

Robin Hood Lane / Stratford Road Roundabout Junction, Birmingham

Appraisal Summary Report

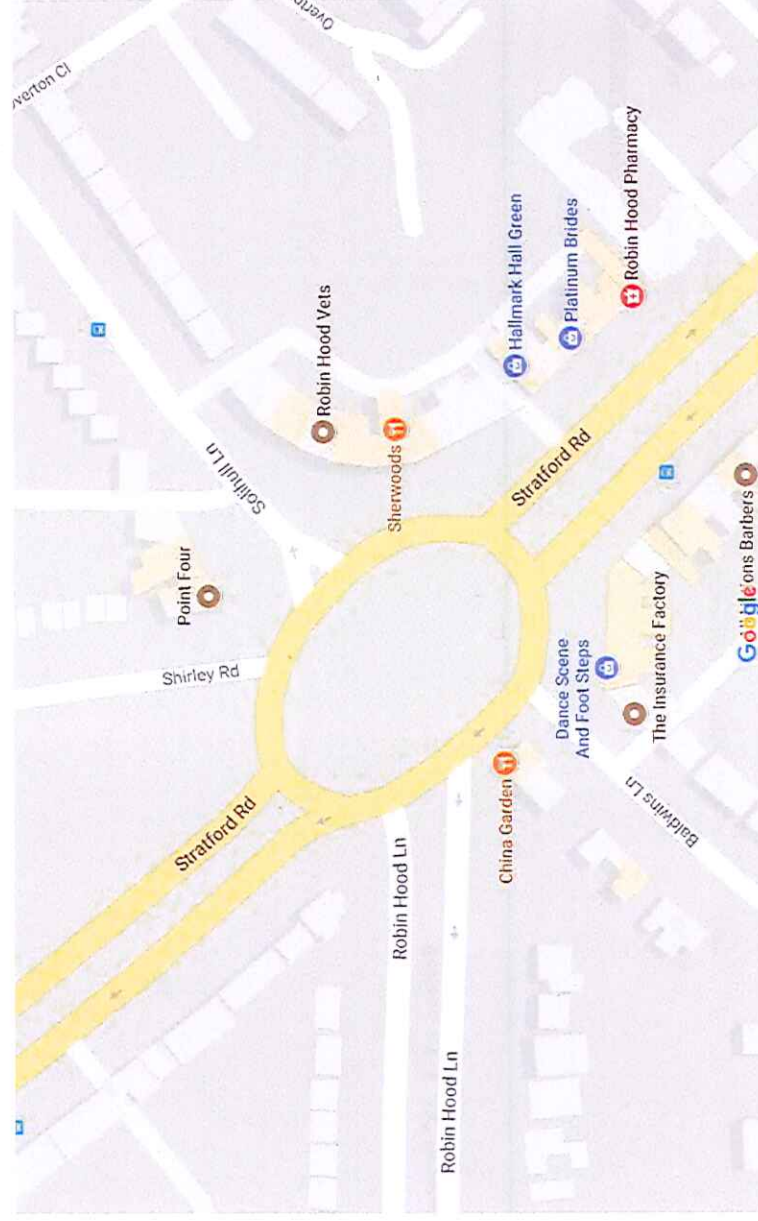
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Overview

- 1.1 Following concerns raised by local residents to the traffic operation of the roundabout junction of the A34 Stratford Road and Robin Hood Lane in Birmingham, an assessment of the junction operation was undertaken by the City Council and this report summarises the key findings of this junction assessment.
- 1.2 The local concerns centred on the specific issue of 'exit blocking' at peak times for southbound A34 traffic wishing to exit the roundabout being held up by traffic stopped at the circulatory stop line. Along with concerns over the lane marking arrangement on site which is perceived to be exacerbating this issue.
- 1.3 The site was inspected on Thursday 14th September 2017 in the afternoon peak period, where the weather conditions were dry. Traffic flows were observed for the mid-week evening peak period from 4.30pm to 5.30pm where the traffic volumes were noted to be very high with the predominant movement observed to be A34 Stratford Road north south route, however large flows were noted from Solihull Lane accessing Robin Hood Lane.
- 1.4 Recorded injury collision data was obtained for the most recent 3 year period which showed that there were 7 collisions recorded within the entire roundabout junction and its immediate approaches resulting in 8 slight casualties. On analysis of the data all the collisions recorded were the result of unexpected weaving movements on the roundabout or rear shunt type collisions. No identifiable pattern of collisions can be determined with the collisions spread across the whole roundabout junction and immediate approaches. Of the collisions recorded only one was attributed to the area of concern with respect to this assessment, which was the result of a rear shunt type collision.



Map of A34 Stratford Road roundabout junction with Robin Hood Lane

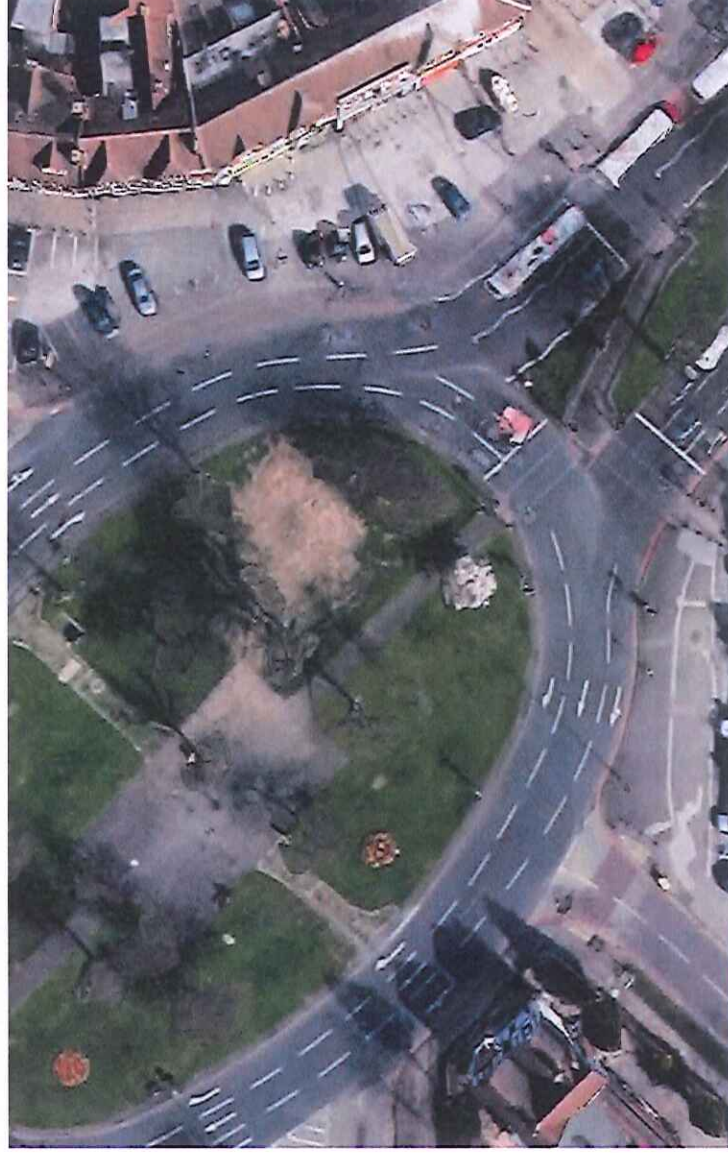
Considerations

2.0 The operation of the junction was observed for a period of just of one hour during the evening peak period. The site inspection noted that the north to south movement along the A34 flowed relatively well relative to the high volumes of traffic present. The occasions that A34 through traffic was being obstructed by traffic stacking back from the circulatory stopline was observed to be very low. This was in the main because A34 southbound through traffic was observed to be using Lane 1 predominately to avoid being caught up in the queue for circulating traffic. During the entire observation period only one vehicle was observed to be 'exit blocked' by queuing traffic for a period of time.

2.1 Significant traffic flows were noted coming from Solihull Lane to either Robin Hood Lane or Baldwins Lane, with the majority heading for Robin Hood Lane. Consequently Lane 1 and particularly Lane 2 of the circulatory carriageway were used for this movement and regularly resulted in traffic queuing in the circulatory area back towards, but never passing, the Solihull Lane arm entry.

2.2 The site observations did note a separate issue in that the southbound bus stop on the A34 immediately to the south of the Robin Hood Roundabout was regularly serviced with circa 8 buses observed stopping during the observation period. The servicing of this bus stop so close to the roundabout exit was noting to hold up traffic flows and caused traffic to stack back on to the roundabout as they waited for a gap in Lane 2 to pass the stationary bus.

2.3 The road markings and signage are considered to be correct for the movements on site and junction on review is considered to operate well when balancing the various manoeuvres on site.

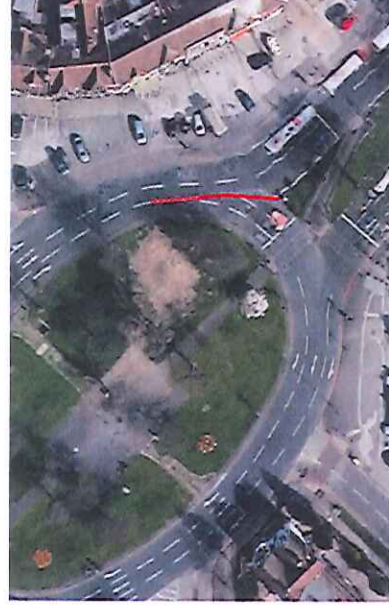


Satellite view of southern section of the roundabout showing road marking layout

Potential Improvement Interventions

3.0 Notwithstanding the above observations there are a couple of possible interventions that could be introduced to help alleviate the local residents' concerns, these include:

3.1 Option 1 - Amendments to the circulatory road markings lane lines so that Lane 1 and Lane 2 become solely A34 southbound dedicated lanes and Lane 3 of the circulatory carriageway is used for traffic intending on accessing destinations to the west and north.



Option 1 Layout Sketch

This would enable two lanes of free flow unrestricted exit for A34 southbound traffic but would increase the queue lengths in Lane 3 and reduce the operational capacity of the roundabout. It would also make it notably more difficult for traffic exiting Solihull Lane to access Lane 3 as they will have to then cross two lanes of free flowing traffic. At present Solihull Lane traffic only has to cross one lane of traffic.

3.2 Option 2 - Another alternative is to adjust the road markings so that the majority of the circulating traffic is contained within Lane 3, but Lane 2 still enables a route for westbound traffic flows.



Option 2 Layout Sketch

This alleviates to some degree the issue of Solihull Lane traffic needing to cross two lanes of free flowing traffic, but will still reduce the operational efficiency of the roundabout junction. This option also introduces a new potential hazard of traffic in Lane 2 circulating towards the west will move from Lane 2 to Lane 1 immediately prior to the A34 exit arm whereby preceding traffic flows may not be anticipating this movement and potentially lead to rear shunt type collisions occurring.

3.3 Option 3 - The remaining option is to do nothing, and it is noted that this does not resolve the concerns of the local residents.

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