious	Vehicle v2 braked hard but hit rear of stationery vehicle v1.
25/10/10	Waterloo Road, 145 m south of London Road.	slight	Unknown vehicle brakes suddenly in front a bus causing the bus to brake resulting a passenger to fall from seat.
07/04/08	Waterloo Road/ Exchange Street junction	slight	Vehicle over shoot traffic lights, reversed back to stop line but hit a pedestrian crossing behind the vehicle.
01/02/09	Waterloo Road/ Exchange Street junction	slight	Pedestrian crossing road from central reservation is struck by a moving vehicle.
16/01/09	Waterloo Road/ Exchange Street junction	serious	Motor cyclist approaching signals loses control on oil slick & falls.
03/09/09	Waterloo Road, approx. 271 metres south of London Road	slight	Rear shunt accident – vehicle v2 hits at rear of vehicle v1.
19/01/09	Waterloo Road/ Exchange Street junction	slight	Pedestrian ran across the road and collided with a moving vehicle.
13/09/09	Waterloo Road/ Exchange Street junction	fatal	Vehicle travelling in Waterloo Road on seeing a stationery vehicle at the signals of Waterloo Road/ Exchange Street, switched lanes and collided with a pedestrian who was crossing Waterloo Road on a green pedestrian phase.
23/06/08	Waterloo Road j/w Queen's Hospital entrance.	slight	Vehicle v2 stopped to give way to an ambulance is hit by vehicle v1.



- Key**
- MOVING VEHICLE INDICATING DIRECTION
 - - - MOTOR CYCLE/MOPED
 - BICYCLE
 - PEDESTRIAN INJURED INDICATING DIRECTION AND AGE
 - PEDESTRIAN INJURED IN ROAD NOT CROSSING AND AGE
 - PEDESTRIAN INJURED GETTING ON/OFF PSV AND AGE
 - PASSENGER INJURED FALLING INSIDE PSV AND AGE
 - VEHICLE GOING AHEAD HELD UP
 - VEHICLE TURNING
 - VEHICLE WAITING TO TURN
 - VEHICLE STOPPING
 - VEHICLE SKIDDING
 - VEHICLE LOSS OF CONTROL
 - VEHICLE REVERSING
 - VEHICLE OVERTURNED
 - VEHICLE CHANGING LANES
 - VEHICLE HIT CENTRAL BARRIER
 - VEHICLE HIT KERB
 - VEHICLE HIT STREET FURNITURE
 - VEHICLE STARTING
 - INVOLVING PARKED VEHICLE
 - VEHICLE DISOBERING AFS
 - VEHICLE OVERTAKING

REASON	AMENDMENT	DATE

408 TITLE
**EXCHANGE STREET
 WATERLOO ROAD JUNCTION
 ACCIDENT INVESTIGATION**

409 TITLE
PROPOSAL

DESIGNER: STARS
 DRAWN BY: RJP
 CHECKED BY: HLP
 SCALE: 1:200
 SHEET SIZE: A1 (841x594)
 DRAWING NUMBER: OK011-OF-211

APPROVED BY: HLP
 DATE: 13.07.10
 RISKING: A
 SHEET: 1
 CODE: █

Havering
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Summary of Consultation Responses

Respondent	Comments	Staff Comments
Graham Harris Metropolitan Police (traffic)	Police support the proposals as it will improve safety for all road users	
Robert Howard London Buses	London Buses support the proposals.	
Paul Lewis London Fire Brigade	LFB support the proposals	
Matt Winfield Greenways Manager, Sustrans	Agrees with the proposals to replace the staggered toucan crossing with a single phase.	
R. Charalambous Centre Director, The Brewery, Romford	Management of The Brewery supports the revised proposals. The new layout will assist Brewery customers who are exiting from multi-storey car park.	
Alastair Store manager Sainsbury PLC	The proposals will benefit the access from the multi-storey car park and delivery routes, ease congestion and the management is not opposed to it.	

Highways Advisory Committee, 20 September 2011

Respondent	Comments	Staff Comments
<p>Julian Strong Malt House Place, Romford</p>	<p>Broadly supports the proposals but has suggested if traffic could turn right from Waterloo Road into Exchange Street. The respondent has also highlighted the problem about articulated lorries parking on the kerbs and obscuring the view of the traffic in opposite direction.</p>	<p>The respondent was informed that the new location of the crossing cannot accommodate the traffic turning right from Waterloo Road into Exchange Street. On the issue of inconsiderate parking by delivery lorries, the Council will carry out parking enforcement given that Exchange Street was adopted last year by the Council.</p>
<p>Mr Morley 11 William Pike House</p>	<p>Disagrees with the relocation of the staggered crossing, instead build a new crossing on south side of the bridge. Prohibit right turn from Waterloo Road into Exchange Street. Delivery lorries experience difficulties in manoeuvring at the junction.</p>	<p>The respondent was informed that the Council has proposals to provide a tunnel under the railway bridge adjacent to the northbound carriageway of Waterloo Road. Right turn from Waterloo Rd into Exchange Street is prohibited. Drivers are abusing it and the Council will ask the Met Police to carry out the enforcement as their resources permit. The widening of Exchange Street and south east corner of the junction will overcome the problem for delivery lorries when exiting the junction.</p>

Highways Advisory Committee, 20 September 2011

Respondent	Comments	Staff Comments
Ms R B Crabb Resident of Waterloo Road Estate	Considers that it would be a good idea to cross Waterloo Road in one stage but objects it's relocation as it would be too close to the railway bridge which would reduce the visibility of the drivers particularly when pedestrians cross the road. The respondent supports the widening of Exchange Street.	The respondent was informed that Road Safety Audit was carried out which had verified that the new location of the toucan crossing would not obscure the visibility.
Jon Simes George Street	As a cycling commuter using the route, Mr Simes welcomes the proposals as it removes the current cyclist / pedestrian conflict at the staggered crossing. Has also suggested some improvements to the existing cycle facilities in Exchange Street.	Mr Simes was informed that his suggestions will be incorporated in the design where appropriate.
David Garfield CTC 'Right to Ride Network'	Supports the proposals for the shared toucan crossing which would be advantageous to both cyclists and pedestrians. He had also commented on several design issues about the proposed cycle track south of St Andrews Road and widening the existing cycle lanes in Exchange Street.	A full reply was sent to Mr Garfield about the issues he had raised.