Decision Session – Executive Member for Transport **11 May 2021**

Report of the Director of Environment, Transport and Planning

TSAR Traffic Signal Refurbishment – Bootham/Gillygate/St Leonards Place

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 an alternative option to radically change the junction has also been considered. This particular junction, on the city's Inner Ring Road, acts as a key route for all modes of transport. It provides challenges in terms of the competing demands, geographical constraints and existing building lines encountered. Road safety concerns have been raised over the existing arrangement and its unusual layout. Furthermore, the junction is located adjacent to Bootham Bar, a national monument, and key heritage asset within York. To that end, alterations to the junction's existing layout have been investigated.

   A decision is required to approve the refurbishment.

Recommendations

4. The Executive Member is asked to:

   Approve Option A

   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 whilst also maintaining the general efficiency of the inner ring road for network users at present.

The update of the signal equipment and ducting networks allows for the future redesign of the junction in line with changing approaches of CoYC regarding the movement of vehicles through the city's historic core as part of forthcoming Local Transport Plans. Abortive costs to the operation of the junction are minimal as the signal infrastructure installed as part of Option A could be removed and reused at other locations around the network as required.

Option A is unlikely to lead to a deterioration in air quality.

Although option B demonstrates benefits such as improved road safety, improvements to the urban realm and reduced pedestrian delay, the associated disbenefits of increased delay and public transport impact on this key section of the city's inner ring road in conjunction with the much higher cost of the scheme does not represent value for money.

Background

5. The TSAR (Traffic Signal Asset Renewal) programme has been in place since 2015 and is responsible for the replacement of life expired traffic signal assets around York.

6. 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, 35 sets of signals have been refurbished and a further 8 are programmed in for the 21/22 financial year.

8. The junction of Bootham, Gillygate and St Leonards Place is constrained by historical buildings and space for all users is limited leading to congestion and delays for both general traffic, buses and pedestrians.

9. The junction is an identified accident cluster site and is reviewed annually. In the last three full years of data (2017 to 2020) there were five reported injury collisions, all slight, resulting in a total of seven casualties (5 cyclists, 1 pedestrian, 1 car passenger.)

10. The junction is located in the existing City Centre Air Quality Management Area (AQMA) and Gillygate is a location where CYC regularly record exceedances of the health-based annual average air quality objective for nitrogen dioxide (NO_2).

11. The junction has many retail and leisure businesses situated on and around it many of which require access for loading and unloading goods. There is also a large residential presence in the area with homes on each approach of the junction.

12. The junction is a key pedestrian route leading pedestrians from local car and coach parks (Union Terrace) to the city's historic core and multiple nearby tourist attractions.

13. The junction is a key cyclist route connecting Rawcliffe and Clifton with the city centre along the A19 corridor with an average of 300 trips being made across it during peak periods. The junction is on National Cycle Network route 658 and forms part of the "Way of the Roses" trail.

14. The junction is on a key public transport route with multiple local bus operators as well as site seeing tours utilising the bus stops in the exhibition square area. The Rawcliffe Bar Park and Ride service (No 2) passes through the junction (St Leonard's Place to Bootham) as part of its route.

15. The junction is on a key route for general traffic on the city's Inner Ring Road providing access to the arterial A19 with an average of 1250 vehicular trips through the junction at peak periods.

16. At this stage, a decision is required on what should be done about this junction before it becomes life expired. As the signal equipment on site continues to age without replacement, the chance of a complete failure increases on this high profile Inner Ring Road junction which could lead to long term disruption for all users.

17. A separate decision regarding CoYC's policy priorities as part of upcoming Local Transport Plans will inform future operation of the junction and possible adaptation and alteration of the junction will be designed into the signals infrastructure installed at this site.

Options

18. The following options are available:

19. Option A – Refurbishment of the junction with minor changes to pedestrian facilities as shown in drawing Annex A

20. Option B – Refurbishment of the junction with significant changes to provide a wider public realm scheme as shown in drawing Annex B

Analysis

Option A

Description of Changes

21. A full replacement of all traffic signalling technology, including signal heads, poles, cabling, cabinets, detectors, communications and ducting.

22. Pedestrian crossing waiting area width increased on the Bootham arm of the junction.

23. Pedestrian crossing waiting area width increased on the Gillygate arm of the junction.

24. Tactile paving to be realigned on the St Leonards Place arm of the crossing to meet current design standards.

25. Installation of cyclist early release green signals on the Gillygate approach only.

26. The estimated cost of the work to the Traffic Signal at the junction of Bootham, Gillygate and St Leonards Place detailed in Annex A is £200,000.00

Reasoning

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

28. The current signalling equipment on site is past end of life with a complete lack of subterranean ducting meaning all cabling is exposed directly beneath the concrete surface.

29. It has been reported that on very warm days the signal controller cabinet is sat in direct sunlight leading to overheating which trips the entire signal system on one of the inner ring roads most critical junctions.

30. The design will also deliver improvements suggested in the previous Road Safety Assessment of the junction whilst also maintaining the current capacity for all users moving through it. These will include:

    - New advance direction signage on the Bootham approach
    - New directional signage on the St Leonard's Place approach to clarify the appropriate lane for each movement and to ensure that this sign is prominent.
    - Cycle symbols associated with the KEEP CLEAR markings on St Leonard's Place

Impact on vehicular traffic

31. This option has a negligible impact upon the capacity of the junction and the journey times of vehicles travelling through it.

Impact on Pedestrians

32. The option will have minor benefits to pedestrians by increasing the width of the pedestrian crossing waiting areas of Bootham and Gillygate.

Impact on Cyclists

33. This option has been assessed using the Junction Assessment Tool which is included in the Department for Transport's Cycle Infrastructure Design guidance note (LTN1/20) and scores zero due to:

    - Prevalence of pinch points across the junction as lane width in the area is already below the recommended 3.2 – 3.9 metres with no capacity for these to be widened.

    - Cycle movements are in potential conflict with heavy motor traffic flow including both HGV's and Buses

34. The option will have minor benefits to cyclists as cyclist early start signals could be considered on the Gillygate arm of the junction.

35. Early start signals cannot be considered on Bootham for those wishing to proceed to either High Petergate or St Leonards Place as a proscribed signal combination from the DfT does not exist to indicate that cyclists may begin this manoeuvre prior to other traffic.

36. As the approach from St Leonards has two lanes and is split phased, the inclusion of early cyclist starts is believed to be potentially confusing for users and if misread would put them in direct conflict with oncoming motor vehicles moving between Bootham and High Petergate/St Leonards Place. The mounting of early cycle start signal infrastructure for cyclists moving between St Leonards Place and Gillygate is also difficult as the nearest point for this would be the pedestrian crossing island to the right of the junction which is not the direction cyclists would be looking whilst waiting to proceed.

37. Adaptations to address the issues raised in points 35 and 36 are amongst the contributing factors for the proposal of Option B.

Impact on Air Quality

38. This option has a negligible impact on Air Quality in the immediate area of the junction given that traffic levels are estimated to remain largely the same as no major changes to layout or signal phasing are included.

Safety Considerations

39. Due to the buildings and ancient monuments in the area, other options for increasing safety are severely restricted.

40. A further Road Safety Audit will be carried out after detailed design and before construction. This is the means by which the design safety will be controlled.

Option B

Description of Changes

41. A full replacement of all traffic signalling technology, including signal heads, poles, cabling, cabinets, detectors, communications and ducting.

42. Pedestrian crossing waiting area width increased across both the Gillygate and Bootham arms of the junction.

43. Additional pedestrian crossing point introduced from the eastern corner of Gillygate (outside number 5 Bootham) to the western footway of St Leonards Place (area to the front of the art gallery.)

44. Removal of the dedicated left turn lane from St Leonards Place reducing the highway into a single lane in both directions with widened cycle lanes.

45. Highway realigned to the East of Gillygate/St Leonards place to create a more straight ahead route for vehicles travelling from Gillygate into St Leonards Place.

46. The Highway realignment at point 45 provides the ability to create additional footway and pedestrian realm adjacent to Bootham Bar.

47. Existing pedestrian island removed from St Leonards place and crossing realigned as a single stage crossing.

48. Installation of cyclist early release green signals on all arms of the junction.

49. The estimated cost of the work to the Traffic Signal at the junction of Bootham, Gillygate and St Leonards Place detailed in Annex B is £500,000.00.

Reasoning

50. Points 27, 28 and 29 above all also apply to this option B.

51. The major changes included in this design option look to make a step change in the way pedestrians are dealt with at this junction by reallocating road space from traffic to pedestrians.

52. Removal of the dedicated left filter lane from St Leonards Place creates the possibility to reconfigure the path for vehicular traffic moving south bound from Gillygate to St Leonards Place, creating a more direct route and allowing more space to be utilised for public realm to the east of the highway.

53. Intervisibility and geometry at the junction are currently poor meaning at present outbound traffic from St Leonards Place can only operate from a single lane at a time and larger vehicles intending to turn left into Bootham, on occasions, can encounter conflict with vehicles turning right

from Bootham into St Leonards Place. Removal of the dedicated left turn lane removes this conflict as each arm of the junction would need to operate independently.

54. The introduction of a more straight ahead route from Gillygate to St Leonards place removes the need for a sharp left hand turn towards Bootham Bar. This allows for more space to be created for cyclists moving through the junction.

55. The inclusion of a direct crossing through the centre of the junction between Gillygate and St Leonards Place reduces pedestrian wait times for those wishing to cross two arms of the junction and also introduces the need for an all pedestrian signal phase allowing pedestrians movements across all points of the junction simultaneously.

56. The introduction of a single stage pedestrian crossing of St Leonards Place reduces pedestrian wait times in the area and also alleviates capacity pressures which are often encountered on the existing pedestrian island in this area.

Impact on Vehicular Traffic

57. This option will have a significant impact for all motor vehicles travelling through the junction. All arms of the junction would operate well above current capacity during both the AM and PM peaks resulting in significant increases in total journey delay at this junction and increased queuing.

58. Detailed projections of impacts on junction capacity of this option have been subject to operational transport modelling (LINSIG) and indicate that vehicle capacity at the junction would be reduced by around 30%.

59. The impacts of this change in capacity would be felt not only at this location but at adjacent junctions on the network.

60. The likely impact of the capacity reductions caused by these changes is that traffic would reroute away from this junction which could possibly lead to wider scale capacity issue for other locations on the network.

61. A strategic transport model (VISUM) has been compiled to assess the possible impact of this vehicle capacity reduction and it was identified that around 15% of traffic which previously used this junction would be redistributed onto other parts of the network.

62. The strategic model suggests that even with the redistribution of trips away from the junction, delays and queues would increase for the remaining traffic on all arms, resulting in an overall increase in travel times through the junction of 40%.

63. Due to the rerouting traffic, the key routes which would see increased traffic levels include:

    - The Inner Ring Road (Nunnery Lane/Paragon Road/Foss Islands Road)
    - Water End via Poppleton Road and Leeman Road
    - Burton Stone Lane & Crichton Avenue

64. The strategic model suggests that overall journey lengths and times would increase throughout the network along with small increases in delay and queuing throughout the rest of the network as traffic reroutes away from Bootham / Gillygate / St Leonard's Place.

65. The strategic model does not suggest that there is a significant increase in vehicles attempting to cross the Groves residential area or the main network routes of Haxby Road, Haleys Terrace or Dodsworth Avenue which surround it.

66. As a public transport interchange, this option would have a significant impact on bus services moving through the junction as capacity is reduced and significant delays would be encountered during both rush hour peaks.

67. Given the reduced capacity of this key Inner Ring Road junction under Option B, the resilience of the overall primary route network will reduce leading to a reduced ability to deal with incidents and events on the network as a whole. This may also see reduction in effectiveness of emergency vehicles.

Impact on Pedestrians

68. This option will have minor benefits for pedestrians using the existing widened crossings across Gillygate and Bootham.

69. Pedestrian wait times are reduced by around 10% and an all red traffic phase is introduced allowing pedestrians to cross all arms of the junction as one.

70. Pedestrian crossing options are increased however capacity at the crossing points to the West and North of the junction are still constricted by the presence of buildings and narrow footways.

71. The creation of a single stage crossing of St Leonards place and larger expanse of public realm area to the East of the crossing creates larger capacity for pedestrians in this area as opposed to the current bottle neck which occurs on the corner of Gillygate/Bootham Bar.

Impact on Cyclists

72. This option has been assessed using the Junction Assessment Tool which is included in the Department for Transport's Cycle Infrastructure Design guidance note (LTN1/20) and scores zero due to:

    - Prevalence of pinch points across the junction as lane width in the area is already below the recommended 3.2 – 3.9 metres with no capacity for these to be widened.

    - Cycle movements are in potential conflict with heavy motor traffic flow including both HGV's and Buses

73. The option will have benefits for cyclists as early starts could be considered on each arm of the junction as the previous issues noted at points 35 and 36 will no longer be applicable.

74. The south bound route from Gillygate into St Leonards place follows a delineated cycle lane and no longer requires a sharp left turn towards Bootham Bar which should reduce incidents of cyclist's space being encroached by motorists whilst overtaking.

75. The cycle lanes running along the length of St Leonards Place are widened with expanded cyclist reservoirs now present on all arms of the junction.

Impact on Air Quality

76. The junction sits within an Air Quality Management Area which was established in 2002 and City of York Council has a legal duty to work towards meeting health-based air quality objectives for the area through its Air Quality Action Plan (AQAP3). Under AQAP3, CYC should not

implement measures which make air quality worse unless there is a very good local reason to do so and no other option is available.

77. At present the only official health based air quality objective exceeded in York is the annual average nitrogen dioxide objective which is 40µg/m^3. Gillygate is one of a number of places around the Inner Ring Road where this objective is regularly breached with levels of 44.3µg/m^3 recorded in 2019.

78. Due to the likely vehicle capacity impact of the change to the layout of the junction, air quality in the immediate area of the junction may be negatively impacted. The Strategic modelling undertaken suggests that traffic flows on Gillygate specifically will fall by around 4 - 12% however journey times through the corridor could increase by as much as 30% during the AM peak and 90% during the PM peak.

79. The stop/start nature of traffic moving through the Gillygate corridor is therefore likely to lead to an increase in tail pipe emissions in the area which would be in direct contradiction to the aims of AQAP3.Whilst the current AQMA was established based on existing levels of Nitrogen Dioxide in the area, it is anticipated that future National Air Quality objectives will introduce a new limit for Fine Particulate Matter ($PM_{2.5}$) aligned to WHO Guidelines. This area of the city has previously been in exceedance of the anticipated annual mean limit (based on monitoring of $PM_{2.5}$ at Bootham in 2018 and 2019).

80. CYC is at risk of possible legal consequences from any actions which could result in worsening air quality in the immediate area of the junction. These could include:

    - Central Government decides to mandate local action i.e. they serve a legal order on CYC requiring them to undertake specific local action to meet AQ objectives. This could have wide-scale implications for traffic in the city and may have substantial economic impacts if certain types of vehicles have to be excluded or entry fees have to be put in place (e.g. a charging Clean Air Zone).
    - All decisions of a local authority are open to challenge by judicial review. The risk of any such legal challenge being successful can be minimised by reasonable and legally correct decision making carried out in accordance with legislative procedures and statutory duties. Consequences of judicial review are substantial

costs, overturned decisions, mandatory directions to carry out statutory duties and awards of damages.

- Civil claim, if CoYC is challenged by an individual through private action a failure to reduce pollution levels to legal limits may be identified as a factor resulting in death or adverse health consequences. This would have costs implications and the risk of a substantial award of damages.

Impact on Heritage Asset

81. The Option B design decreases the highways impact on the setting of Bootham Bar through enlargement of areas of paving so is likely a significant enhancement in the setting of the scheduled monument.

82. Concerns have been raised regarding the possible inclusion of a new direct pedestrian crossing connecting the east of Gillygate and the west of St Leonards Place as the infrastructure required would have a visual impact on the setting of both Bootham Bar and St Marys Abbey precinct walls.

Safety Considerations

83. The preliminary design has been subject to a Road Safety review which indicated that the additional space afforded to pedestrians as part of this design could help to reduce accident rates at the junction.

84. This review also indicated that vehicle capacity issues at the junction could lead to vehicles queuing across the junction which would generate additional pressures for all junction users.

85. A further Road Safety Audit will be carried out after detailed design and before construction. This is the means by which the design safety will be controlled

Consultation

86. A publicly accessible online consultation, advertised on the CYC landing page, was open from the 1st to the 31st March 2021 in order to offer local residents and organisations an opportunity to comment on the proposed TSAR scheme designs put forward for consideration in this report.

87. The consultation asked respondents to comment on both their current experiences of the junction and to offer opinion on the two preliminary design options put forward. The final question of the consultation asked the respondent to express a preference for a design or whether they supported neither.

88. The online consultation was publicised prior to launch in the local press and further articles were run during the month based around a formal consultation response from York Civic Trust which was released to the media and can be found in Annex D. Boosted social media posts across the authorities social media handles were also used throughout the consultation period.

89. Properties in close proximity to the junction were delivered a letter which advertised the consultation and also provided further contact options for those residents who were unable to view the details online.

90. Local ward councillors were provided with a briefing session on the proposed scheme and a range of internal and external stakeholders who make regular consultation contributions to our preliminary design works on the TSAR programme were asked to complete the online consultation or respond to the design team directly.

91. In total 1262 responses were received through the online consultation.

92. Of these responses, only 880 provided an answer to the final question which was “Which Option do you support? Option A/Option B/Neither”

93. The proportional split of responses to this final question was:
    - 47.61% Support Option A
    - 33.52% Support Option B
    - 18.87% Support Neither Option

94. Respondents were asked to comment on their current experience of the junction. The most common issues selected were:
    - Delays when using my own car/bike 64.2%
    - Delays for pedestrians wishing to cross the junction 49.2%
    - Road Safety Issues 42.72%

95. Respondents were asked if they supported the reallocation of road space to pedestrians and cyclists at the junction and could also offer comment on the two preliminary design options put forward.

96. For respondents supporting Option A, 72% did not support the reallocation of road space to pedestrians and cyclists. The improvement to pedestrian crossings was well received but the most common comments related to the need to maintain the existing capacity of the junction and fears over air quality in the area if capacity was reduced.

97. For respondents supporting Option B, 96% did support the reallocation of road space to pedestrians and cyclists with the most common comments related to perceived betterment in pedestrian and cyclist access and safety as well as improvements to the layout of the junction for all users.

98. For respondents indicating that they would support neither design option, 51% of respondents did not support the reallocation of road space to pedestrians and cyclists. Many of the most common comments related to not enough being done to assist cyclists and pedestrians moving through the junction but it was also clear that many felt plans for the junction should be more ambitious in reducing private motor vehicle numbers in the city centre itself.

99. A summary of the online consultation can be found in Annex C.

100. In addition to online responses, offline responses were received from a mixture of private residents and the internal/external stakeholders referenced above at point 91 including a range of public transport operators and transport groups.

101. A summary of these offline responses can be found in Annex D.

Other options already discounted

102. Other slight configurations have been considered by the design team however the geographical and architectural constraints of the area in question mean that most alternative revisions of the road layout lead back to similar layouts to that proposed as Option B.

103. Consultation feedback from a small number of respondents has made reference to the possible adaptation of vehicle movements through Bootham Bar to make this a two way flow for cyclists. This was not included as part of either design option for the following reasons.

104. High Petergate is currently one-way inbound (towards the Minster) for all vehicles and also forms part of the foot streets network with no vehicle

access between 10:30 to 20:00 aside from an exception for inbound cycling.

105. High Petergate is a narrow street and the width is not conducive to two way movements. Footways in the area are narrow and often see pedestrians using the carriageway. Additionally, Bootham bar provides a physical width restriction which would only allow for single direction travel at a time and would therefore require shuttle working though the bar for two way vehicles. Space is very limited in terms of cyclists safely waiting on both sides of the bar and it would also be difficult to install signal equipment given the narrow street and the conservation area in which Bootham Bar sits.

106. To allow two way cycling provision, consideration could be made for a complete ban on motor vehicles entering High Petergate however the area beyond Bootham Bar houses several commercial properties many of which can only accept deliveries from the front. The complete removal of access for motor vehicles at all times would therefore have implications for delivery processes to these properties which may raise objections from the business' operating in the area.

107. Any addition of cyclists exiting Bootham Bar would have a significant impact to the capacity of the Bootham / Gillygate junction. Appropriate time within the traffic signal cycle would need to be provided so cyclists could safely enter and clear the junction. Adding the cycle stage would likely see additional delays / queue on the other arms of the junction.

108. Despite not being included as part of either design option for this scheme, the implementation of an additional signal controlled exit from Bootham Bar could be added in the future if required as the majority of infrastructure requirements will already be in place as part of the these signal renewal works.

Council Plan

109. 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

110. **Financial**

The TSAR programme is funded by the council's capital programme, which was approved at Budget Council on 25 February 2021 and sufficient funds are available in the 2021/22 transport capital programme for the construction of this scheme.

111. **Human Resources (HR)**

There are no HR implications

112. **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.

113. **Legal**

Air Quality

City of York Council is both the Highway Authority and Local Traffic Authority for the York District area and as a Local Authority are under a statutory duty to meet air quality objectives and to mitigate adverse impacts on air quality.

In preparing and determining the proposals set out in this report the Council is required to have regard to the provisions of Part IV of the Environment Act 1995 (including associated legislation, regulations and guidance), Equalities legislation and the Human Rights Act 1988.

The proposals are the result of extensive public consultation, reviews and air quality impact advice. It is therefore considered that option A as set out in this report is proportionate, whilst option B may have an adverse effect on air quality resulting in a potential breach of the statutory duty. As indicated at point 81, there are possible legal implications regarding the authorities Air Quality Action Plan with regards both existing and future air quality legislation.

Procurement

CoYC Highways will be used as the principal contractor on this scheme. If this is not the case and an external contractor is to be used, any proposed works will need to be commissioned via compliant

procurement route under the Council's Contract Procedure Rules and the Public Contract Regulations 2015.

114. **Crime and Disorder**
There are no Crime and Disorder implications

115. **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.

116. **Property**
There are no property ownership implications however the frontages of multiple commercial and residential properties across all arms of the junction may be impacted dependent on the design taken forward. Impacted parties will be consulted as part of any future detailed design process.

117. **Air Quality**
The Council has a duty to monitor and implement measures to improve air quality. As indicated at point 38 and from point 76, the proposals may affect an Air Quality Management Area and Air Quality Action Plan.

118. **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.

Risk Management

119. 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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Wards Affected: List wards or tick box to indicate all **All** tick

Guildhall, Clifton

For further information please contact the author of the report

Specialist Implications Officer(s) – List Information for all

Air Quality
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Legal
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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 – Preliminary Design Option A
Annex B – Preliminary Design Option B
Annex C – Online Consultation Summary
Annex D – Offline Consultation Summary

List of Abbreviations Used in this Report

TSAR - Traffic Signal Asset Renewal
AQMA – Air Quality Management Area
AQAP – Air Quality Action Plan
CoYC – City of York Council
DfT – Department for Transport
WHO – World Health Organisation