



SHEFFIELD CITY COUNCIL

Cabinet Highways Committee

9

Report of: Simon Green Executive Director, Place

Date: 13th October 2011

Subject: Provision of new signal controlled pedestrian crossing,
Derek Dooley Way

Author of Report: Ian Wheeldon 0114 273 6368

Summary:

This report gives details of the potential new signal controlled crossing works associated with the new Capita Hartshead office building.

It informs members of the public consultation that has been undertaken, and informs members of the potential operational implications these works would have on the adjacent highway network.

Approval is sought for the design and implementation of the highway improvement proposals.

Reasons for Recommendations:

To ensure pedestrians going to/from the Capita Hartshead office building, have as safe a route as possible and to minimise the risk of accidents for all road users in this area, it is recommended that a controlled crossing point is provided

The provision of a safe and commodious route to this office block will also help to encourage more staff and visitors to walk to this building.

The proposals should keep vehicle delays on the Inner Ring Road to a minimum. This will be monitored and appropriate action could be undertaken to ensure this.

Capita have offered to fund the construction costs associated with these works.

Recommendations:

Approve the highway improvement works shown on drawing number TM-RV-HD011-101 produced in appendix A.

Officers to closely monitor the new signals once operational and make any adjustments to ensure the impact of this new crossing facility on traffic flow around the Inner Ring Road is minimised.

Background Papers: None

Category of Report: OPEN

HIGHWAY WORKS FOR THE NEW PEDESTRIAN CROSSING DEREK DOOLEY WAY/CUTLERS GATE

1.0 SUMMARY

1.1 This report gives details of the potential new signal controlled crossing works associated with the new Capita Hartshead office building. It informs members of the public consultation that has been undertaken, and informs members of the potential operational implications these works would have on the adjacent highway network. Approval is sought for the design and implementation of the highway improvement proposals.

2.0 WHAT DOES THIS MEAN FOR THE PEOPLE OF SHEFFIELD

2.1 The proposals have been developed to address the safety concerns raised by staff and management at the new Capita office building on Derek Dooley Way.

2.2 The improvements will also contribute to the “Protecting and Enhancing the Environment” objective of the Council’s Corporate Plan “A City of Opportunity”, as it will provide a safe place for pedestrians to cross the Inner Ring Road, to gain access to an important area of employment.

3.0 OUTCOME & SUSTAINABILITY

3.1 The main outcome will be to provide a safe and direct access route for pedestrians who are travelling either to or from the city centre to this office block.

3.2 The measures should help to encourage pedestrian access to the site, but they will also add slightly to the peak hour congestion levels on the Inner Ring Road.

4.0 REPORT

4.1 Planning consent was granted for the new office block on the 25th February 2008 (planning application reference 07/04821/FUL)

4.2 As part of the planning submission a detailed transport assessment was submitted by the applicant which included an assessment of the potential need for signal controlled crossing points. Based on the limited pedestrian movements predicted and the potential impact a signal controlled crossing might have on traffic flows, it was concluded that this option should not be pursued.

4.3 The transport assessment did suggest providing a signal controlled crossing on the east bound running lane (heading towards Sheffield Parkway) where the existing traffic signals next to the new office block exist. This was however discounted on highway safety grounds as a controlled crossing across just part of the road could easily give rise to major safety problems. A plan showing the location of the Capita building to relate to Derek Dooley Way and the Parkway is included in Appendix A.

4.4 There was also a very narrow section of footway on Derek Dooley Way, to the west of the new office block, which had potentially been identified as needing improvement, but again this was not pursued by the developer, as it was not felt that the level of pedestrian movements would justify these works.

- 4.5 Following the occupation of this office block early in 2010, it quickly became apparent that the level of pedestrian activity was far higher than predicted, and that the number of pedestrians crossing the Ring Road could potentially give rise to safety issue.
- 4.6 As an initial measure Capita did arrange for their contractor to undertake the footway widening works described in Paragraph 4.4 above, so a route that did include crossing the Inner Ring Road via controlled crossings points at Furnival Road was created. However, even with this in place it is clear that most pedestrian are still walking the direct route and crossing the Inner Ring Road near the entrance to the office block.
- 4.7 Capita have now offered to fund a signal controlled crossing point near to their office block, and the design of this scheme is shown on the drawing in Appendix A.
- 4.8 As part of the assessment of the impact these new facilities might have on traffic flow, officers have made use of the City Centre Aimsum microsimulation model. The journey times and traffic flows on 4 different routes were recorded ;

IRR Clockwise

Bridgehouses to Sheffield Parkway
 Bridgehouses to Park Square

IRR Anti-clockwise

Sheffield Parkway to Wicker
 Park Square to Wicker

The modelled periods were morning peak 08:00-09:00 and 17:00-18:00 and the crossings were assumed to be demanded every cycle of the traffic signals, which is currently a 60 second cycle time. The outcome of the modelling is set out in table 1.

Table 1

| | | |
|--|--|-----------------------------|
| <u>Outcome Morning Peak</u> | | |
| IRR Clockwise Bridgehouses to Sheffield Parkway Bridgehouses to Park Square | 13% Increase in traffic delays 12% Increase in traffic delays | } 1900 vehicles in total |
| IRR Anti-clockwise Sheffield Parkway to Wicker Park Square to Wicker | No overall increase in traffic delays No overall increase in traffic delays | } 2200 vehicles in total |
| <u>Outcome Evening Peak</u> | | |
| IRR Clockwise Bridgehouses to Sheffield Parkway Bridgehouses to Park Square | 1% Increase in traffic delays No overall increase in traffic delays | } 2200 vehicles in total |
| IRR Anti-clockwise Sheffield Parkway to Wicker Park Square to Wicker | No overall increase in traffic delays No overall increase in traffic delays | } 1800 vehicles in total |

In practice it is impossible to set the red time for traffic on the existing signals, which give controlled vehicle access onto Cutlers Way and the Capita development from the Parkway direction, to the present minimum levels, as this would not give sufficient time for pedestrians to cross the three lanes on the IRR clockwise side, so some additional delay to traffic is inevitable. However, the level of delay indicated in the above table is very much a worst case scenario, with the assumption being that the pedestrian phase is called every cycle. In reality the pedestrian phase is likely to be called in less than 50% of the cycle periods in the peak hours (even less outside of these periods), so the actual delay to traffic on the IRR clockwise, may well be below 6%. The operation of the new crossing facility and revised signal timings would be closely monitored, to ensure traffic delays were not being increased excessively. If problems were found, it will be possible to have more restrictive call up facilities to the new crossing, to ensure it was not operated every cycle.

Summary

- 4.9 The operation of the pedestrian crossings were set up to minimise the impact on traffic. For example, in the IRR anti-clockwise direction, for traffic travelling towards The Wicker, the pedestrian crossing is set to operate as soon as the from Parkway traffic has cleared. Therefore, there is no delay to this traffic. The from Park Square traffic does have some additional delay time at the crossing, but it is delayed less on its approach to the Wicker so the overall effect is negligible.
- 4.10 The major issue is with the morning peak clockwise direction traffic coming from Bridgehouses. On first impressions it would seem incorrect that there is significant additional delays in the am peak and negligible delays in pm peak caused by the crossing. However the reason for this is to do with the interaction between crossing and the down stream junction with Parkway. In the am peak the right turn from Derek Dooley onto Parkway has much less time than in the pm which is making the interaction between two sets of signals highly critical. As indicated in 4.8 above, the potential to limit the demand made by the crossing facility on the overall operation of the signals does exist, and this will be closely monitored to ensure the optimum performance is achieved.
- 4.11 The modelling results indicate that in the evening peak period this crossing should have almost no impact on traffic delays, although in reality some minor additional delays may be possible. In the morning peak no additional delays are predicted in the anti clockwise direction, but delays in journey times along the inner ring road of up to 13% are predicted in the clockwise direction, this is the equivalent to around an extra 15 seconds on a journey, but in reality this could potentially be slightly less. It should however be remember that the impact on journey times will affect all 1900 vehicles using the IRR in the clockwise direction during the morning peak.
- 4.12 The lack of controlled crossing facilities across a major highway does give rise to highway safety concerns, and clearly Capita who have offered to fund these remedial measures are conscious of the risks their staff face. There is, however, a balance to be made between potential safety concerns and the impact certain measures will have on traffic flow. If the crossing was predicted to increase journey times in both directions in both the morning and evening peak periods, then this may well have been sufficient to outweigh the safety concerns. The results indicating limited delays in just one direction in the morning peak is sufficient to demonstrate that the proposal should not be opposed on traffic impact grounds.

Relevant Implications

4.13 There are no financial implications for the Council as Capita have offered to fund the construction costs of these highway works.

4.14 An Equality Impact assessment has been conducted and concludes that the scheme should be of universal positive benefit to all regardless of age, sex, race, faith, disability, sexuality, etc. Measures to aid disabled people will be included as standard in the scheme design. The works will be fully DDA compliant and fully accessible to all.

5.0 ALTERNATIVE OPTIONS CONSIDERED

5.1 The alternative of providing an improved footway from the west has been tried, but due to it being a longer route, has not attracted any significant increase in its use.

5.2 In theory, it would be possible to create a controlled crossing route through the existing signals as Derek Dooley Way joins Sheffield Parkway. This would be unlikely to create any great delays in traffic movements. However, this would be a very long convoluted route that again may well not attract any great numbers of pedestrians. It would also be prohibitively expensive to install.

6.0 REASONS FOR RECOMMENDATIONS

6.1 To ensure pedestrians going to/from the Capita Hartshead office building, have as safe a route as possible and to minimise the risk of accidents for all road users in this area, it is recommended that a controlled crossing point is provided

6.2 The provision of a safe and commodious route to this office block will also help to encourage more staff and visitors to walk to this building.

6.3 The proposals should keep vehicle delays on the Inner Ring Road to a minimum. This will be monitored and appropriate action could be undertaken to ensure this.

6.4 Capita have offered to fund the construction costs associated with these works.

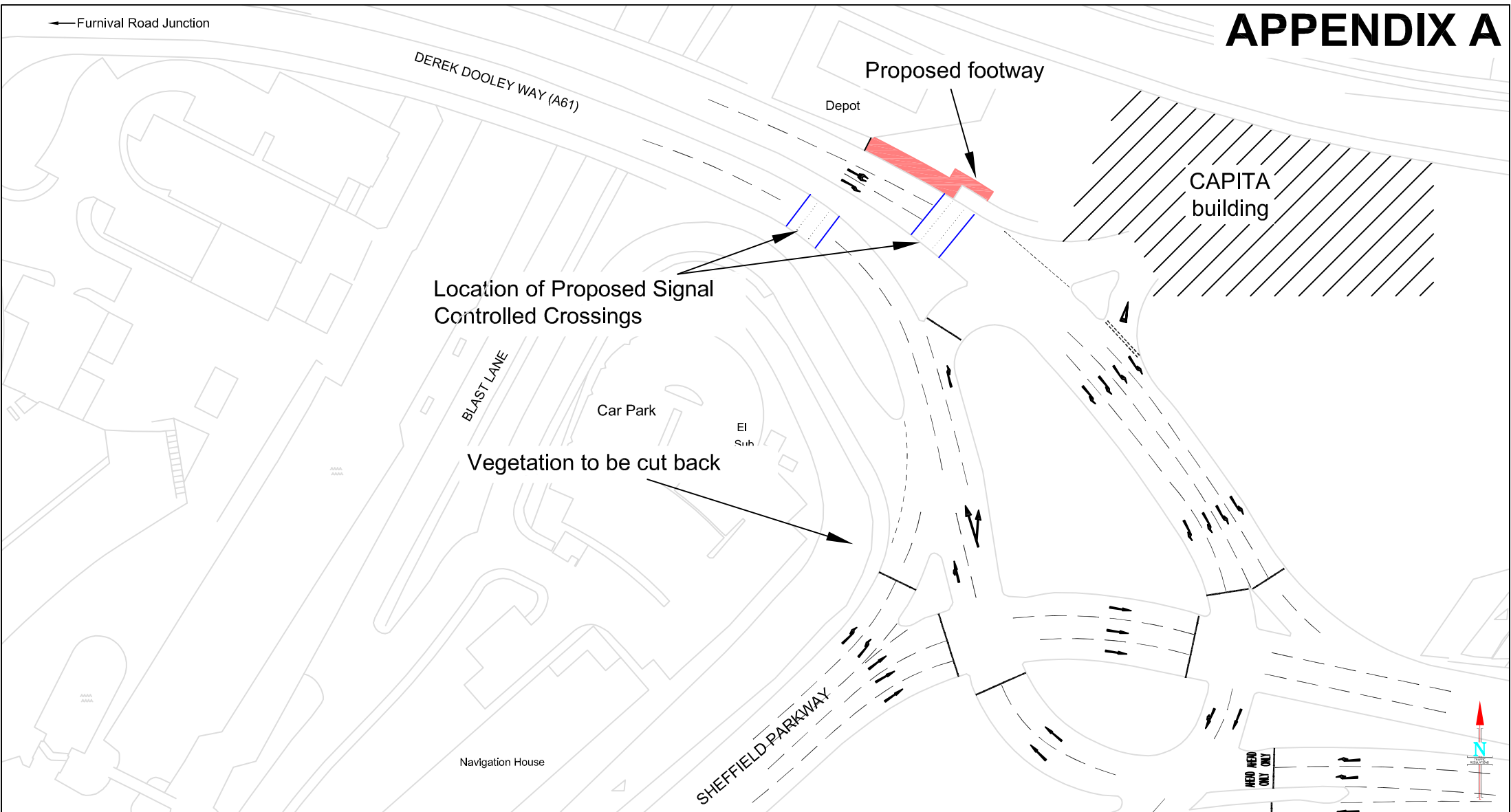
7.0 RECOMMENDATIONS

7.1 Approve the highway improvement works shown on drawing number TM-RV-HD011-101 as set out in Appendix A.

7.2 Officers to closely monitor the new signals once operational and make any adjustments to ensure the impact of this new crossing facility on traffic flow around the Inner Ring Road is minimised.

Simon Green
Executive Director, Place

APPENDIX A



DEVELOPMENT SERVICES
TRANSPORT & HIGHWAYS DIVISION
TRAFFIC SECTION
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 Director: L Sturch M.R.T.P.I.
 Development Services

A Service Area of the Directorate Place
 Sheffield City Council

- Do not scale from this drawing
- Any errors/omissions to be reported immediately
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Client
SHEFFIELD CITY COUNCIL

Scheme
DEREK DOOLEY WAY - RING ROAD

Drawing Title
**APPENDIX A
 PROPOSED CONTROLLED PEDESTRIAN CROSSING**

Drawing No.
TM-RV-HD011-P01

Scale
1 / 500

0 Millimetres 30
 Date **MAY 2011**



TRAFFIC REGULATIONS