



OFFICER REPORT TO LOCAL COMMITTEE

(Runnymede)

A30 Egham Hill/A328 St Jude's Road, Englefield Green

Pedestrian Improvements

26 November 2012

KEY ISSUES

To consider the results of a study examining the possible introduction of controlled pedestrian crossing facilities at the junction of the A30 London Road/Egham Hill with St Jude's Road and Bakeham Lane.

Having considered the results of the study, to decide whether to proceed with this project.

SUMMARY

The busy signalised junction of the A30 London Road/Egham Hill currently has no controlled pedestrian facilities.

The Road Safety Working Group (RSWG) have identified an ongoing problem with pedestrian accidents. Surrey Police have also written to Surrey County Council (SCC) expressing their concerns about the accident problem.

In response to this, and concerns raised by Members and local residents, SCC has undertaken a study to examine the possible introduction of controlled facilities at this junction, and to consider the impacts this would have on vehicle delays.

As part of the study pedestrian surveys were undertaken that showed 2257 pedestrians crossed at the junction in a 12 hour period.

The different options for introducing controlled pedestrian facilities at the junction were considered as part of the study and the most appropriate options identified. The likely impacts of these on the capacity of the junction were then tested using a traffic simulation model.

From the simulation phase an all red phase (all traffic stopped for pedestrians) was identified as the best solution. This was then tested on site by running revised signal timings and measuring the changes to vehicle queue lengths and journey times.

The Local Committee is being asked to consider the results of the study and decide whether it wants to proceed with this project.

OFFICER RECOMMENDATIONS

The Local Committee (Runnymede) is asked to approve the following:

- i) Continuation of work on this project, and that this includes a more detailed assessment of the function of traffic in the vicinity of St Jude's Road at the junction with Bagshot Road;
- ii) Requesting the re-profiling of the capital budget to enable the monies allocated to this project to be utilised in 2013/14 for the delivery of identified improvements;
- iii) The presentation of a further report on this project prior to any physical works commencing.

NB If Committee choose not to support the continuation of this project, then the budget will be used in accordance with the contingency plans previously approved by Committee.

1.0 INTRODUCTION AND BACKGROUND

- 1.1 The signalised junction of the A30 London Road/Egham Hill with the A328 St Jude's Road and D3191 Bakeham Lane is located near both Egham and Englefield Green and is adjacent to the Royal Holloway University of London (RHUL).
- 1.2 Due to the strategic importance of the A30 the junction is used by a very large volume of vehicles each day (over 27,000 in a twelve hour period) and can suffer from congestion at peak times.
- 1.3 The junction is controlled by traffic signals but there are no controlled (push button operated) pedestrian crossing facilities either at the junction or in the immediate vicinity. However, there is an existing pedestrian footbridge over the A30 Egham Hill near the entrance to the RHUL.
- 1.4 Pedestrians crossing at the junction have to judge when it is safe to cross by observing the traffic. However, this can be difficult for the following reasons:
 - The speed of traffic on the A30 approaching the junction at certain times.
 - The number of different signal phases required to safely accommodate the various manoeuvres vehicles can make at the junction.
 - The signal heads for the right turning traffic on the A30 approaches are set forward of the signals heads for traffic either heading straight on or turning left. This is to reduce the risk of drivers responding to the wrong signal head. Unfortunately, it also means that pedestrians waiting to cross the A30 at the junction can only see the signal heads for traffic either proceeding straight on or turning left. This can result in pedestrians mistakenly thinking it is safe to cross when they see the signals turn red and traffic stopping in the nearside and middle lane. However, vehicles turning right from the offside lane can have a green signal at the same time and pedestrians are not always aware of this since they cannot see the signal head.
- 1.5 Work undertaken to monitor accident rates across the Surrey Highway Network has highlighted an ongoing problem with pedestrians being injured in accidents at the junction. As a result, the issue has been considered by the Runnymede Road Safety Working Group (a partnership of specialist road safety Officers from Surrey Police and Surrey County Council that tries to identify measures to improve road safety at sites identified as having a poor safety record).
- 1.6 Surrey Police's Road Safety and Traffic Management Officer has also written to Surrey County Council expressing concerns about pedestrian safety at the junction and requesting that consideration should be given to introducing a pedestrian phase into the signals as a matter of urgency.
- 1.6 In response to the problem identified, Runnymede Local Committee previously agreed that a study should be undertaken to consider the possible introduction of controlled pedestrian crossing facilities at the junction and the impact this may have on the capacity of the junction.

2.0 ANALYSIS OF NEED

2.1 Pedestrian Survey

2.2 A 12 hour (7am to 7pm) pedestrian survey was undertaken at the junction on 4 October 2012 to give an indication of the number of pedestrians that may use the proposed controlled crossing facilities if they were introduced. The survey recorded the number of pedestrians that crossed at, or near, the junction and the findings are shown below:

Time period	Number of pedestrians crossing at junction	Number of pedestrians crossing near junction	Total
AM peak (8-9am)	176	41	217
PM peak (5-6pm)	148	23	171
12hrs (7am-7pm)	1758	499	2257

2.3 These results show that a very significant number of pedestrians cross at this junction, and that pedestrian demand is spread throughout the day.

2.4 In addition to this, a survey of pedestrians using the footbridge was undertaken on 13 November 2012 between 08:30 and 09:30. This showed that **347** pedestrians used this bridge in a one hour period. At the end of this survey, a further 54 schoolchildren crossed the bridge to access the RHUL site. Aside from the schoolchildren, observations suggest that pedestrian traffic using this bridge is almost exclusively students journeying between the two halves of the RHUL site.

2.5 During the test of revised signal timings on site a large and diverse number of pedestrians were observed crossing at the junction itself. In addition to the RHUL, there are two schools in close proximity to this junction, these being St Cuthbert's Catholic Primary School, and St Jude's C of E Junior School. A significant number of parents were seen walking their young children to school, crossing the A30 Northbound during the morning peak.

2.6 There was universal positive support for the introduction of pedestrian facilities at this location from all pedestrians who were informed of the purpose of this trial.

2.7 Traffic survey

Traffic survey data taken in 2010 is shown in Table 1. Although vehicle volumes are likely to have increased slightly since this survey was carried out, the information serves to demonstrate the level of vehicular demand on all four arms of this junction.

START TIME	END TIME	ENTERING JUNCTION FROM																JUNCTION TOTAL
		A328				A30 Egham Hill				D3191 Bakeham Lane				A30 London Road				
		←	↑	→	TOTAL	←	↑	→	TOTAL	←	↑	→	TOTAL	←	↑	→	TOTAL	
07:00	07:30	37	75	42	154	93	192	12	297	9	39	76	124	45	439	19	503	1078
07:30	08:00	73	134	86	293	66	286	33	385	23	103	96	222	68	380	25	473	1373
08:00	08:30	68	195	134	397	45	239	37	321	33	166	138	337	99	371	27	497	1552
08:30	09:00	148	155	91	394	59	236	52	347	28	171	152	351	68	346	34	448	1540
09:00	09:30	71	101	79	251	46	212	46	304	18	102	127	247	57	268	30	355	1157
09:30	10:00	87	52	53	192	33	183	40	256	14	68	89	171	41	260	0	301	920
10:00	11:00	168	108	106	382	87	464	85	636	30	145	190	365	86	411	22	519	1902
11:00	12:00	142	99	90	331	78	434	96	608	32	127	165	324	98	393	19	510	1773
12:00	13:00	147	118	85	350	64	365	90	519	33	148	233	414	90	446	33	569	1852
13:00	14:00	151	119	121	391	69	429	105	603	31	127	209	367	78	447	21	546	1907
14:00	15:00	157	115	96	368	90	459	79	628	50	184	235	469	99	398	20	517	1982
15:00	16:00	178	237	156	571	83	483	94	660	59	233	236	528	144	475	38	657	2416
16:00	16:30	106	94	61	261	57	289	52	398	44	131	143	318	79	295	31	405	1382
16:30	17:00	89	119	63	271	70	369	70	509	40	132	145	317	77	253	17	347	1444
17:00	17:30	75	121	87	283	113	320	45	478	38	179	155	372	104	226	31	361	1494
17:30	18:00	75	118	50	243	94	325	40	459	30	124	150	304	58	181	19	258	1264
18:00	18:30	58	140	70	268	90	376	52	518	25	139	159	323	73	224	17	314	1423
18:30	19:00	62	91	51	204	82	305	47	434	21	114	127	262	44	152	10	206	1106
TOTAL		1892	2191	1521	5604	1319	5966	1075	8360	558	2432	2825	5815	1408	5965	413	7786	27565

Table 1 – Traffic flow data dated March 2010.

2.8 Accident Analysis

The table below shows the total number of personal injury collisions that have occurred at the junction in the last 5 full years together with the latest available data for the current year. It also specifically identifies the number of collisions which involved pedestrians sustaining a personal injury.

Year	Total number of personal injury collisions	Number of collisions where pedestrians sustained a personal injury
2007	2	1
2008	3	0
2009	5	3
2010	3	1
2011	5	1
2012 (Up to Aug)	1	1

Total	19	7
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The table below shows the severity of the collisions involving personal injury to pedestrians:

Severity	Pedestrian Collisions
Slight	4
Serious	1
Fatal	2

3.0 Options

3.1 A number of options were considered with the intention of providing improved crossing facilities whilst at the same time minimising the impact on vehicular traffic. The impact of all options was assessed using a computer simulation, and different traffic flow options were explored for each to find the optimal solution.

3.2 Option 1 - Providing staggered crossings

A staggered crossing configuration would enable pedestrians to cross the A30 in two stages, minimising the disruption to traffic. However, due to site constraints, it would not be possible to provide an adequate width of central reservation without losing an approach lane. Modelling suggested that this option would have a severe impact on the flow of traffic and lead to a significant worsening of congestion. For this reason this option is not considered viable.

3.3 Option 2 - Providing crossings on two arms only

Consideration was given to introducing pedestrian facilities on the two most heavily used arms of the junction only. Computer modelling suggested that this option would have the same level of impact on traffic flows as Option 3, and so was not considered further.

3.4 Option 3 - Providing an all red pedestrian phase

Providing pedestrian crossing facilities on all arms of the junction would maximise the benefit to pedestrians but would require the introduction of an all red signal phase, during which traffic would be stationary on all approaches. Having considered options 1 and 2, option 3 has proved to be the only viable option if pedestrian facilities are to be introduced.

4.0 The impact of introducing an all red pedestrian phase

4.1 The impact of introducing an all red pedestrian phase at this junction was first assessed using a computer simulation.

- 4.2** To validate this simulation, queue lengths and journey times were measured during a typical peak period (between 08:30 and 09:30), and then assessed against observed queue lengths and journey times during a trial of the signals run on revised timings to simulate the actual impact of an all red phase.
- 4.3** A comparison of these results is found in Annex 1 to this report.
- 4.4** The modelling results suggested that the most significant impact on traffic would occur during the morning peak on the St Jude's Road approach to the junction. For this reason observations of traffic conditions and driver behaviour were made in the vicinity of the mini roundabout at the junction of St Jude's Road with Bagshot Road, and notes were taken of the School Crossing Patrol Officer's (SCPO) views.
- 4.5** The SCPO stated that traffic conditions vary considerably from one morning to the next, and that traffic regularly backs up along St Jude's Road during peak times, and can be much worse when an incident has occurred on the motorway.
- 4.6** This is borne out by the survey results, which show a considerable variation in traffic volumes between each date information was collected.
- 4.7** It was noted that parents entering and exiting Bagshot Road had a significant impact on traffic flows along St Jude's Road, and also that the SCPO frequently stopping traffic also had a significant effect.
- 4.8** Introducing an all red phase would lead in an increase in queue lengths along all four approaches to the A30 junction with St Jude's Road and Bakeham Lane.
- 4.9** If an all red phase is introduced, it is likely that there would be some dissipation of queues through changes in driver behaviour, with commuters make slight adjustments to their journey times.

5.0 Key facts summary

- i) There is high demand for safe pedestrian facilities at this location, with a patronage of 1758 pedestrians recorded during a 12 hour period.
- ii) Parents and children cross at this location to access St Cuthbert's Catholic Primary School, and St Jude's C of E Junior School, in addition to general highway users and RHU students.
- iii) There have been 19 personal injury accidents at this location in the last five years, 7 of which have involved pedestrians. The introduction of safe pedestrian crossing facilities is essential to addressing this.
- iv) There are in excess of 27,000 vehicles using this junction in a 12 hour period.
- v) The Police have petitioned for Surrey County Council to address the accident issue.

- vi) Based on site observations, and survey results, it has not been possible at this stage to clearly determine what impact the introduction of an all red phase would have on queue lengths and journey times, but there would be an increase in both.
- vii) It is likely that the introduction of pedestrian facilities would have a lesser effect on the St Jude's Road arm than that of the disruption to flow caused by parents entering and exiting Bagshot Road, and the operation of the SCPO.

6.0 CONSULTATION

- 6.1 Surrey Police has indicated its support for the introduction of controlled pedestrian crossing facilities at the junction, as has the RHUL.

7.0 FINANCIAL AND VALUE FOR MONEY IMPLICATIONS

- 7.1 The detailed design of a scheme to introduce controlled pedestrian crossing into the signals at the junction has been completed and submitted for pricing. However, the cost estimate had not been received from SCC's contractor at the time of writing this report.
- 7.2 The Runnymede Local Committee has made a budgetary provision of £100,000 from its 2012/13 capital ITS budget to fund the installation of controlled pedestrian crossing facilities at the junction.
- 7.3 If Committee decide not to proceed with this scheme then funding will be reallocated to contingency measures in accordance with the resolution previously agreed by the Local Committee.
- 7.4 Pedestrian facilities would have a negative impact on commuter journey times, and further assessment work will need to be carried out to quantify the economic cost of this.

8.0 EQUALITIES AND DIVERSITY IMPLICATIONS

- 8.1 Introduction of controlled pedestrian facilities is an equalities issue, as there are presently no safe means for wheelchair users to cross the A30 in this vicinity. This has recently been raised by the RHUL as the pedestrian footbridge access ramps are stepped, making them unsuitable for wheelchair users.

9.0 CRIME AND DISORDER IMPLICATIONS

- 9.1 There are no crime and disorder implications arising from this report.

10.0 CONCLUSION AND RECOMMENDATIONS

- 10.1 In view of the high pedestrian demand, and the accident history at this location, the introduction of controlled crossing facilities is considered to be highly meritorious.

- 10.2 However, it is essential that the impact of such facilities on vehicular traffic is clearly quantified and understood, so that a balanced decision can be made.
- 10.3 For these reasons it is recommended that:
- i) Committee approve the continuation of work on this project, and that this work includes a more detailed assessment of the function of traffic in the vicinity of St Judes Road at the junction with Bagshot Road;
 - ii) Committee approve requesting the re-profiling of the capital budget to enable the allocated budget to be utilised in 2013/14 for the delivery of identified improvements;
- 10.4 Should Committee not choose to continue with this project, then funding will be utilised as stated in 7.3.

11.0 REASONS FOR RECOMMENDATIONS

11.1 Reasons have been laid out in section 10 of this report.

12.0 WHAT HAPPENS NEXT

- 12.1 If the Local Committee agrees the recommendations then further survey work and consultation will be undertaken, a request for re-profiling the budget will be made, and a further report on this project will be prepared.
- 12.2 If the Local Committee decides to not to proceed with this project then, in accordance with the contingency plans already approved, the £100,000 budget previously agreed for the scheme will be reallocated and used to implement Local Structural Repair works.

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