

CADRA - Road Safety Albert Road/Highmoor Road Junction

17 October 2011

1 Introduction

- 1.1 There have been a number of vehicles/vehicle collisions and pedestrian/vehicle collisions in recent years at the Albert Road/Highmoor Road junction. Some of these collisions have resulted in personal injuries. Also a vehicle demolished a wall on the south-east side of the junction.
- 1.2 A few years ago the Highway Authority, Reading Borough Council (RBC), recognising that there is a road safety problem at the junction, carried out some remedial works in an attempt to reduce the accident potential of the junction.
- 1.3 This note provides CADRA's comments on the junction and suggests some mitigating measures.

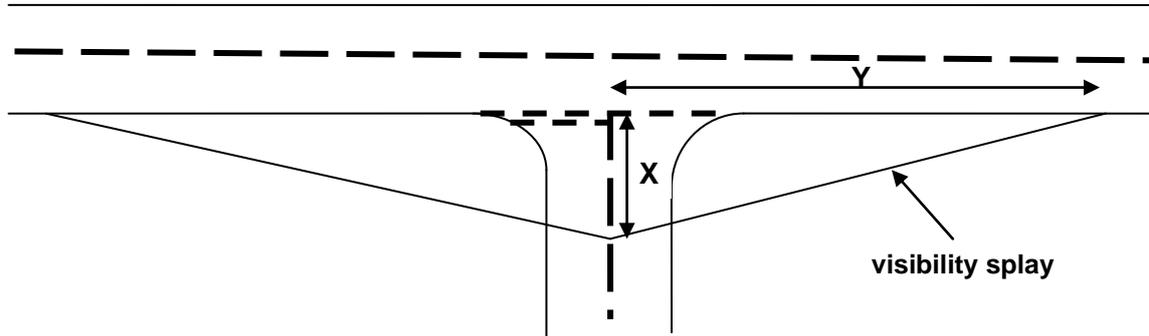
2 Road Layout

- 2.1 The junction of Albert Road and Highmoor Road is a simple priority cross roads junction. Albert Road is the 'major' road and Highmoor Road is the 'minor' road. Highmoor road has stop lines and traffic, therefore, must stop to give priority to traffic on Albert Road. Albert Road is not straight at the junction and has a 12° change of direction westwards with no horizontal curve.
- 2.2 All four corners of the junction have tight turning radii of about 2.0 metres. The south western kerbline and footway has been depressed almost to carriageway level by numerous overrunning left turning vehicles including buses.
- 2.3 Footways at the junction are about 2.0 metres in width.
- 2.4 In an attempt to reduce speeds and accidents RBC placed hatched road markings and red surfacing along the centre line of Albert Road and red anti-skid surfacing in Highmoor Road to emphasise the presence of the junction.
- 2.5 There is a one metre high CCTV cabinet at the back of the western footway of Albert Road just south of the junction.
- 2.6 On the eastern footway just south of the junction is a large street tree.
- 2.7 There are no pedestrian facilities at the junction.

3 Visibility Splays

- 3.1 Visibility splays at junctions are determined by their 'X' and 'Y' dimensions. Manual for Streets states that the 'X' distance (measured along the centreline of the side road) should be 2.4 metres but it can be reduced to 2.0 metres for lightly trafficked roads. The

'Y' distance measured along the kerbline of the major road should be 40-43 metres. The triangle formed should be kept clear of significant obstructions to visibility (see sketch below). (Nb RBC officers are very familiar with these criteria.)



3.2 It is doubtful if Albert Road or Highmoor Road could be classed as a lightly trafficked road so a 2.4 metre 'X' distance is appropriate. The 'Y' distance to the right out of Highmoor Road (west) is 19.0 metres and to the left it is 16.5 metres on the kerbline and 36.2 metres to the centreline (not strictly appropriate as vehicles can cross the dotted hatched area). All of these measurements are substantially below the minima given in Manual for Streets. The photographs show views from Highmoor Road 2.4 metres from the stop line.



Highmoor Road(west) view to left



Highmoor Road(west) view to right



Highmoor Road(east) view to left



Highmoor Road(east) view to right

4 Traffic

- 4.1 Both Highmoor Road and Albert Road are local roads and for the majority of the day traffic flows are low. However, during peak periods both roads have relatively high flows. Albert Road/Conisborough Avenue is approximately 1.6 km (1.0 mile) in length and is fed by numerous side turnings. The road is generally straight with little parking and observed speeds are around 30mph with a few drivers travelling illegally at over 40mph.
- 4.2 Pedestrian flows are low with the exception of peak periods when numerous school children cross over Albert Road from Highmoor Road.
- 4.3 The western part of Highmoor Road and Albert Road are on bus routes. The recent changes to Route 22 by Reading Transport Ltd means that the Reading bound services now turn left out of Highmoor Road instead of right. The tight turning radius forces buses to use both sides of Albert Road. It is probable that Route 22 will return to its old route along Albert Road.

5 Existing Problem

- 5.1 The primary problem for drivers emerging from Highmoor Road (west) is the poor visibility at the junction. The reasons for this are:
- the abrupt 12° bend in Albert Road at the junction;
 - narrow footways (2.0m) and high hedges, fences or walls;
 - the CCTV cabinet, although it is 1.0m high it does obstruct the sight line; and
 - the tree on the eastern kerblines.
- 5.2 Therefore, drivers are forced to roll their vehicles forward of the stop line in order to see approaching traffic. The photographs show a bus and a car waiting to emerge from Highmoor Road. The bus driver has an advantage over the car driver as he sits closer to the front of the bus and high enough to see over many obstructions such as the green CCTV cabinet.
- 5.3 Due to the abrupt bend at the junction northbound drivers on Albert Road tend to travel close to the left hand kerblines. Unfortunately the centreline hatched road markings also encourage drivers to keep to the left. The combination of side road traffic having to creep forward with northbound traffic being close to the kerb results in vehicle collisions. If drivers do not roll forward of the stop line they are at risk of emerging into the path of traffic.
- 5.4 Visibility for drivers emerging from Highmoor Road (east) is better and is assisted by the bend in the road. However the view to the left is partly obscured by the large street tree and Albert Road drivers are also encouraged to keep left by the hatched road markings.



Bus waiting to enter Albert Road

(Nb. position of bus driver)



Car waiting to enter Albert Road

(Nb Albert Road car keeping close to eastern kerbline)

6 Mitigating Measures

- 6.1 The hatched road markings are intended to narrow the running lanes and reduce traffic speeds. The current layout allows a small space for right turning vehicles but it is insufficient to allow straight-on vehicles to pass on the nearside. Unfortunately the hatched markings have worsened the collision risk.
- 6.2 It is suggested that the hatched road markings be removed and replaced with a simple centre of carriageway hazard line.
- 6.3 It is also suggested that the stop line for Highmoor Road (west) be advanced into Albert Road by 0.5 metre in a similar manner to the successful arrangement at the junction of The Warren with St Peter's Hill. The slight narrowing of the carriageway would also emphasise the junction and have a cautionary effect on drivers travelling on Albert Road.

7 Conclusion

- 7.1 The pre-motor vehicle layout of the Albert Road/Highmoor Road junction is the primary cause of accidents at this junction.
- 7.2 The red anti-skid surfacing on Highmoor Road has emphasised the junction and improved road safety.
- 7.3 The well meaning actions by RBC in placing hatched road markings in Albert Road has been less than successful and the markings should be removed and replaced with a simple centre line and the Highmoor Road stop line advanced into Albert Road by 0.5 metre. Also, additional traffic calming measures would be beneficial.