Decision Session -
Executive Member for City Strategy

1st September 2009

Report of the Director of City Strategy

Blossom Street Multi Modal Study – Option Selection

Summary

1. This report presents scheme options to be considered as part of Blossom Street Multi Modal Study. The study was commissioned to investigate options for improving the Blossom Street / Queen Street / Micklegate / Nunnery Lane junction and enhancing the streetscape of Blossom Street between this junction and its junction with Holgate Road, with the aim of improving accessibility and safety for all road users, particularly pedestrians; cyclists; and public transport users.

Recommendations

2. That the Executive Member for City Strategy is recommended to:

   i. Note the contents of the report;

   ii. Consider the various infrastructure options and express a view as to which options are to be taken forward for more detailed consideration and consultation; and

   iii. Instruct Officers to investigate the further options that may be considered as described in paragraphs 37-46.

   Reason: To enable officers to progress the scheme sufficiently to be able to present an option to be taken forward to detailed design for further consideration prior to construction.

Background

Policy and strategic context

3. The City of York's Local Transport Plan 2006-2011 (LTP2), sets out the aims, policies and measures for transport in York over the plan period, in the context of a 20-year time horizon. The strategic objectives of LTP2 are:

- Tackling congestion;
- Improving safety, air quality, the quality of life and accessibility for all, and
- Supporting the local economy

4. In order to achieve these strategic objectives, LTP2 has a strong emphasis on reducing reliance on the private car by promoting more sustainable forms of transport, such as walking, cycling and using public transport, that are convenient and reliable. In addition, 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.

5. One of the core elements of LTP2, which the council is committed to when making land-use and transport-related decisions and in implementing transport measures, is the 'Hierarchy of Transport Users'; this being:

(i) Pedestrians
(ii) People with Mobility Problems
(iii) Cyclists;
(iv) Public transport users (includes rail, bus, taxi, coach & water)
(v) Powered two wheelers
(vi) Commercial/business users (includes deliveries and HGVs)
(vii) Car borne shoppers and visitors
(viii) Car borne commuters

6. In July 2008, York was successful in its 'Cycling Demonstration Town' bid to Cycling England and was thus enabled to be designated a Cycling City. The successful bid attracted £3.68million (match funded to more than £7million) over three years to projects to encourage more cycling in the city. In November/December 2008 all households in York (circa 89,000) were invited to complete and return a Cycling City questionnaire and approximately 8500 completed questionnaires were received. Approximately 65% of respondents stated that 'Improve safety for cyclists at dangerous junctions' would encourage them to cycle more. Blossom Street was identified by respondents as both the highest ranking location they thought was dangerous for cyclists and the highest ranking location for the provision of on-road cycle lanes.

Existing conditions on Blossom Street

7. Blossom Street is one of the key gateways into the City Centre, carrying large volumes of traffic including cyclists and buses from the south and west of the City. Given its proximity to York Railway Station and its prominence as a pedestrian route into the city centre, it also attracts many walking trips. It has been flagged up in several Safe Routes to Schools reports as a potential danger area for pupils going to and from school.

8. In recent years bus operators have experienced problems turning left from Blossom Street into Queen Street, particularly using articulated vehicles (FTR and Park and Ride), and in many cases have to use the

central approach lane to conduct this manoeuvre. This is especially dangerous as cyclists use the inside lane and are impeded as the bus turns round the corner. The Tadcaster Road / The Mount / Blossom Street corridor also acts as a major route into York City Centre for many heavy goods vehicles travelling from the south (via the A64T). It has also been observed that HGVs experience similar difficulties to articulated buses turning left into Queen Street.

9. On 20 October 2008, a report entitled 'Blossom Street Multi Modal Study – Feasibility' was presented to Executive Member for City Strategy and Advisory Panel. This report assessed the existing operation of Blossom Street and the junctions at either end, issues faced by all road users and also summarised the results of consultations undertaken. Details on the issues affecting the area, relevant data and the results of local consultation are included in this report and its Annexes.

10. In summary, the key issues identified for this area were:-

- 48 accidents occurred in the last five years, three of which were serious and with the remainder being slight. Further analysis shows that there were 22 pedestrians and 9 cyclists involved in these

- The area is heavily congested and the highway network is at capacity

- 33 inbound and 31 outbound bus services travelling along Blossom Street in the peak hours which includes Park & Ride and FTR. For the AM and PM peak, 90% of inbound buses turn left into Queen Street. Conversely, a similar number of buses emerge from Queen Street and turn right into Blossom Street

- Articulated vehicles experience difficulties turning left from Blossom Street into Queen Street and sometimes encroach onto the footway and overhang the refuge on Queen Street. In addition, articulated vehicles 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. This adds to queue-lengths further up Blossom Street and onto The Mount.

- No provision of cycle lanes on Blossom Street which caters for large inbound and outbound cycle flows during the peak hours

- Cyclists travelling out of the City Centre along Micklegate cannot pass vehicles queuing under the City Wall arches

- Large numbers of pedestrians, including school pupils cross Blossom Street at an undesignated and uncontrolled crossing at its junction with Queen Street, crossing five lanes of traffic

- A large number of pedestrians cross Queen Street during the "red man" phase whilst traffic is running, and wait in the narrow pedestrian refuge / traffic island

- Pedestrians cross Blossom Street away from the existing staggered pedestrian crossing outside the Reel (formerly Odeon) Cinema, crossing four lanes of traffic

- Considerable amount of road signage exists 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.

- Traffic Flows (passenger car units [PCUs] in 2005) at the Blossom Street / Queen Street Nunnery Lane / Micklegate junction were as follows:

    - 08:00-09:00 (AM Peak)
        - Blossom Street inbound – 1101 (455 lft, 294 s/ahd, 352 rt.)
        - Queen Street - 456 (8 lft, 105 s/ahd, 343 rt.)
        - Micklegate – 116 (11 lft, 105 s/ahd)
        - Nunnery Lane – 389 (185lft, 179 s/ahead, 25 rt.)

    - 17:00-18:00 (PM Peak)
        - Blossom Street inbound – 941 (453 lft, 205 s/ahd, 283 rt.)
        - Queen Street - 728 (11 lft, 130 s/ahd, 587 rt.)
        - Micklegate – 186 (6 lft, 180 s/ahd)
        - Nunnery Lane – 252 (124lft, 115 s/ahead, 13 rt.)

Design Development / Options

11. A number of options were explored using the findings and key requirements identified from the previous study in addition to discussions with Officers. The following sections summarise the highway options identified, as well as the results of using propriety junction analysis software (LINSIG) to provide an initial capacity assessment of the options. In addition, an initial cost estimate for each option is provided.

12. The capacity assessment of the junctions has assumed that there will be no increase in peak hour flow above that measured in 2005, as the junctions were already saturated at that time. This, therefore does not take into account any future traffic growth due to organic growth or development growth, such as that which might be generated by the York Northwest development. Also no account has been taken of any potential future mitigation measures to be implemented, which may, or may not, alter the flow of traffic approaching the study area (e.g. progressive alterations to traffic signals at 'upstream' junctions or 'gating' arrangements to relocate traffic queues to further out from the city centre), thereby, improving the operational efficiency of the junctions in the study area.

Base

13. The study area is currently heavily congested and the highway network is at capacity. A drawing of the Base layout is attached as Annex 'A'.

14. The analysis revealed that the existing junctions experience congestion in both the AM and PM peaks. The AM peak indicates queuing inbound along Blossom Street extending back to its junction with The Mount / Holgate Road, with other queues at times further upstream. The PM peak experiences similar queuing inbound and queues on Queen Street, Nunnery Lane and Micklegate outbound.

Base (Sensitivity)

15. A sensitivity test was undertaken to assess the potential replacement of the existing staggered pelican crossing by the Reel (formerly Odeon) Cinema with a straight ahead crossing. This was following comments from the public consultation exercise highlighting pedestrian frustration at not being able to cross Blossom Street in one movement and being held within the refuge island(See drawing attached at Annex B)

16. Results show that the provision of a single crossing point instead of a staggered crossing on Blossom Street at the cinema will provide benefits to pedestrians (particularly as the cinema has reopened recently) whilst having some, but not significant impacts on highway capacity due to inbound traffic queues extending back through the Blossom Street / Holgate Road Junction, which may, in turn, adversely affect junctions adjacent to the study area.

Option 1 *(~£497,000)*

17. Option 1 provides a formal straight ahead pedestrian crossing point on Blossom Street opposite the Bar Convent, at its junction with Queen Street / Micklegate / Nunnery Lane. In addition, the Queen Street stop line is set back approximately 6m to accommodate large vehicles turning left from Blossom Street to Queen Street, without over-running kerbs.

18. A sub option (Option 1b) has also been tested providing a second stop line to the north of Micklegate Bar, to enable cyclists to travel through the Bar unimpeded by queuing vehicles, and also including the single crossing point on Blossom Street at the cinema (which is still anticipated to be well used, despite the existing crossing at Holgate Road and the proposed new crossing point at Bar Convent). .

19. The results for Option 1a and 1b in both peak periods show slight increases in queues on all approaches to the Blossom Street / Queen Street junction. Notwithstanding this, the junctions are still predicted to operate just below capacity, resulting in very slight increases in queue lengths and delays, over the base case, in the order of 10-15 seconds (except for Blossom Street left turn were queue lengths are greater). It is evident that in Option 1b the provision of a second stop line at Micklegate Bar does not impact on the operation of the junction. The amended pedestrian crossing on Blossom Street at the Reel cinema (single crossing instead of staggered) is not anticipated to impact on the operation of highway network. Drawings of Options 1a and 1b are attached at Annex C.

Option 2 *(~£500,000)*

20. Option 2 provides a formal straight ahead pedestrian crossing point on Blossom Street as well as the setting back of the Queen Street stop line, as in Option 1. In addition, the number of inbound vehicle lanes on Blossom Street is reduced from three lanes to two to accommodate the introduction of a cycle lane. A sub option (Option 2b) includes the Micklegate Bar, cinema and Blossom Street / Holgate Road pedestrian crossing proposals as described in paragraph 18.

21. The results show substantial increases in queues and delay times on all approaches to the Blossom Street / Queen Street junction in both peak periods. The AM peak period results show the situation on the Queen Street approach as above capacity, and again on the Nunnery Lane and Blossom Street approaches, with increases in delay in the order of 100 seconds on the Queen Street ahead/left and the Blossom Street ahead/right lanes. The PM peak results show a similar pattern with delays on the Queen Street ahead/left and the Blossom Street ahead/right even higher, in the order of 130 seconds. The results for Option 2b do not significantly differ from those reported for Option 2a above. Drawings of Options 2a and 2b are attached at Annex D

22. It should be noted that the modelled queues could provide an underestimation, particularly at the Queen Street and Blossom Street approaches to the junction. The predicted queues on the Queen Street approach are anticipated to extend beyond the available flare and so the actual queues would be worse than presented, as the capacity of the right lane is no longer available after the flare tapers out. This could have a significant knock-on effect to the junctions, running from Queen street, past the Railway station and into Station Road and beyond. The queues on the Blossom Street inbound approach are predicted to queue beyond the available storage capacity in Blossom Street, adding to the queues at The Mount and Holgate Road approaches. Therefore, it is evident that these additional queues noted above may create additional congestion further upstream, but more complex modelling (such as micro-simulation modelling for multiple junctions) will need to be undertaken in order to more accurately predict the full impacts of this.

Option 3 *(~£575,000)*

23. Option 3 also reduces the number of inbound vehicle lanes on Blossom Street from three to two, to accommodate the introduction of two inbound cycle lanes (between the cinema pedestrian crossing and the junction of Blossom Street / Queen Street). In addition, it is proposed to separately signal the ahead / left and right turn movements from Queen Street, which will enable provision of an outbound Bus/Cycle Lane and Bus Gate along Blossom Street. This arrangement provides additional space at the Blossom Street and Queen Street approaches to enable staggered pedestrian crossings to be accommodated and outbound cycle route on Blossom Street segregated from other road traffic (except buses) up to the approach to the Holgate Road Junction. However, it requires a no right-turn vehicular access restriction from Blossom Street into The Crescent to accommodate the bus gate. A sub option (Option 3b) includes the proposals described in paragraph 18. Drawings of options 3a and 3b are attached at Annex E.

24. Results for Option 3a show increases in queues on all approaches to the Blossom Street / Queen Street junction in both peak periods. The AM peak period results show that only the Nunnery Lane and Blossom Street approaches are nearing/at capacity with additional delays at Blossom Street inbound in the order of 20-40 seconds. Predicted queues are anticipated to be accommodated within the available storage space and so not impact on other junctions. The PM peak results show that the approaches from Queen Street, Nunnery Lane and Blossom Street are all above capacity, with additional delays being in the order of 50 seconds for Queen Street right turn and Blossom Street ahead right It is therefore anticipated that the queues on Queen Street will block beyond the available flare and may be worse than presented (see also paragraph 18. Due to the signal phasing of this option, some approaches are predicted to experience less delay than the Base Case.

25. The separate signalling of the left/ahead and right turn movements out of Queen Street for this option provides much greater safety for cyclists as one of the main conflicts (right turning cyclists with straight ahead vehicles in the former left/ahead /right lane) is removed.

26. The results for Option 3b do not significantly differ from those reported for Option 3a above.

Option 4 *(~£575,000)*

27. Option 4 provides the same proposals as Option 3 with the only difference being the provision of 1 cycle lane (instead of 2), which then provides for a wider left-hand lane for vehicle movements turning left into Queen Street, without either encroaching into an adjacent cycle lane or traffic lane. As in Option 3 a no right-turn vehicular access restriction from Blossom Street into The Crescent is required to accommodate the bus gate. A sub option (Option 4b) includes the proposals as described in paragraph 18. Drawings for options 4a and 4b are attached at Annex F.

28. Option 4 provides the same safety benefit to cyclists emerging from Queen Street as Option 3.

29. Given that there are no major differences to the highway provision between Options 3 and 4 the modelling results do not significantly differ from those reported above for Option 3.

Summary of junction capacity, delay times and queue lengths

30. Tables 1 to 3b show the respective capacity and estimated delay values for each option at the Blossom Street/Queen Street/Micklegate/Nunnery Lane junction. The practical reserve capacity (PRC) provides a percentage figure identifying if there is spare capacity within the network (positive percentage) or if the junctions within the network are overcapacity (negative percentage). The delay per pcu provides a comparison of the average delay (from first joining the queue, to clearing the junction) per vehicle, in seconds travelling inbound from Blossom Street and outbound from Queen Street.

Table 1 - Summary of Practical Reserve Capacity (PRC)

	AM	PM
Scenario	PRC (%)	PRC (%)
Base	2.9	3.6
Base Sensitivity	2.9	3.6
Option 1a	2.9	1.1
Option 1b	2.9	1.1
Option 2a	-12.8	-15.8
Option 2b	-12.8	-15.8
Option 3a	-2.5	-12.9
Option 3b	-2.5	-12.9
Option 4a	-1.0	-12.1
Option 4b	-1.0	-12.1

Table 2 - Summary of Delay (in seconds) on key approaches

	AM				PM			
	Queen Street		Blossom Street		Queen Street		Blossom Street	
	1/1 Right	1/2 Ahead/Left	4/1 Ahead/Right	4/2 Left	1/1 Right	1/2 Ahead/Left	4/1 Ahead/Right	4/2 Left
Scenario								
Base	63	65	38	24	60	65	69	28
Base Sensitivity	63	65	36	25	60	65	38	13
Option 1a	71	76	53	38	70	79	83	33
Option 1b	71	76	50	35	70	79	81	35
Option 2a	136	166	148	38	137	195	188	24
Option 2b	136	166	148	17	137	195	173	14
Option 3a	81	39	57	17	132	54	111	6
Option 3b	81	39	73	12	132	54	109	6
Option 4a	81	39	47	17	106	54	115	8
Option 4b	81	39	70	12	106	54	107	5

Table 3a - Mean maximum pcu queue lengths (% increase above the base case in parenthesis) AM Peak

	Queen Street (outbound)			Micklegate (outbound)	Nunnery Lane (outbound)	Blossom Street (inbound)			
Scenario	Right	Ahead/ Left	Ahead/Left /Right	Ahead/Left	Ahead/Right/Left	Ahead/Right	Left	Ahead	Right
Base	8.1		8.3	5	14.3	15.6	8.3		
Base Sensitivity	8.1 (0)		8.3 (0)	5 (0)	14.3 (0)	15.3 (-2)	10.1 (22)		
Option 1a	9.1 (12)		9.5 (14)	5.6 (12)	14.8 (3)	17.8 (14)	16 (93)		
Option 1b	8.7 (7)		9	5.6 (12)	14.8 (3)	17.6 (13)	19.5 (134)		
Option 2a	12.8 (58)		14.7 (77)	5.6 (12)	24 (68)	28.2 (81)	15.9 (92)		
Option 2b	12.8 (58)		14.7 (77)	5.6 (12)	24 (68)	28.2 (81)	9.6 (16)		
Option 3a	14.6 (80)		3.1 (-63)	4.4 (-12)	15.8 (10)	18.5 (19)	12.9 (55)		
Option 3b	14.6 (80)		3.1 (-63)	4.6 (-8)	15.8 (10)	16.6 (6)	7.2 (-13)		
Option 4a	14.6 (80)		3.1 (-63)	4.4 (-12)	15.8 (10)	15.8 (1)	12.8 (54)		
Option 4b	14.6 (80)		3.1 (-63)	4.6 (-8)	15.8 (10)	15.3 (-2)	7.4 (-11)		

Table 3b - Mean maximum pcu queue lengths (% increase above the base case in parenthesis) PM Peak

	Queen Street (outbound)			Micklegate (outbound)	Nunnery Lane (outbound)	Blossom Street			
Scenario	Right	Ahead/ Left	Ahead/Left /Right	Ahead/Left	Ahead/Right/Left	Ahead/Right	Left	Ahead	Right
Base	13.1		13.7	8.1	10.1	16	5.8		
Base Sensitivity	13.1 (0)		13.7 (0)	8.1 (0)	10.1 (0)	16.1 (1)	6.7 (15)		
Option 1a	14.1 (8)		15.2 (11)	9 (11)	11.7 (16)	18.1	5.8 (0)		
Option 1b	14.1 (8)		15.2 (11)	9.1 (12)	10.7 (6)	18.4	12.2 (110)		
Option 2a	21 (60)		26.5 (93)	15.1 (86)	16.5 (63)	31.3	11.4 (97)		
Option 2b	21 (60)		26.5 (93)	13 (60)	16.5 (63)	31.7	7 (21)		
Option 3a	34.6 (164)		4.6 (-66)	11 (36)	16.3 (61)	26.3	5.1 (-12)		
Option 3b	34.6 (164)		4.6 (-66)	11 (36)	16.3 (61)	26.3	3.6 (-38)		
Option 4a	30.5 (133)		4.6 (-66)	11 (36)	16.3 (61)	26	3.5 (-40)		
Option 4b	30.5 (133)		4.6 (-66)	11 (36)	16.3 (61)	26	3.6 (-38)		

Matrix Assessment

31. In order to compare options, the effect that each option would have on the following themes has been assessed and scored: Highway capacity; Public transport; Cycling; Walking; Parking and servicing; Public acceptability; Conservation and heritage; Costs; Safety; and Air quality.

Summary

32. The matrix assessment, attached as Annex 'G', highlights that most of the options, particularly the 'b options' have very similar scores. A summary of the relative impacts on different road users, principally at the Blossom Street / Queen Street / Micklegate / Nunnery Lane Junction is in Table 4.

Table 4 - Summary of the relative impacts on different road users

Option	Positives	Negatives	Matrix Score
1a	No particular impact on junction capacities or queue times. Some small improvements for pedestrians and bus users.	No improvements for cyclists.	1
1b	No particular impact on junction capacities or queue times. Improvements made for pedestrians. Small improvement made for cyclists exiting Micklegate onto Blossom St. Small improvements made for bus users.	No improvements for cyclists except for Micklegate approach.	3
2a	Some small improvements for pedestrians and bus users. Improvements made for cyclists.	Large decrease in capacity. Very large increase in queue times for all approaches. Subsequent impact on bus times (timetables and journey time reliability).	2
2b	Improvements made for pedestrians and cyclists. Small improvements made for bus users.	Large decrease in capacity. Very large increase in queue times for all approaches. Subsequent impact on bus times (timetables and journey time reliability).	3
3a	Small improvements in queue times for some approaches – noticeably the AM Blossom St. to Queen St. manoeuvre. Small improvements made for pedestrians. Large improvements made for cyclists.	Small decrease in capacity. Large increase in queue times for some approaches – noticeably the PM Queen St. to Blossom St. manoeuvre Subsequent impact on bus times (timetables and journey time reliability).	1

	Improvements made for bus users.		
3b	Small improvements in queue times for some approaches – noticeably the AM Blossom St. to Queen St. manoeuvre. Improvements made for pedestrians and bus users. Maximum improvements made for cyclists.	Small decrease in capacity. Large increase in queue times for some approaches – noticeably the PM Queen St. to Blossom St. manoeuvre Subsequent impact on bus times (timetables and journey time reliability).	2
4a	Small improvements in queue times for some approaches – noticeably the AM Blossom St. to Queen St. manoeuvre. Small Improvements made for pedestrians. Improvements made for cyclists and bus users.	Small decrease in capacity. Large increase in queue times for some approaches – noticeably the PM Queen St. to Blossom St. manoeuvre. Subsequent impact on bus times (timetables and journey time reliability).	1
4b	Small improvements in queue times for some approaches – noticeably the AM Blossom St. to Queen St. manoeuvre. Improvements made for pedestrians and bus users. Large improvements made for cyclists.	Small decrease in capacity. Large increase in queue times for some approaches – noticeably the PM Queen St. to Blossom St. manoeuvre. Subsequent impact on bus times (timetables and journey time reliability).	2

33. It is evident that any amendments to the current highway layout (as presented in Options 2, 3 and 4) would impact on highway capacity and have negative effects on bus operations due to the increased delays. It is important to note that the highway capacity assessments use 2005 traffic count data since it is assumed that as the study area was saturated in 2005, when the traffic surveys were undertaken, then no further growth in traffic levels in the peak periods is possible. Notwithstanding this, any growth in demand from committed developments in the area would create additional traffic that may not increase the throughput at the junctions in the study area but have knock on effects to the operation of the wider highway network.

Costs

34. Indicative and comprehensive cost estimates for Option 1b (being the highest scoring option) have been undertaken. The total cost for the scheme is estimated to be £496,809.

35. However, the estimate does not take into account that some of the signals equipment could be reused. If this was applied (£75,000 for Traffic Signals) and potentially BLISS, VMS and UTC camera items removed, then the total cost estimate of the scheme is significantly lower.

36. It must also be noted that funding for this scheme is planned to be 50% each from the Local Transport Plan (LTP) and Cycling City capital budgets. Should Option 1b be chosen (with very little in the way of provision for cyclists), it is unlikely that the use of the Cycling City budget can be justified to part fund the scheme, resulting in a deficit in capital.

Further options that may be considered

37. As all the options described previously reduce capacity in the study area, to a greater or lesser degree, consideration could be made to a number of options which would potentially restore some capacity at the junctions, although further investigatory works would need to be undertaken; these being:

Limited vehicular access restrictions on Micklegate

38. Preliminary junction modelling results indicate that more capacity can be restored at the Blossom Street / Queen Street / Micklegate / Nunnery Lane junction, by applying some limited restrictions on motorised vehicular access under the Bar to Micklegate, if options which reduce the number of approach lanes on Blossom Street (i.e. Options 2, 3 & 4) are pursued. Directly, such measures could significantly reduce the queue lengths on all approaches to the junction. However, approximately 50% of traffic currently using the Blossom Street-Micklegate route is predicted to find alternative routes which could have impacts on the wider highway network. Access restrictions to Micklegate is by no means a new concept and has been proposed previously. Indeed, this was included within a report by MVA in 1987 ('City of York Transport and Parking Study') and at the time recommended the full closure of Micklegate Bar to all vehicles except cyclists.

Ban right turn from Blossom Street to Nunnery Lane

39. The highway capacity assessments highlight that reducing the number of Blossom Street inbound traffic lanes from three to two creates additional congestion in what is already a congested highway network. The removal of some traffic from the Blossom Street / Queen Street / Micklegate junction would provide some additional capacity that could make the Blossom Street two lane inbound scenario feasible. This scenario would require further investigation to look into the operation of the junctions within the area and the wider highway network, given that traffic would use alternative routes in order to reach desired destinations that would have otherwise been reached via Blossom Street and Nunnery Lane.

Alternative cycle routes into the city which do not involve Blossom Street

40. Due to the potential for conflict between all users within this area, work has been undertaken to investigate other routes into the city centre for cyclists, to avoid using Blossom Street. Discussions are currently underway with National Express East Coast (NXEC) and Network Rail to construct an access ramp from Lowther Terrace (off Holgate Road) into the Station Car Park to provide a route to the Station for cyclists

approaching from the south and east of the city centre, where currently cyclists have to use Blossom Street and Queen Street to arrive at their destination. Discussions have been held regarding these proposals with local residents via Camlow (Cambridge Street and Lowther Terrace) Residents Association, and initial comments appear to be favourable.

41. Other work is focussing on the issue of providing a more convenient and safer way of accessing the east of the city centre for those cyclists approaching from Tadcaster Road or Holgate Road, and which doesn't include the use of Blossom Street. Cycle-friendly infrastructure already exists to the east of Blossom Street which emerges onto Nunnery Lane. Consideration is now being made as to how to cross this road and provide a link through Victoria Bar. If the Nunnery Lane/Victoria Bar issue can be addressed, promotion can be made of this attractive, alternative route for many journeys that would otherwise take cyclists along Blossom Street.

42. Investigations into the feasibility of these alternate routes have not yet reached a suitable stage to be reported and shall be presented in a future report to the Executive member. Even if alternate routes can be found to relieve demand for cycling on Blossom Street, 50% of cycle journeys inbound on Blossom Street (AM peak) currently travel straight ahead onto Micklegate. Therefore, recognition must be made that cyclist demand on Blossom Street is still going to be high and should be a significant factor in considering which option to pursue.

Micklegate Bar "Keep Clear" / yellow box markings

43. The described sub-option (b) in all scenarios includes a second stop line to the north of Micklegate Bar to enable cyclists to travel through the Bar unimpeded by queuing vehicles. This is deemed to provide greater control in restricting queuing under the Bar but does require the need to provide new signal equipment and markings adjacent to the Bar which may raise Conservation issues. An alternative to this would be to maintain the existing signal arrangements (i.e. one stop line at the junction) and provide "Keep Clear" or yellow box markings under the Bar. This would provide advice to drivers but would not provide the control of the original sub-option.

Holgate Road stop line set back / Keep Clear

44. The Holgate Road approach currently experiences congestion in both peak periods. The narrowing and bend of the road prior to the stop line results in queuing vehicles limiting the potential for cyclists to travel past vehicles to the front of the queue. Providing a second stop line prior to the pinch point to operate in a similar way to the proposed Micklegate Bar second stop line is a way of addressing this. It is unlikely to have a detrimental impact on the operation of the junction. However, this improvement is likely to cost in the region of £15,000 in order to provide the required signal equipment. Although some cyclists may benefit from its provision the cost and safety implications (requirement for visible signal heads, driver confusion) possibly outweigh the benefits. Therefore, a feasible lower cost, safer alternative is the provision of "Keep Clear" or box junction markings.

Trialling the reduction in number of inbound lanes on Blossom Street

45. To fully understand and appreciate the consequences of reducing the number of inbound traffic lanes on Blossom Street from three to two, it may be possible to temporarily remove the left lane (for example, using a flexible kerb) over a set period of time to monitor the effective operation of the junction and not simply rely on computer modelling. Specifically, this could be done during detailed design stage to give an indication of potential delays and queue lengths experienced at the junction, for when the scheme is subsequently implemented.

Advanced cyclists green signal

46. Due to safety issues arising from cyclists and motorists making conflicting turning manoeuvres (such as cyclists turning right outbound from Queen Street), consideration could be made to the trialling of advance green signals for cyclists, as can currently be observed at a junction in Cambridge, and which is standard at junctions in the Netherlands, Denmark and Germany. This would allow cyclists extra time to get a 'head-start' ahead of other traffic, whose respective signal would turn green a few seconds after the cyclist signal. This would take a small level of capacity out of the junction and due to the area being at capacity (at peak times) already, it would not be recommended for every approach to the junction. However, it should be noted that DfT authorisation is required for such a scheme to be installed. (Historically, previous requests from other Authorities to trial a similar approach have been rejected by the DfT.)

Consultation

Consultations to date, since previous study

47. Following a review of the existing conditions within the study area, an Officer Workshop that took place on Tuesday 30th June 2009 to discuss options development identified the following conflicts to resolve:

- Highway capacity – the junctions within the study area are currently congested. Any preferred option should not significantly worsen the operation of the junctions which could have knock on effects to the wider network.

- Public transport – any worsening of highway congestion would cause additional delay to buses.

- Cycling – the study area does not currently cater for cyclists inbound or outbound along Blossom Street which provides a gap in the cycle network. Highway congestion and narrow lanes create conflict for cyclists with motorised vehicles.

- Conservation – any preferred option should take into account the conservation issues related to Micklegate Bar and the cobbled area to the eastern side of Blossom Street. Any removal of cobbles would

need to be replaced / relocated within the study area where practicable. The proposals will need to be reviewed for Scheduled Monument Consent.

48. These discussions were taken into account in developing the options.

49. In addition to the consultation undertaken in July and August 2008 (summarised in previous EMAP report dated 20 October 2008) Micklegate Ward Members were consulted on 13 July 2009 to discuss the existing problems and issues and the principles for developing scheme options. The Ward Member comments are contained within the Ward Member comments section of this report. The Chair of the Bus Quality Partnership was also consulted to obtain views of existing public transport issues within the study area. All comments have been taken into account when further developing the options.

Future Consultations

50. Following the Executive Member's view on which options to be taken forward for more detailed consideration, it is intended to undertake further consultation as part of this process. The consultation shall consist of, but not be limited to:

- Inclusion of a leaflet/questionnaire within a future edition of the Your City newsletter, distributed to all households in York;
- Illustrations and questionnaire on the Council's web site;
- Public exhibition(s)
- Workshops/focus groups with businesses and residents in the study area
- Discussion with local Ward Members

Conclusions

51. It is evident from consultations undertaken that within the study area, improved provision for pedestrians and particularly for cyclists is a high priority, particularly as evidenced in the Cycling City consultation. It is also apparent that incorporating any inbound cycle lanes leads to a reduction in vehicular lanes from three to two. This and any other major realignment of the highway and junctions within this area, to incorporate cycling facilities, leads to a much reduced capacity and longer traffic queues / delay times in most scenarios.

52. None of the options proposed fully satisfy all of the elements contained within York's Local Transport Plan 2006-2011 (LTP2), with most of the proposals improving provision for some transport users (fulfilling some of the aims of the LTP), but also being to the detriment of the other aims.

53. Any substantial improvements made in this area which reallocates highway space for cyclists, pedestrians and public transport users ,as listed in the Hierarchy of Users stated in LTP2, has a detrimental effect on the flow of traffic resulting in additional local congestion. Some options may also result in poorer bus reliability, due to longer traffic queues and delays. Therefore the hierarchy of Users and the objectives

of the LTP2 need to be carefully considered in order to reach an informed decision as to which design option to pursue.

54. Although Option 1b is the highest scoring option in the Matrix Assessment, if it is pursued, the use of Cycling City capital to part-fund this scheme is unlikely to be justified, leading to a shortfall in funding. Furthermore, York's reputation as a Cycling City may potentially be called into question with such a major scheme being undertaken, but with very little in the way of provision for cyclists.

55. Of the Options presented within this report, Option 3b results in the maximum improvements made for cyclists due to the provision of two inbound cycle lanes on Blossom Street; an outbound bus and cycle lane; a dedicated right-turn only lane from Queen Street (reducing the risk of a vehicle/cyclist conflict in this movement); and a second stop-line north of Micklegate Bar. Furthermore, improvements are made for pedestrians (crossings) and Public Transport users (bus lane and bus gate).

56. However, although the junction arrangement for option 3b successfully reduces the traffic delays in half of the key movements from Blossom Street and Queen Street in both peak periods (it effectively reduces the delay experienced making the most common AM peak movement of turning left from Blossom Street to Queen Street by 50%), consequently, the delays for the other half of the movements are worsened (by up to 75% for the most common PM peak movement of turning right from Queen Street to Blossom Street). This will also have negative effects on the bus operations in this direction due to the increased delays.

57. Option 3 provides a safer situation for cyclists and causes fewer delays and a lower reduction in capacity than Option 2.

58. For any of the Options (2, 3 or 4) that significantly increases queue lengths in this area, there is likely to be a negative impact on air quality, although this has not been quantified in this scheme option stage, as the Air Quality model uses average annual daily flow traffic values, which do not take into account variations during the day. However, more detailed modelling (using micro-simulation software) could be undertaken as part of the detailed design.

59. For any of the Options (2, 3 or 4) that significantly reduces the capacity of the Blossom Street / Queen Street junction, capacity could be restored to some degree by introducing motorised vehicular access restrictions to Micklegate in the peak hours. Capacity restoration may even be sufficient to enable a variation of Option 2b to become viable. Traffic queues would not be significantly worsened in this scenario, but good improvements made for cyclists; bus users; and particularly for pedestrians, who would have the added benefit of (desirable) straight-ahead pedestrian crossings, as opposed to staggered.

60. The increase in queue lengths inbound on Blossom Street (with options 2, 3 or 4) could be very slightly mitigated by flaring the traffic lanes (from one to two) further back along Blossom Street, providing additional queue storage for different manoeuvring traffic. This would only be

feasible however if a straight-ahead pedestrian crossing (as described in sub-option 'b') was provided instead of a staggered crossing outside the cinema, with the effect that some of the central reservation currently used for the refuge island could be clawed back for additional road space.

61. The capacity assessment of the junctions has assumed that there will be no increase in peak hour flow above that measured in 2005, as the junctions were already saturated at that time. This, therefore does not take into account any future traffic growth due to organic growth or development growth, such as that which might be generated by York Northwest development. Also no account has been taken of any potential future mitigation measures to be implemented, which may, or may not, alter the flow of traffic approaching the study area (e.g. relocating traffic queues to further out from the city centre), thereby, improving the operational efficiency of the junctions in the study area.

Corporate Strategy

62. 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.

63. 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

64. This report has the following implications:

- **Financial** – Depending on which Option is pursued, the likely cost of implementing the proposals for the Blossom Street multi-modal scheme is estimated to be between £400,000 and £500,000 depending on the level of reuse of existing equipment (to be assessed as part of the detailed design).

  Currently, the level of capital funding for this scheme is 50% each from LTP and Cycling City budgets. The allocation for 2009/10 is currently £100,000 (£60,000 from LTP; £40,000 from Cycling City) to progress, for example, advance works, and therefore the majority of spending will be from the 2010/11 budgets.

  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 or near to Micklegate Bar is likely to require Scheduled Monument Consent. Also, should restricted peak-time access to Micklegate be considered, a Traffic Regulation Order will need to be made.

- **Crime and Disorder** – There are no implications at present. North Yorkshire Police will be consulted when the scheme moves to the detailed design stage.

- **Information Technology (IT)** – There are no IT implications at present.

- **Property** – There are no property implications at present.

- **Sustainability** – Implementation of any of the options 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. Consideration of an Option which does very little for cyclists at this key area (and at a junction which has been identified by local residents as the most dangerous for cyclists) could damage York's reputation as a Cycling City.

Risk Management

65. 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 it's the 'Sustainable City ' and 'Healthy City' elements (see paragraph 50) if its corporate strategy (Strategic) and to deliver Local transport Plan projects (Operational) ultimately, leading to financial loss (Financial) due to the inability to utilise Cycling City funding if a design option that does not provide sufficient benefit to cyclists is provided. In addition there is a significant 'Reputation' risk to the council if as a 'cycling city inadequate cycling provision is made. On this basis the risks associated with an option that does not provide adequate provision for pedestrians and cyclists will result in a 'high' risk score.

66. If the recommended option (3b) is pursued there is a risk that congestion and the associated adverse impacts such as poor air quality and public transport journey times becoming moiré unreliable will ensue. Measured in terms of impact and likelihood, the risk score 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.

67. All the options described create a potential conflict The Sustainable Community Strategy and the associated Local Area Agreement National Indicator targets within it of:
    - NI47 Reduce the number of people Killed or Seriously Injured (KSI) in road traffic accidents (LTP ref 4A); and
    - NI167 Congestion – average journey time per mile during the morning peak (LTP ref 6C).

Ward Member comments

68. A meeting to discuss scheme options with Micklegate Ward Members Cllrs S. Fraser, J. Gunnell, and D. Merrett, was held on 13 July 2009. The main points arising from this are:

    <u>Blossom Street</u>

    - Providing a controlled straight ahead crossing at Blossom Street (Options 1 & 2) is seen as a good first step, but will not enable Cycling City funding to be utilised as it doesn't benefit cyclists;
    - Two cycle lanes are preferred (as safer) to one cycle lane on Blossom Street inbound, and
    - A view was expressed that a more expansive vision is needed, as the proposals may, at present, only be a short term measure.

Consideration of a more radical approach for controlling traffic, such as having separate lane for each mode, each being controlled separately, was advocated.

Holgate Road

- Right turns out of Holgate Road block left turns out coupled with difficulties for HGVs passing each other at pinch point at bend east of Lowther Terrace creates unsafe conditions for cyclists. This could be addressed by the introduction of an advance signal at Lowther Terrace (A) in addition to the signal at Holgate Road / Blossom Street Junction (B) with a cycle lane/ASL leading up to it, so that from both signals A & B being red, signal B turns green about 3 seconds before Signal A turns green, giving cyclists in advance of the traffic on Holgate Road an opportunity to clear the junction.

Micklegate

- General agreement to solution similar to Monkbar being implemented;
- General view that although businesses located north of the Bar would usually be concerned about any vehicle restrictions in Micklegate, if the alternative was one of the options which reduced capacity at the junction with Blossom Street and subsequent longer queues, then a partial restriction on Micklegate in peak hours may be a reasonable compromise. Modelling the effect of such restrictions was not thought to be prejudicial as it would complete the evidence base, upon which the decision on the option to pursue would be based.

Alternative routes for cyclists, away from Blossom Street

- Camlow (Cambridge Street and Lowther Terrace) Residents Association may object to the cycle route cutting through the wall at the end of Lowther Terrace due to safety concerns of children being closer to the operational railway and increasing traffic (albeit cyclists and pedestrians) on Lowther Terrace;
- The route will not be attractive to cyclists approaching along Tadcaster Road / The Mount. They would continue along Blossom Street instead.
- The alleyway running from Holgate Villas offices to the Station car park was closed off by the lockable gate to prevent through access some years ago. Cllr. Merrrett used to use this as a cycle route before it was closed-off.

Non Ruling Group Spokespersons' comments

69. Cllr A. D'Agorne commented that any scheme would need to avoid having obtrusive electronic signs in front of the bar such as currently used on Coppergate. Vehicular access restrictions for Micklegate would work satisfactorily, although a two year initial trial might serve to be a way of testing out the restrictions before making a permanent order.

As Cycle Champion he commented that the use of Cycle City monies can only be justified if a cycle lane can be provided on Blossom Street. The opportunity should also be taken to review the cycle lane approach from Queen Street, as the whole layout is inadequate as articulated vehicles can not fit in the left hand lane approaching the junction so they block the cycle feeder lane to the advanced stop.

Inbound, there may need to be a loading bay provision outside the Windmill pub, and reduction to two lanes would avoid the need for FTRs to straddle two lanes as they currently have to do to get round the corner. There would also need to be better lane discipline at the junction. A 5 to 10 second advance cycle green phase would be a real safety feature at this junction.

70. Cllr I. Gillies commented that whilst appreciating the difficulties experienced at this junction, the Conservative Group's position was that no reduction in lanes should take place, nor any access restrictions to Micklegate. Experience of delivery vehicles on Blossom Street show that any removal of a lane causes longer delays.

If access was restricted through Micklegate Bar from Blossom Street, it would likely have a detrimental effect on the retailers in the street and make access to the churches in Priory Street difficult, in addition to adding yet more pressure to the Station Road, Rougier Street, Nunnery Lane area, where waiting times are already long.

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Wards Affected: **All**

Micklegate

For further information please contact the author of the report

Background Papers

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

‘Blossom Street Multi Modal Study – Feasibility report’ presented to Executive Member for City Strategy and Advisory Panel 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 - Base map
Annex B - Base + Sensitivity Test
Annex C - Options 1a and 1b
Annex D - Options 2a and 2b
Annex E - Options 3a and 3b
Annex F - Options 4a and 4b
Annex G - Matrix Assessment