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**Decision Session**  
**– Executive Member for City Strategy**

11<sup>th</sup> May 2010

Report of the Director of City Strategy

**Blossom Street Multi Modal Scheme – Consultation Results;  
Analysis of Network Implications; and Option Selection**

**Report Summary**

1. The purpose of this report is to:
  - Inform the Executive Member of the results of the citywide public consultation undertaken on the proposed improvements to the Blossom Street area;
  - Advise of the road network implications of any alterations made to Blossom Street and it's junction with Queen Street, Micklegate, and Nunnery Lane, following further detailed analysis;
  - Present potential options and a preferred option for altering the layout of Blossom Street to improve the safety for all users.

**Recommendations**

2. That the Executive Member for City Strategy is recommended to:
  - i. Note the results of the public consultation;
  - ii. Note the results of micro-simulation computer modelling undertaken to ascertain the road network impact of making various alterations to Blossom Street;
  - iii. Consider potential options for improving the safety of the Blossom Street area;
  - iv. Approve the implementation of the preferred option detailed in Annex 'E', in order that further consultation can be undertaken locally to develop detailed design, resulting in works being tendered and construction commencing in the autumn of 2010.

**Reason:** The proposals will provide facilities to enhance the accessibility and safety for all users of this road, with significant improvements for the more vulnerable users: pedestrians and cyclists. In addition, the streetscape and approach along Blossom Street towards the historic Micklegate Bar will be significantly improved, particularly by removing unnecessary street furniture.

The proposed measures would also make a significant contribution towards the aims of the Council as a Cycling City.

## **Background**

### Previous report

3. On 1 September 2009, a report entitled 'Blossom Street Multi Modal Study: Option Selection' was presented to a meeting of the Decision Session – Executive Member for City Strategy. This report assessed the existing operation of Blossom Street and its junctions, issues faced by all road users and also summarised the results of preliminary computer modelling undertaken on some provisional options. Details of the issues affecting the area, background information and relevant data were included in this report and its Annexes.
4. At the meeting, the Executive Member authorised further development of the scheme so that its potential impact on the wider road network could be evaluated. In addition, it was also instructed that a citywide consultation be undertaken to capture wider public opinion on making any alterations to this junction.

### Context of any proposed alterations

5. The key issues and difficulties identified at Blossom Street, and which Officers would seek to improve in any proposed alterations include the following:-
  - High accident rate: 25 casualties in the last three years, 11 of which were cyclists and 8 of which were pedestrians.
  - Large number of pedestrians cross Blossom Street at an undesignated crossing outside the Bar Convent, crossing five lanes of traffic. Other inadvisable pedestrian crossing movements are also made during the 'red man' phase on Queen Street.
  - No provision of cycle facilities on Blossom Street, which is a serious gap in the otherwise unbroken cycle facilities for the full length of the A1036 between York College and the Inner Ring Road.
  - Blossom Street has large inbound and outbound cycle flows during the peak hours. Also, cyclists travelling out of the city on Micklegate cannot pass vehicles queuing under the City Wall arches.
  - A large number of bus services use Blossom Street, including the articulated ftr and Park & Ride. Furthermore, articulated vehicles experience difficulties turning left from Blossom Street into Queen Street, sometimes encroaching onto the footway and/or overhanging the refuge on Queen Street.
  - In attempting to avoid this, articulated vehicles sometimes straddle both the left and middle lanes prior to making the manoeuvre. Where there is a green light for left-turning traffic, these vehicles effectively block any left filtering traffic until the other lanes turn green.

- There is a considerable amount of road signage inbound on Blossom Street which can present a confusing array of information to drivers. This, combined with the collection of street furniture in the vicinity of bus stops can impede the free movement of pedestrians.
  - The highway network is at capacity and experiences congestion at peak hours.
6. One of the core elements of City of York's Local Transport Plan 2006-2011 (LTP2), which the council is committed to when making transport-related decisions and in implementing transport measures, such as any alteration to the layout of Blossom Street, is the 'Hierarchy of Transport Users' which prioritises pedestrians, cyclists, and public transport users before car users.
  7. Furthermore, LTP2 refers to the council's duties under the Traffic Management Act 2004, to effectively manage the highway network in order to avoid, reduce or minimise congestion or disruption on the highway network for all road users.
  8. In addition, at the end of 2008, a citywide Cycling City questionnaire identified Blossom Street as both the highest ranking location respondents thought was a danger to cyclists and the highest ranking location for the provision of on-road cycle lanes.

## **Public Consultation**

9. A consultation questionnaire entitled "*Blossom Street Improvements: We want your views*" was distributed to all households within York (approximately 88,000 homes) with February's edition of Your Local Link. Within the document, three options illustrating potential alterations which could be made to Blossom Street within the available carriageway space, were presented, with a further 'do nothing' option available.
10. A Media Briefing was held on 21 January 2010 with subsequent press releases published in the local media, and repeated over several successive weeks, briefing readers on the consultation and reminding them to return their surveys. Additionally, on the 25 and 26 February 2010, a public exhibition was held in Nunnery Lane car park to give residents a further opportunity to comment.
11. In total, 5,252 questionnaires were returned by the deadline of 26 March 2010, either through the post, or completed online.

## **Results**

12. Of those who expressed a particular preference as to which option they favoured: 38% chose Option 1 ('*do minimum*'); 16% chose Option 2 ('*do something*'); 19% chose Option 3 ('*do maximum*'); with the remaining 27% expressing their wish that no changes be made to the junction (Option 4 - '*do nothing*').

13. The vast majority of respondents supported proposals for a new pedestrian and cycle route from Holgate Road to York Station, via Lowther Terrace and the station car park, with 87% in favour and only 13% opposed.
14. A large majority, 71%, would support giving cyclists several seconds 'advanced green light' as part of the traffic light sequence outbound from Queen Street. 29% were opposed to the proposal.
15. There was less support for the idea of banning vehicles from exiting the city centre through Micklegate Bar on to the junction at peak times, with 40% in favour and 60% opposed to making this ban.
16. With the opportunity to tick more than one box for mode of transport, the majority - 61% of respondents - regarded themselves as car drivers; 37% walked; 36% used the bus; 28% were cyclists; 12% were passengers in cars; and 2% classed themselves as 'other'. 12% of respondents said that they did not use Blossom Street regularly.
17. Respondents were given the opportunity to provide open comments on the proposals, to which 2,856 individuals commented. The main comment referred to individuals being happy with the junction at present and believing no changes should be made (22%).
18. 14% of comments asked for the council not to make the same 'mistakes' as it did with the Clifton Green scheme. A further 13% of comments highlighted the problems with articulated buses on Blossom Street. This included the issues of bendy-buses using two lanes to turn left and also suggesting removal of them altogether.
19. 12% of comments were concerning the anticipated congestion that the removal of an inbound lane would cause. And 11% of comments referred to cyclists not respecting the laws of the road, including not using cycle lanes and not wearing high-visibility clothing.

### Conclusions

20. Of those who expressed a particular preference as to which option they favoured, it is apparent that the majority of respondents were in favour of 'doing something' to improve the junction, with 73% choosing either Options 1, 2, or 3, and only 27% expressing their opposition to any alterations by choosing Option 4.
21. Of those respondents who voted for improvements to be made to the junction, 52% - the majority - were in favour of Option 1. The remaining were split quite evenly between Options 2 and 3 (22% and 26% respectively).
22. It is also apparent that the majority of respondents are not in favour of reducing the number of traffic lanes, as illustrated by the lower number of respondents who were in favour of Options 2 and 3, in addition to the large number of comments received regarding this matter. However, it should be noted that despite receiving lower support than other Options,

there is still a great deal of public support for improved facilities for cyclists, and this should not be ignored.

23. Based on the results of the consultation, the vast majority of respondents were in favour of providing cyclist and pedestrian access to the station, via Lowther Terrace; in addition to providing an 'advanced green light' for cyclists outbound from Queen Street. The majority were not in favour of any access restrictions on Micklegate.

## Micro Simulation Modelling

24. Halcrow were commissioned to produce micro-simulation models of the Blossom Street area in order to assess a series of improvement options for Blossom Street. The purpose of the modelling exercise was to understand the impact of any alterations made to Blossom Street on general traffic and the wider road network.
25. Models were produced for each of the three potential Options which had been featured within the public consultation. In addition, some other permutations to each of the Options were modelled to evaluate the specific impact of adding or removing particular infrastructure. Table 1 below presents details of the Options and plans are shown within Annex 'A'.

Option	A	B	C	D	E	F
Option within Consultation Document	Comparison Case 'Status Quo'	Option 1	Option 2	Option 3	Option 3	Option 3
Convert The Mount bus gate to merge	✓	Included in all as shown to be beneficial				
Markings under Micklegate Bar to keep the arch clear of traffic	✗	✓	✓	✓	✓	✓
Introduce straight ped crossing at top of Blossom St (outside Convent) & set back stop line on Blossom St.	✗	✓	✓	✓	✓	✗
Straighten ped crossings at Reel Cinema and Holgate Rd	✗	✗	✓	✗	✗	✗
Remove one inbound traffic lane at Blossom St junction & introduce a cycle lane	✗	✗	✗	✓	✓	✗
Remove one inbound traffic lane on Blossom St to south of cinema & introduce a cycle lane	✗	✗	✗	✗	✓	✓
Remove one inbound traffic lane at Blossom St junction & introduce two cycle lanes	✗	✗	✗	✗	✗	✓
Remove one outbound traffic lane on Blossom St & introduce a cycle lane by separately phasing the two outbound Queen St lanes	✗	✗	✗	✗	✗	✓
Introduce staggered ped crossing at top of Blossom St (outside Convent) & set back stop line on Blossom St	✗	✗	✗	✗	✗	✓

Table 1 – The Options modelled (what infrastructure was included / omitted)

26. The models produced are representative of traffic conditions in 2011, the planned scheme opening year. These took into account future planned works such as Access York Phase 1, including the new Park & Ride service operating on the A59 corridor, as well as any proposed nearby developments such as the increase in traffic generated by the Terry's site development.
27. Even with a 'do nothing' base model, overall peak hour traffic at the Blossom Street / Queen Street / Micklegate / Nunnery Lane junction was shown predicted to increase by between 4 to 5% between 2009 and 2011, leading to increases in journey times, particularly on the A59 and A1036 arms.
28. Bus journey times were minimally affected due to bus priority measures currently existing (or proposed for the A59) on these routes. In fact, with any of the potential options, bus journey times did not vary to a great extent, and therefore patronage of the Park & Ride would not be affected.

#### Re-routing of traffic

29. With any significant alterations to a key junction such as Blossom Street, motorists will always try to re-route if they consider another route as a quicker or more accessible option for their journey. Therefore any measures which increase delays will also increase the number of vehicles re-routing via other roads. It should be noted that this would occur in a 'do nothing' scenario anyway, should the expected 4 to 5% increase (as discussed in paragraph 27) occur by 2011.
30. To put this into perspective with this scheme, modelling shows that (as expected) most re-routed journeys would involve motorists using Knavesmire Road, Scarcroft Road and Bishopthorpe Road, leading to increased peak hour traffic on these particular routes. Option A (the 'status quo') predictably incurs negligible re-routing; Options B and C however incur 7 to 8% re-routing; Options D and E incur 11 to 13% re-routing; and Option F incurs below 5% re-routing.
31. Looking at what this could potentially mean (using Scarcroft Road in the AM peak hour as the example), an extra 40 vehicles would be using this road for Options B and C. For Options D and E, this increases to an extra 61 vehicles. And Option F results in an extra 38 vehicles using this road.

#### Queue lengths & journey times

32. Initially, modelling was undertaken to assess the operation of the bus-gate on The Mount, and whether removing the signals and converting it into a merge (Option A – the 'status quo') would help it to operate more efficiently. Results show that this could prove to be beneficial for car users, with a reduction in inbound car journey times on Tadcaster Road of around 2 minutes in the AM peak, without any apparent negative effect on buses. Therefore this conversion was assumed in all further Options.

33. Using the levels of re-routing that each Option may incur in estimating these figures, car and bus journey times on the approaches to the Blossom Street junction are presented for each of the scheme Options in Table 2 and Table 3 below. Furthermore, indicative inbound queue length drawings for both peaks have been produced by taking a snapshot of the modelled network conditions 15 minutes before the end of the modelled peak period (08:45 and 17:45), and are illustrated as Annex 'B'.

Section	Car						Bus					
	A	B	C	D	E	F	A	B	C	D	E	F
A59 (Water End - The Mount)	16	14	17	7	15	20	13	12	13	8	13	15
Tadcaster Road (St Helens Rd - Holgate Rd)	10	9	9	8	10	9	7	6	6	6	7	6
Blossom Street	1	1	1	1	1	1	2	2	2	2	1	1
Queen Street	2	2	2	6	5	3	3	3	3	6	7	3
Nunnery Lane	2	2	2	2	5	3	2	2	2	2	6	2
<b>Total</b>	<b>31</b>	<b>28</b>	<b>31</b>	<b>24</b>	<b>36</b>	<b>36</b>	<b>27</b>	<b>25</b>	<b>26</b>	<b>24</b>	<b>34</b>	<b>28</b>

Table 2 – AM peak journey time results for each Option (minutes) for each arm of the Blossom Street / Queen Street / Micklegate / Nunnery Lane junction

Section	Car						Bus					
	A	B	C	D	E	F	A	B	C	D	E	F
A59 (Water End - The Mount)	7	6	6	7	8	8	7	7	7	8	8	8
Tadcaster Road (St Helens Rd - Holgate Rd)	5	5	5	8	7	5	5	5	5	6	5	5
Blossom Street	1	1	1	1	1	1	2	2	2	2	2	1
Queen Street	2	2	2	6	6	2	3	3	3	6	6	3
Nunnery Lane	5	5	5	2	2	6	6	5	6	2	2	7
<b>Total</b>	<b>20</b>	<b>19</b>	<b>19</b>	<b>24</b>	<b>24</b>	<b>22</b>	<b>23</b>	<b>22</b>	<b>23</b>	<b>24</b>	<b>23</b>	<b>24</b>

Table 3 – PM peak journey time results for each Option (minutes) for each arm of the Blossom Street / Queen Street / Micklegate / Nunnery Lane junction

### Option A

33. Option A is merely a comparison case to the base model and acts as the 'status quo'. The only change here is the conversion of the bus-gate from signalised to a merge. As discussed, this does show some apparent benefit to car users of this corridor and therefore acts as the 'do minimum' case against which each of the other Options are compared.

### Options B & C

34. Option B (which was *Option 1* in the public consultation) includes a new signalised one-stage pedestrian crossing between the Bar Convent and the Windmill PH, much to the benefit of pedestrians. In addition, the inbound Blossom Street stop-line is set further back so that larger vehicles can make an easier left turn into Queen Street. Furthermore, an extended cycle feeder-lane is introduced under Micklegate Bar outbound so that outbound cyclists can travel to the front of stationary

traffic to access the ASL, unhindered by vehicles queuing and blocking the archway.

35. Option C is the same, other than that the two other 'staggered' (two-stage) pedestrian crossings, at Holgate Road and outside the cinema, are straightened into one-stage so that pedestrians can cross in one movement.
36. In these two Options, the signal timings at the Blossom Street / Queen Street junction are modified with longer inter-greens due to the set back stop-lines and improved pedestrian crossings. The impact is a reduction in capacity at this junction which leads to re-routing of vehicles.
37. This, coupled with the better linking of the cinema pedestrian crossing with the Holgate Road and Queen Street signals leads to an apparent overall reduction in journey times on the A59 and A1036 approaches in both peaks in Option B. The queue length diagrams confirm this, with slight reductions in queue lengths observed between these Options and Option A.
38. In Option C, the results show that this leads to an increase in inbound journey times due to the reduction in capacity caused by longer pedestrian green time required for this type of junction as opposed to a staggered crossing.

#### Options D & E

39. Option D is the same as Option B (with similar benefits), except this time one inbound traffic lane on Blossom Street is removed (three lanes reduced to two) so that room is made to introduce a new inbound cycle lane. This has the benefit that cyclists now have a facility inbound. In addition, inbound traffic lanes would be significantly wider than the narrow ones which are currently present. With wider traffic lanes and with already being displaced further from the kerb by the new cycle lane, left-turning vehicles would no longer need to straddle both lanes and could easily make the manoeuvre.
40. Option E (which was *Option 2* in the public consultation) is the same, other than that the flare from one to two traffic lanes occurs later inbound, after the cinema crossing. This means that the inbound cycle lane can be continuous from Holgate Road to the Micklegate junction.
41. Both of these Options involve a considerable reduction in capacity as a traffic lane is removed to create a cycle lane. As a result, there is considerable amount of re-routing.
42. In an attempt to offset the reduction in capacity on Blossom Street, the green time on this arm of the junction was increased at the expense of Queen Street and Nunnery Lane. This leads to the observed increase in journey times and queue lengths on these arms with queues actually extending beyond the model area (onto Leeman Road and Prices Lane gyratories) which would cause additional congestion elsewhere. These



areas would simply not be capable of taking the extra queues if the effective operation of the Inner Ring Road was to continue.

43. This attempt to offset the reduction in capacity, coupled with the re-routing of traffic deceptively leads to an overall reduction in journey times on the A59 and A1036 approaches. However, the fact that the queues on Queen Street and Nunnery Lane extended beyond the model area masks the full extent of the approach times on these arms. If it was chosen to maintain current traffic flow conditions from Queen Street and Nunnery Lane and not offset the capacity reduction, journey times and queue lengths on the other approaches would be significantly increased.
44. Options D & E are similar apart from the conversion from two lanes to one lane of the section south of the cinema pedestrian crossing in Option E. This further reduces capacity and stacking space for queuing vehicles. The queues from the cinema pedestrian crossing block the Holgate Road / The Mount junction much more frequently.

#### Option F

45. Option F (which was *Option 3* in the public consultation) includes a new staggered two-stage pedestrian crossing outside the Bar Convent and also on the Queen Street arm, to improve capacity of this junction. In addition, although similarly inbound to Option E for cyclists, a further cycle lane is introduced, as well as an outbound cycle lane. As a result, outbound traffic lanes are reduced from two to one, and consequently the two outbound Queen Street lanes must be separately phased.
46. This Option incorporates staggered pedestrian crossings which improve the efficiency of the junction and increases the total green time available. However, because of the reduced space available for two outbound lanes on Blossom Street and the right-turn from Queen Street being separately phased, this removes some of the efficiency benefits generated by the staggered crossings.
47. Overall, Option F performs similarly to Option E in terms of total journey time on the approaches to the junction. However in this option the queues are on the A1036 and A59 rather than Queen Street and Nunnery Lane. However, as discussed above, modification of the signal timings can transfer the queues from one arm to another, but not remove them.

#### Air Quality

48. Air quality has been a consideration in this consultation and modelling of each of the Options gave basic emissions data to enable a simple estimate of the likely level of change in local air quality in the Blossom Street Air Quality Management Area (AQMA). Table 4 contains the AM peak comparison of the emission outputs between each Option and the comparison 'status quo' case (Option A). Table 5 contains a similar comparison for the PM peak.

Emissions (g)	Option A	Option B	Option C	Option D	Option E	Option F
Carbon Monoxide (CO)	4,410	4,080	4,250	4,410	4,290	4,000
Nitrogen Oxide (NOx)	860	790	830	860	840	780
Volatile Organic Compounds (VOC)	1,020	950	990	1,020	1,000	930
% Change from Option A		-7.4%	-3.6%	-0.1%	-2.6%	-9.3%

Table 4 – Emissions at AM peak

Emissions (g)	Option A	Option B	Option C	Option D	Option E	Option F
Carbon Monoxide (CO)	4,910	4,200	4,430	5,160	5,010	4,590
Nitrogen Oxide (NOx)	960	820	860	1,000	970	890
Volatile Organic Compounds (VOC)	1,140	970	1,030	1,200	1,160	1,060
% Change from Option A		-14.6%	-9.8%	4.9%	1.9%	-6.6%

Table 5 – Emissions at PM peak

49. It should be noted that whilst most of the Options lead to improvements to local air quality in the Blossom Street AQMA, the re-routing of traffic and increased delays away from Blossom Street could, as a consequence, lead to a worsening of local air quality elsewhere in the city, potentially causing other areas to become AQMAs.

#### Further permutations to the Options

50. In addition to the six Options described and tested above, a further two tests were undertaken. These consisted of permutations in design which could be applied to any of the existing Options as follows:
- *Peak time outbound Micklegate closure:* This would involve the closure of Micklegate Bar to outbound traffic during the peak periods which would free up time from this signal stage to be added to the Blossom Street arm to offset the reduced capacity.
  - *Cycle pre-signals on Queen Street:* Cycle advanced pre-signals on the Queen Street outbound arm would give a green to cyclists 5 seconds prior to general traffic on this arm to allow them to clear the junction more safely. This reduces the green time for general traffic on Queen Street (although as previously stated, this could be taken from any arm of the junction).
51. These two permutations were tested within the 'status quo' Option A (AM peak) model to give an idea their respective impact. The journey time results for general traffic are presented within Table 6 below.

Section	Option A	Option A Close Micklegate	Option A Cycle Pre-Signals
A59 (Water End - The Mount)	16	16	16
Tadcaster Road (St Helens Rd - Holgate Rd)	10	10	10
Blossom Street	1	1	1
Queen Street	2	2	4
Nunnery Lane	2	3	2
<b>Total</b>	<b>31</b>	<b>32</b>	<b>33</b>

*Table 6 – AM journey time results (minutes) for each arm of the Blossom Street / Queen Street / Micklegate / Nunnery Lane junction*

52. Examination of the results shows that if Micklegate were shut in the outbound direction during the peak periods, very little impact on inbound journey times is seen. This is due to the Micklegate arm only running for several seconds, so no significant additional green time is made available. However, the assumed re-routing of outbound Micklegate traffic via Nunnery Lane and Queen Street slightly increases journey times on the Nunnery Lane arm.
53. The introduction of cycle pre-signals on the Queen Street approach increases the average journey time on this arm, as the green time for general traffic has been reduced by five seconds to allow for the pre-signals. However, as discussed, the loss of time could be spread out among the other arms.

### Conclusions

54. The initial Option of converting the bus gate on The Mount to a merge (removing the signals) was found to be potentially beneficial in terms of reduced inbound car journey times on the A1036, at least within the 'virtual world' of the model. However, the exact operation of the merge would need to be considered along with potential enforcement issues, as cars 'jumping the queue' and merging early may negatively effect bus prioritisation and journey times. As a series of bus lanes ending in merges are to be introduced on the Fulford Road corridor, it may be worth waiting until the completion of that scheme to observe the exact operation of this arrangement in York.
55. The remaining five Options, with increasing levels of cycling and walking improvements, were all found to lead to the re-routing of traffic elsewhere in the city due to each of the Options reducing the capacity of the Blossom Street junction.
56. In addition, the Options with the higher level of cycling and walking provision - those which involve the removal of a traffic lane on Blossom Street - also lead to an increase in journey times on the approaches to the Blossom Street junction despite fewer vehicles passing through the junction. The results have demonstrated that additional queues and journey times on the approaches to this junction will be caused but the exact arm(s) on which they appear is flexible and based on the signal timings assumed.

57. The permutation of introducing cycle pre-signals outbound from Queen Street, although detrimental to vehicular traffic queue lengths, is particularly beneficial to the safety of cyclists. Consideration of using these signals (using a green cycle filter light on the primary signals) should be strongly considered and is endorsed by the council's Transport Planning and Network Management teams. However, it would not benefit the scheme to impose peak time bans on outbound traffic to egress through Micklegate Bar.
58. All Options lead to improved local air quality in the Blossom Street AQMA, although the transfer of traffic elsewhere in the network may reduce local air quality in these areas.
59. Any alteration to Blossom Street is forecasted to have little impact on the patronage of the Park & Ride services on the A59 and the A1036, which are part of the Access York Phase 1 scheme.

### **Alternative Routes for Cyclists (and Pedestrians)**

60. Through examining cycle movements on Blossom Street during the AM peak, it was observed that inbound, 41% turned left onto Queen Street towards the Station; 50% travelled straight on through Micklegate Bar towards the city centre; and 9% turned right onto Nunnery Lane. As a very heavily cycled road, it was recognised that it may be beneficial to reduce the need for some of these cyclists to use Blossom Street and to offer safer off-road alternatives.
61. As Blossom Street is being used as a main cycle route into the city centre and subsequently requiring cyclists to cross the River Ouse at some point on their journey, the decision (conscious or otherwise) as to which bridge to use will depend on the cyclist's starting point and destination. Cyclists heading to Clifford's Tower or the Hull Road area would probably select Skeldergate Bridge, via Scarcroft Road and Bishopgate. Cyclists heading for the northern area of the city currently have no option but to use the Blossom Street junction, then proceed towards Lendal Bridge or Scarborough Bridge. In addition, cyclists heading for the city centre proper will use Ouse Bridge, also via Blossom Street. The latter two of these movements are the ones which the council can possibly target.
62. On investigation, it was established that for these movements, it was feasible to offer alternative routes for cyclists to reach their required destinations. Although with half of cyclists currently continuing straight on from Blossom Street onto Micklegate, presumably as the shortest and quickest route into the city centre, recognition must also be made that cyclist demand on Blossom Street is still going to be high and should be a significant factor in planning road safety improvements for this area. Notwithstanding this, the two alternative routes proposed are detailed below.

## Station Access

63. From the public consultation, it is apparent that this route is highly desired by the public and would be a greatly used asset. The proposal is to provide a new route for cyclists (and pedestrians) directing them from Holgate Road, along Lowther Terrace and down a newly built access ramp into the southern end of the station's long-stay car park, and then through the car park to the station and beyond. In addition, another access point and ramp will be provided at the northern end of the station's short-stay car park, into "Post Office Lane" and the Riverside.
64. Consequently it should be possible to cycle from The Mount/Holgate Road to the station completely off the main carriageways, thus completely avoiding the busy Blossom Street/Queen Street junction, as well as the congested station access on Station Road (and Tea Room Square). It will also be possible for people leaving the station to travel in the opposite direction, towards the river crossings (at Scarborough Bridge and Lendal Bridge) - This is illustrated within Annex 'C'.
65. Work is currently progressing with East Coast Rail, who will be delivering this scheme in partnership with, and part funded by the council, due to the ramps being wholly sited upon their land. There is high confidence that this scheme can be delivered, with East Coast engineers estimating delivery during summer 2010.

## Off-Road / Quiet Route to East of Blossom Street

66. A current off-road / quiet route currently exists to the east of Blossom Street, almost running parallel to it, between Knavesmire Road and Nunnery Lane, then finally to Ouse Bridge - illustrated within Annex 'D'. This 'alternative route' (AR) is not widely known but does offer the advantage of cyclists only encountering one set of traffic signals (a signalled pedestrian crossing), as opposed to the route using Mount Vale, The Mount, Blossom Street and Micklegate, which has five sets of traffic signals.
67. Despite the AR being 33% longer in distance than the 'main road' route (MR), it is undoubtedly much quieter and safer. However distance, or indeed safety, is probably not the key factor in a cyclist's route strategy. The time (or perceived time) taken is probably the uppermost consideration for a commuting cyclist. Nevertheless, what cyclists may not account for is the time lost at traffic signals.
68. With this in mind, a total of 22 timed runs were carried out during morning and afternoon peak times to compare the AR and the MR. Every effort was made to eliminate as many variables as possible, with the same cyclist, bicycle, pace etc used to conduct and time the runs, which were ridden in both directions. The average time for the AR (7 mins 11 secs) is only 18 seconds (4%) longer than the average MR time (6 mins 53 secs), despite the far greater distance (33%). The wider range of times for the MR is noteworthy, with the slowest time of 9 mins

20 secs being significantly greater than the slowest timed AR run of 7 mins 30 secs.

69. The various sections that comprise the AR already constitute a more attractive alternative to the MR, particularly for less confident cyclists or for school children. These sections have been examined and potential improvements that would further enhance the route have been identified. It is proposed that every effort is made to signpost, promote and publicise this alternative route as a safer and potentially quicker route than using Blossom Street. Should this route start to attract a large number of cyclists, consideration should be made to implementing some of these improvements.

### **Preferred Option for Blossom Street**

70. After considering the conclusions reached from the results of the public consultation and the micro-simulation modelling, it became clear that a solution was required which, as well as improving safety for all users, would maximise benefits for cyclists and pedestrians where possible. It would also need to retain an effective bus route (maintaining P&R as an attractive alternative to private vehicle use), but also would need to retain the 'function' of the Inner Ring Road, by minimising additional delays for car drivers if possible. Therefore it was concluded that strategically, a preferred option would need to incorporate facilities for the more vulnerable users - cyclists and pedestrians – but also retain all current inbound and outbound traffic lanes on Blossom Street to maintain capacity.
71. Consideration was also given to whether the space currently occupied by the cobbles on the eastern side of Blossom Street could be utilised more effectively. However, previous objections had been raised by conservation groups and local residents to any prospect of the removal of the cobbles. This was coupled with the fact that there is a high abundance of utilities aligned beneath these cobbles, requiring potentially expensive diversionary works. Therefore Officers worked on the basis that any scheme should be kept as much within the existing carriageway boundaries as possible.
72. Subsequently, a revised option which is now presented as the Preferred Option was developed, as shown in Annex 'E'. This Option most closely resembles Option 'C' of the modelled options in its functionality, but also has additional improvements incorporated into its design. The estimated cost of construction and completion of this scheme is £420,000 (which includes a large contingency). The benefits of this scheme, compared with the Options previously discussed, are as follows:
  - Provides a new single-stage pedestrian (puffin) crossing at the head of Blossom Street, between the Bar Convent and Windmill PH. The addition of this crossing also means that all pedestrian crossings at this junction will operate together, resulting in an 'all-red' traffic phase.

- ‘Straightens out’ the current staggered (two-stage) pedestrian (pelican) crossings on Blossom Street, converting them into single-stage pedestrian (puffin) crossings, thus reducing delay to pedestrians and traffic.
- Due to the above, this means that it is possible to remove the pedestrian refuge islands (which had been required for a two-stage crossing), along with the associated street-clutter such as guardrails and additional signal equipment, improving the vista of Blossom Street and the general approach to Micklegate Bar.
- Includes both inbound and outbound cycle feeder-lane into advanced stop-line arrangements, to aid cyclists in getting to the front of queuing traffic. The provision of these facilities would close one of the obvious ‘gaps’ in the cycle network in this area of York.
- Provides a green advanced pre-signal to give outbound cyclists from Queen Street several seconds ‘head start’ and time to clear the junction before the vehicular traffic behind them receives a green signal. This would greatly reduce the risk for cyclists at this busy junction, which is currently an accident black-spot for cyclists.
- Includes an extended cycle feeder-lane outbound under Micklegate Bar, aiding cyclists to access the advanced stop line at the front of the traffic queue and dissuading motorists from queuing underneath the Bar. (See paragraphs 79 and 80.)
- Provides a yellow box junction at Holgate Road / Lowther Terrace. This helps cyclists turning in and out of Lowther Terrace (travelling to or from the new station access).
- Benefits articulated vehicles making left turns from Blossom Street due to the three existing traffic lanes being repositioned a metre further out from the kerb by the introduction of the new cycle feeder lane, as well as the setting back of the stop line. This means that the straddling of lanes should no longer be required.
- Removes all of the small islands upon which some signal heads and bollards are currently located and which pedestrians sometimes inadvisably use as pedestrian refuges when crossing the road, despite these being far too small and sometimes being overhung by the front end of buses.
- The removal of the island on Queen Street particularly benefits the left turn manoeuvre of articulated vehicles from Blossom Street, in addition to the other measures mentioned above.
- Retains bus prioritisation measures along the A1036 corridor.
- No anticipated impact upon predicted bus journey times (or patronage) on the Access York Park & Ride along the A59 and A1036.

- Extends the bus lay-by outside the cinema and provides other general improvements for public transport users such as a new shelter on the bus-border outside 29 Blossom Street.
- Retains all inbound and outbound traffic lanes.
- Little impact on vehicle journey times and queue lengths, compared to present.
- Little impact on re-routing of vehicles throughout the road network.
- Rationalises and improves general road signage, thus the streetscape of the area.
- Subject to further investigation and a Traffic Regulation Order being made, includes a daytime loading ban for Blossom Street, thus removing the congestion and build-up of traffic which deliveries on Blossom Street usually cause.

#### Limitations and Other Options Considered

73. A number of factors should be highlighted at this point in the report, so that the Executive Member can make a fully informed decision. Primarily that any alterations made to Blossom Street that causes any increased queues on Queen Street (and back onto Station Road) may have implications on the ongoing works to identify improvements to the station access and any proposals for Tea Room Square. Other issues were identified (and subsequently resolved by Officers) within a stage 1 Road Safety Audit (RSA) which has been undertaken on the preferred option.
74. The RSA identified that to provide a single-stage pedestrian crossing at the top of Blossom Street (between the Windmill PH and the Bar Convent) the crossing distance, at 17 metres, is slightly above the recommended design guidelines as outlined in LTN2/95 (the recommended maximum crossing distance is 15.0 metres for safety and capacity reasons). However, the distance is well within the operating parameters of a puffin crossing, with any 'late' pedestrian crossers being detected by radar, thus extending the green-man phase of the signals. Radar detection will be doubled on this crossing to ensure safety.
75. One alternative would be not providing any sort of signalised pedestrian crossing at this location. However, Officers are in agreement that the crossing discussed in paragraph 75 above would be a far safer option for all users than providing no formal crossing whatsoever.
76. A second alternative would be the introduction of a pedestrian island and a two-stage crossing (as shown in 'Alternative Option A' within Annex 'E'). Again, Officers considered this alternative more dangerous for several reasons: traffic lane widths would have to be reduced below what is recommended; the pedestrian island's width would be sub-standard with the island's pedestrian capacity insufficient to cater for the heavy foot-fall at peak times of the day; and due to the sub-standard



width of the island, the guard-rails would have to be flush to the kerb, with a high chance of vehicles accidentally striking them.

77. By the removal of the pedestrian refuge islands on Blossom Street, the Preferred Option leads to a loss of the current box for outbound Blossom Street vehicles turning right into The Crescent. However, Officer observations of this movement does not lead to any particular concerns as currently, inbound traffic usually slows down on approach to The Crescent to allow the vehicle indicating a right turn, to make that movement. The preferred option still includes a smaller right-turn box for cyclists wanting to make the same manoeuvre.
78. Much discussion has been undertaken regarding the provision of road markings (or signs) under (or in close proximity to) the grade 1 listed Micklegate Bar. As the carriageway passing underneath the Bar is public highway the council, as the local highway authority, can provide any road markings it sees necessary. Scheduled monument consent is not required as nothing is actually touching/attached to the Bar itself. However, Officers should be conscious of the sensitive nature of this historic area when considering road markings under the Bar.
79. Yellow box junctions or Keep Clear markings would not be appropriate under Micklegate Bar, as they are only prescribed to be used (in DfT regulations) to keep stationary traffic from obstructing access to side roads or private residences. Consequently, the Preferred Option includes an extended cycle feeder-lane outbound, with painted white lines under Micklegate Bar, to the advanced stop line at the main Blossom Street junction. Officers feel that this is a good solution to give cyclists some priority under the archway and which will dissuade motorists from queuing underneath if they perceive that there is insufficient space for a cyclist to get past.
80. With the Preferred Option, there would not be significant improvements in air quality than at present, as minimal traffic is re-routed. However, with other Options, the air quality problem is not removed, it is merely moved from the Blossom Street area to another location(s) in the road network.

#### Cycling Scheme Evaluation Tool Score

81. The cycle scheme evaluation tool is a means of scoring schemes which improve facilities for cyclists on a range of criteria so that schemes may be ranked and compared against each other. It was approved at the City Strategy Decision Session on 20 October 2009. The proposed improvements featured in the Preferred Option have been evaluated using this tool and receive a score of +22. This compares favourably with other cycle schemes, as shown in Table 7 below.

Scheme	Score
<b>Beckfield Lane (Boroughbridge Road to Ostman Road)</b> – section completed	+16
<b>Crichton Avenue</b> – section mostly completed	+21
<b>Blossom Street multi-modal scheme</b> – under consideration	<b>+22</b>
<b>Orbital Route (Clifton Green to Crichton Ave)</b> – scheme approved in principle	+22
<b>Wigginton Road</b> – scheme approved in principle	+25

*Table 7: Cycling scheme evaluation tool scores*

## Consultation

82. A range of consultation work had been undertaken previously regarding this same scheme between May and October 2009 (as detailed within the previous report). Since then, a number of progress meetings have been undertaken with the consultants Halcrow, including representatives from Transport Planning and Network Management. Furthermore, internal Officer meetings have been undertaken to discuss the results of the stage 1 RSA, which subsequently led to a series of amendments, concluding with the Preferred Option proposal the Executive Member is presented with in this report.
83. Externally, Officers addressed the public Micklegate Ward meeting on 11 February 2010, where comments and questions were taken from residents, specifically concerning the levels of re-routing (through South Bank) which some of the Options may have led to.
84. As detailed in paragraphs 9 to 23, a full city-wide public consultation was undertaken, with the opportunity for residents of York to comment, including a two day public exhibition.

### Comments from the CYC Conservation Team

85. Janine Riley, Conservation Architect provided a response to the proposal's impact on the Central Historic Core conservation area and the listed buildings in the area. Overall Conservation were supportive of the scheme, as there would be improvements where central islands, guard rails, and associated street-clutter was being removed. Additionally, there is general support for the cycle feeder lane markings, although there is a wish that the green colour be slightly muted as elsewhere in the conservation area.
86. The further loss of the 13 metre long wedge of cobbles adjacent to the bus bay outside the grade 1 listed Bar Convent is regrettable. However the area is small in relation to this zone. The new shelter outside no. 29 Blossom Street should match the one outside the convent and notices should be integrated with it. Additionally it was asked whether the take-up of additional cobbles would have to be so wide, as Conservation believed that this should be reduced as people are unlikely to stand close to the road. The addition of the small area of new cobbling by St. Mary's Court was welcome. It was stressed that the area as a whole

should be repaired and cobbles reinstated where they have become loose.

87. There was concern expressed regarding any painted markings under the grade 1 listed Micklegate Bar which is also a scheduled ancient monument. It would be potentially harmful to the monument if queuing motorists suddenly dashed through the archway to make up space rather than idled under it. In their view, painted road markings would also spoil the appearance of the Bar. However, Transport Officers consider the extended cycle feeder-lanes proposed within the Preferred Option to be unobtrusive, merely consisting of a number of painted white lines.
88. Harvey Lawson, Arboricultural Officer would like to re-instate a number of small street trees along the frontage cobbles from Nunnery Lane to South Parade. It is his view that the environment of Blossom Street has deteriorated since the loss of trees and cobbled margins. The reintroduction of trees would greatly enhance the environment for pedestrians and cyclists, and he also stresses the social and environmental benefits of having trees in future. Ward Councillors have also expressed their wish to see this. Officers will investigate whether this is feasible, as there is a large quantity of utilities located beneath the cobbles in this location. It was observed that trees could replace some of the existing anti-parking bollards.

#### Cycling City York - Major Infrastructure Group

89. Previous comments received via the public consultation. No further comments received regarding the Preferred Option to date.

#### York Blind & Partially Sighted Society

90. YBPSS invited Officers to discuss the proposals at a meeting held on 26 March 2010. Comments received from the Society included that the group were pleased to note that the cycle facilities would be provided within the road space and not on the pavements which would have been particularly hazardous in such a busy pedestrian area. Also, that the group had noted that the pedestrian crossing outside the Bar Convent was planned to be wider than the DfT recommended width, and members wanted re-assurance that the pedestrian phase of the lights would allow sufficient time for those people with mobility problem to cross the road (Officers response - see paragraph 75). In addition, any improvements to the bus stops would be welcomed by the Society.

#### York Private Hire Association

91. A letter has been received on behalf of YPHA, voicing members' objection to any scheme which may increase traffic congestion on this main route and which strongly opposes any plans to reduce Blossom Street inbound traffic lanes from three to two. However, the Association commend the proposed cycle link to the station, via Lowther Terrace.

## North Yorkshire Police

92. The Police have been asked for their comments on the Preferred Option, but a response has not yet been received. However, a NYP representative was involved in producing the stage 1 Road Safety Audit for the Preferred Option, along with Engineering Consultancy (Transport and Safety). A NYP representative will also be involved in the detailed design of this scheme.

## **Corporate Strategy**

93. Implementing alterations to Blossom Street and its associated junctions to improve accessibility and safety for all road users, particularly pedestrians; cyclists; and public transport users, will contribute to the delivery of the Corporate Strategy, specifically through the following themes and commitments:

- *Sustainable City*

The Council is committed to improve the quality of the local environment and the condition of York's streets and public spaces.

The Council is committed to transform York into a 'Cycle City' by investing our successful £3.7 million bid in cycling infrastructure, increasing cycling opportunities and improving cycle availability to all.

- *Healthy City*

Investing in cycling infrastructure and improved pedestrian routes will encourage more people to choose these options and improve general health and wellbeing.

94. Local Transport Plan 2006-2011 (LTP2): The scheme would contribute to several of the aims of LTP2, namely:

- To reduce the levels of actual and perceived safety problems;
- To enhance opportunities for all community members, including disadvantaged groups, to play an active part in society;
- To improve the health of those who live or work in, or visit, York, and
- To reduce the impact of traffic and travel on the environment, including air quality, noise and the use of non-renewable resources.

## **Implications**

95. This report has the following implications:

- **Financial** – If the preferred Option is pursued, the likely cost of construction of the Blossom Street multi-modal scheme is estimated to be approximately £420,000.

As agreed by the Executive Member in the City Strategy Capital Programme, the level of funding currently available is £500,000. This

is broken down into £350,000 from LTP, £50,000 from 'Section 106' monies, and the remainder of the cost of the scheme being met by Cycling City funding (£100,000).

Any over-spend on this scheme may have the consequences of reducing the budgets available for other LTP and specific cycle-related schemes, causing delays in implementing the Programme in future years.

- **Human Resources (HR)** – There are no HR implications for the council.
- **Equalities** – The improvements to reach opportunities and facilities within York using wider range of more sustainable transport that would have otherwise been unattractive. The improvements will remove some of the barriers to using public transport and walking and cycling experienced by people:
  - Removal of street clutter will improve the street environment for blind and partially sighted people and those with luggage or wheelchairs.
  - Improved waiting and boarding facilities at bus stops will improve the experience for bus passengers.
  - Improved cycle facilities will encourage less confident cyclists to travel along the corridor, which they may have been discouraged from doing so in the past.
- **Legal** – Any works considered at Micklegate Bar may require Scheduled Monument Consent.
- **Crime and Disorder** – There are no implications at present.
- **Information Technology (IT)** – There are no IT implications at present.
- **Property** – There are no property implications at present.
- **Sustainability** – Implementation of the preferred option will encourage the accessibility of York city centre through more sustainable transport modes.
- **Other** – As a 'Cycling City', York needs to be seen actively improving provision for cyclists, even in areas with limited capacity for new cycling infrastructure.

## Risk Management

96. In compliance with the councils risk management strategy the main risks that have been identified in this report are those which could lead to the inability to meet elements of its 'Sustainable City ' and 'Healthy City' elements of its corporate strategy. In addition, the ability to deliver Local

Transport Plan projects could also be adversely affected, ultimately leading to financial loss due to the inability to utilise Cycling City funding if a design option is approved which does not provide sufficient benefit to cyclists. In addition there is a significant reputation risk to the council if, as a 'cycling city', inadequate cycling provision is made.

97. On this basis the risks associated with approving an Option that does not provide adequate provision for pedestrians and cyclists will result in a high risk score. However, the risk score for the Preferred Option is low.
98. If the Preferred Option is approved, there is a small risk that congestion, and the associated adverse impacts such as poor air quality and public transport journey times becoming more unreliable, will ensue. Measured in terms of impact and likelihood, the risk score for all risks has been assessed at less than 16. This means that at this point the risks need only to be monitored as they do not provide a real threat to the achievement of the objectives of this report.

### **Ward Member comments**

99. Ward Members have been involved throughout the consultation period and have received briefings from Officers regarding the results of the micro-simulation modelling, as well as the proposed Preferred Option. No further comments have been received following the drafting of this report.
100. Previously, Councillor Merrett had highlighted that a secondary stop line and signals at the junction of Holgate Road and Lowther Terrace would assist cyclists going to / from the new station access, as well as preventing cyclists being blocked or becoming trapped against the kerb by larger vehicles at the narrow corner of Holgate Road. However, Officers have considered this proposal in detail and have concluded that this is not a workable option. A yellow box junction at Lowther Terrace has been included within the Preferred Option instead.
101. Councillor Merrett would also like to see longer ASLs so that waiting cyclists do not block others attempting to make other movements. Correct positioning for cyclists making specific turns should be highlighted by arrows. Officers had previously highlighted the same issue and therefore the Preferred Option at Annex 'E' incorporates this measure.

### **Non Ruling Group Spokespersons' comments**

#### Green Party

102. Councillor D'Agorne, who is also the council's Cycling Champion, thought it commendable that Officers had proposed a solution that provided some cycle feeder lanes, in spite of the largest proportion of responses favouring no reduction in lanes of traffic. Councillor Taylor also supports the scheme, with the exception that he doesn't like any road markings under the Micklegate Bar. Councillor D'Agorne suggests

a short section of cycle lane extending beyond a traffic stop-line on the main carriageway approach from the city centre.

103. The Greens also strongly support the proposal for a cycle pre-signal on the Queen Street approach, to improve safety on account of conflicting movements at the offset junction, with cyclists moving quite slowly on the uphill gradient from a standing start.
104. In terms of the overall scheme design, the additional pedestrian crossings and safer configuration on the corner of the Windmill Pub were welcome. However it would be preferable to use some of the very wide pavement on the west side to provide the cycle feeder lane rather than reduce traffic lane widths, although this could significantly increase the cost of the scheme. Suggestions are to move lighting to the back of the footway (or put the lamps onto buildings) when they are replaced, to make it easier to adjust the kerblines in future if desired.
105. The Greens did not support Alternative Option A, where the new crossing of Blossom Street was in two stages (potentially resulting in crowds waiting on the small central island). Removal of the islands on Queen Street may leave cyclists in the right-hand ASL vulnerable to HGV's and buses turning in from Blossom Street (although the ASL has since been reduced to part-width to increase the safety of cyclists at this point). Similarly, a central bollard in Holgate Road at the junction of Lowther Terrace would give some protection for right-turning cyclists waiting in the centre of the road to access the new facility to the station when there is oncoming traffic from the A59.
106. In terms of lane widths, if the left-turn lane has been re-configured to allow a bus to stay within the left lane, this lane must be wide enough to allow the bus to reach the junction when there is standing traffic. From the point of view of safety of cyclists on the inbound section, the combined width of the cycle lane plus left lane must either be (1) too narrow for a bus to pass a moving cycle, or (2) the lane should be wide enough for the bus to comfortably pass in safety. A width between the two would be the most dangerous.

#### Conservative Group

107. Councillor Gillies considered painted road markings underneath the iconic Micklegate Bar to be wholly inappropriate to the location and should not be included in the scheme. He also questioned the necessity of a cycle pre-signal for right-turning cyclists from Queen Street, as the new station access via Lowther Terrace would mean less cyclists making this manoeuvre.
108. The Conservatives also suggested that the bus stop adjacent to the car park on Nunnery Lane be repositioned further away from the Blossom Street junction, as traffic often backs up to block the junction when buses are loading/unloading passengers. Officers agree that this could benefit the operation of the Blossom Street junction and therefore will be incorporated into the final design.

## Labour Group

109. No comments received to date.

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**Report Approved**



**Date** 26 April 2010

### **Specialist Implications Officer(s)**

#### **Wards Affected:**

Micklegate

All

**For further information please contact the author of the report**

### **Background Papers**

‘Blossom Street Multi Modal Study – Option Selection’ presented to Decision Session – Executive Member for City Strategy on 1 September 2009.

‘Blossom Street Multi Modal Scheme (Design Options)’ July 2009 - *Halcrow Group Ltd*

‘Blossom Street Multi Modal Study – Feasibility report’ presented to Executive Member and Advisory Panel (City Strategy) on 20 October 2008.

‘Blossom Street Multi Modal Study’ September 2008 - *Halcrow Group Ltd*

‘Blossom Street Multi Modal Study, Consultation of Local Residents and Businesses Technical Note’ September 2008 - *Halcrow Group Ltd*

### **Annexes**

Annex A – Options A to F

Annex B – Typical morning and evening peak hour queues 2011

Annex C – Proposed new cycle route

Annex D – Blossom Street comparison of routes

Annex E – Preferred and alternative scheme options