
**Decision Session – Executive Member for
Transport**

3 November 2020

Report of the Corporate Director of Economy and Place

TSAR Traffic Signal Refurbishment – Wigginton Road/Crichton Avenue

Summary

1. The traffic signalling equipment at this site is life expired, has become difficult and costly to maintain and needs to be replaced.
2. The TSAR (Traffic Signal Asset Renewal) programme is the means by which life expired traffic signal assets across the city are refurbished.
3. Although the programme is primarily about asset renewal, there is scope to take advantage of ‘easy wins’ whilst refurbishing the equipment. To that end, an option which looks to include new pedestrian crossing facilities has been proposed as one of the two options put forward.

A decision is required to approve the proposed alterations.

Recommendations

4. The Executive Member is asked to:

Approve Option 2 including the additional TRO implementation/extension for no waiting at any time along the south west access road as noted at points 24 and 25 of this paper.

Reason: This option achieves the core aim of replacing the life-expired traffic signal asset such that it can continue be operated and repaired economically.

This option also includes the introduction of pedestrian crossings at the junction which provides further benefits for users and links directly with the CYC Council Plan in its aim to improve opportunities for Getting

around Sustainably. This addition is generally supported by those individuals and groups responding to the preliminary design consultation however, concerns were raised about the impact these changes would have on general traffic and bus journey times.

Background

5. A report was brought to the Executive Member for Transport and Planning on 12th November 2015 to seek approval to undertake the 5-year 'TSAR' (Traffic Signal Asset Renewal) programme.
6. This programme entails a replacement of life expired traffic signal assets around York. The focus is on replacing equipment that is liable to imminent failure, rather than seeking to improve congestion or achieve a similar transport improvement goal. However, where 'easy wins' can be achieved at the same time as replacing obsolete equipment, these will be taken advantage of.
7. To date, 33 sets of signals have been refurbished and a further 5 are programmed in for the 20/21 financial year.

Consultation

8. Due to the possible introduction of pedestrian crossings at the location alongside previous issues regarding vehicle capacity at the junction, a consultation has been carried out to offer local ward councillors, internal and external stakeholders an opportunity to have their say on the proposed scheme.
9. A summary of the consultation feedback can be found in Annex A.

Options

10. The following options are available:
11. Option 1 – Approve the proposed like for like signal refurbishment shown in the drawing at Annex B
12. Option 2 – Approve the proposed signal refurbishment with additional controlled pedestrian crossings shown in the drawing at Annex C
13. Option 3 – Do not approve either of the proposed signal refurbishments presented.

Analysis

Option 1

Description of Changes

14. Refurbishment of all on site Traffic Signal Equipment
15. The estimated cost of the work to the Traffic Signal at the junction of Wigginton Road and Crichton Avenue detailed in Annex B is £120,000.00

Reasoning

16. Replacement of the traffic signal technology is the fundamental purpose of this project, as per item 6.

Impact on vehicular traffic

17. This option has no direct impact on vehicular capacity at the junction however the update of the site will establish a link to the communications network to ensure reliable fault monitoring and better junction monitoring.

Impact on Pedestrians

18. The option will have no impact on Pedestrians

Impact on Cyclists

19. The option will have no impact on Cyclists

Safety Considerations

20. Input on this preliminary design was sought from City of York Council's Road Safety Audit team who indicated the design should provide minimal benefits but does not address the safety of pedestrians crossing Crichton Avenue or the uncontrolled use of the scrap yard arm.

Option 2

Description of Changes

21. Refurbishment of all on site Traffic Signal Equipment
22. Provision of new Pedestrian Crossing facilities across the Wigginton Road and Crichton Avenue arms of the junction. These will be activated via pedestrian push buttons and so will only activate when requested.
23. Introduction of signal controlled egress from the access road at the South West corner of the junction. This will be activated by vehicle detection sensors and will therefore only place an additional signal phase when a vehicle is present.
24. Introduction of a new TRO for no waiting at any time along 20 metres of the Northern side of the access road at the South West corner of the junction.
25. Extension of the existing TRO for no waiting at any time along 20 metres of the Southern side of the access road at the South West corner of the junction.
26. A summary of these TRO implementations can be found in Annex D
27. Removal/Adaptation of a tree along the access road at the South West corner of the junction to improve visibility of the junction.
28. Removal of the Central Traffic Island on Crichton Avenue.
29. The estimated cost of the work to the Traffic Signal at the junction of Wigginton Road and Crichton Avenue detailed in Annex C is £150,000.00.

Reasoning

30. Replacement of the traffic signal technology is the fundamental purpose of this project, as per item 6.
31. The introduction of pedestrian crossings and a newly signalled arm of the junction offers future proofing for further residential developments in the local area.

32. The introduction of new pedestrian crossings also enhances the CYC Council plan in its aim to improve Getting Around Sustainably specifically impacting the number of pedestrians walking to and from the City Centre.

Impact on Vehicular Traffic

33. Introduction of pedestrian crossings and a new signalled arm of the junction will require additional signal phases which will in turn increase overall wait times at the junction.
34. Traffic modelling of the site indicates that the signal phase changes will not bring the junction above statistical capacity however there will be additional delays and longer queues for motor vehicles using the junction.
35. During the AM peak, average queue lengths at the junction will increase slightly between 1 and 5 vehicles. During the PM peak, these averages increase by between 3 and 8 vehicles. In both instances the Wigginton Road outbound arm is impacted by the largest increases.
36. Cycle times for the signals will also vary during these AM and PM peaks to provide additional capacity at the junction to reflect the additional number of vehicles moving through the junction.
37. The introduction of the new signal on the access road at the South West Corner of the junction will benefit vehicles exiting this road as they will no longer have to emerge into moving traffic at an opportune moment.

Impact on Pedestrians

38. The new pedestrian crossings introduced will provide a safe link between the residential housing and car park to the north of the junction and the access route for York Hospital to the south of the junction.
39. The new crossing will only operate on an on demand basis when the signal phase is requested using the push button equipment. The pedestrian crossing phase will therefore not operate during every signal cycle of the junction.
40. The site is also located in close proximity to the Nestle South development which will generate additional foot traffic wishing to use the amenities found along Crichton Avenue and Burton Stone Lane.

Impact on Cyclists

41. As the junction is currently served by off road cycle infrastructure on all arms the suggestion of the TSAR team is that cyclists should try and use these wherever possible.
42. On road cyclist movements through the junction currently make up less than 1% of demand (204 movements in 12 hours) with the majority of cyclists using the off road facilities available at the site.

Safety Considerations

43. Input on this preliminary design was sought from City of York Council's Road Safety Audit team who indicated the design may lead to slight delays to vehicles at busier times, but the safety benefits to pedestrians and users of the access road are considered to outweigh any potential issues. Minor design changes to the access road arm could be beneficial to pedestrians and cyclists using the Orbital Cycle Route. Overall this option is considered to have greater safety benefits.

Other options already discounted

44. Previous input from ward councillors regarding the operation of this junction has requested improvements which will increase capacity of the junction however the junction itself is not the capacity constraint within the network.
45. During peak periods the junction is impacted by inbound vehicles arriving at and exiting the York Hospital site with vehicles queueing back through the junction as they cannot continue along Wigginton Road.
46. Wigginton Road outbound traffic and those vehicles wishing to turn right into Crichton Avenue from Wigginton Road could benefit from additional filter lanes at the signals however there is no scope for additional lanes within the current highway boundary.
47. The situation of the junction across two bridges presents a significant engineering challenge and if the option to widen the highway in this area was pursued, a significant investment as part of a major transport project would need to be made to make this a reality.
48. It is the opinion of the TSAR design team and various CYC internal stakeholders from the Transport department that any further design

relating to these major works would not illustrate a good cost/benefit outcome

49. Consultation responses were received regarding the crossing of the access road at the south west corner of the junction by pedestrians and cyclists. These movements will not be signal controlled on two counts. Firstly the number of motor vehicles entering and exiting the access road is very low. Secondly, the installation of required signal infrastructure would use up valuable foot/cycleway space in an area that is already constrained by the layout of the existing carriageway/bridge architecture.
50. Cyclist movements from Wigginton Road Northbound on to the cycle way heading westbound along Crichton Avenue are supported by an off road cycle route which leads down to the Foss Cycle path access ramp and back up on to the access road at the south west corner of the junction. If cyclists wish to remain on the carriageway to transition from Wigginton Road Northbound to Crichton Avenue Westbound, they are required to wait for the green signal as there is not currently enough available space to introduce a cycle slipway alongside the footway to connect the two. Once presented with a green light, cyclists can immediately join the cycle way via the dropped kerb at the north side of the access road.

Council Plan

51. Replacing life-expired traffic signalling assets allows the Authority to continue to manage the traffic on its highway network, minimising congestion and ensuring user safety. Therefore carrying out these works fulfils the 'Getting around sustainably' key outcome of the Council Plan.

Implications

52. Financial

The TSAR programme is funded by the council's capital programme, which was approved at Budget Council on 27 February 2020 and sufficient funds are available in the 2020/21 transport capital programme for the construction of this scheme.

53. Human Resources (HR)

There are no HR implications

54. One Planet Council / Equalities

All junctions are designed with equalities in mind. The recommended designs follow the most up to date guidance with respect to disability access. The technology included in all designs includes aids to persons with visual and mobility impairment.

55. Legal

There are no legal implications

56. Crime and Disorder

There are no Crime and Disorder implications

57. Information Technology (IT)

The Information Technology implications of constructing the proposed designs has been considered and are included in the Project Plan. No issues are envisaged.

58. Property

There are no property implications

59. Other

Disruption during construction – Constructing the TSAR schemes inevitably means a certain level of work on the Highway, with an associated level of delay and disruption to pedestrians and vehicular traffic. Such works will be scheduled and planned to minimise this disruption, and sufficient information and notice will be given to affected parties.

The inclusion of new pedestrian crossing facilities as part of design option 2 will support both current demand and perceived future demand from nearby residential developments. Possible S106 funding support for the inclusion of these crossings from the nearby Nestle development was sought however this is not possible as the contribution of the developer has already been agreed and cannot be renegotiated unless significant changes to the planning application are proposed.

Risk Management

60. There are no known significant risks associated with any option presented in this report.

Project Risks are recorded in the Project Risk Register and are handled by the Project Team and monitored by the Transport Board.

Contact Details

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Report
Approved



Date 22.10.20

Neil Ferris
Corporate Director of Economy and Place

Report
Approved



Date 23.10.20

Wards Affected: List wards or tick box to indicate all

All

Guildhall
Clifton
Rawcliffe and Clifton Without

For further information please contact the author of the report

Background Papers:

All relevant background papers must be listed here. A 'background paper' is any document which, in the Chief Officer's opinion, discloses any facts on which the report is based and which has been relied on to a material extent in preparing the report (see page 5:3:2 of the Constitution).

Annexes

All annexes to the report must be listed here.

Annex A – Consultation Details and CYC Engineer Response
Annex B – Preliminary Design Option 1
Annex C – Preliminary Design Option 2
Annex D – Preliminary Design TRO requirements

List of Abbreviations Used in this Report

TSAR - Traffic Signal Asset Renewal
TRO – Traffic Regulation Order