

TRAFFIC ENGINEERING TEAM

BRIEFING NOTE

Subject	Melksham, High Street / Church Street signals	Date:	Sept 2016
Circulation			
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Ref	Notes	Action	
1	Introduction		
	<p>The signal controlled junction at High Street / Church Street in Melksham currently includes a prohibition of right turn for southbound traffic into Church Street. Traffic seeking to access Church Street are directed south through the junction to the roundabout in the Market Place then north bound back to the signals. Access to Church Street is then achieved by a left turn manoeuvre. This layout has been in operation for over 25years.</p> <p>Requests have been received to allow the right turn into Church Street to become a permitted movement. It is understood that the basis of the request is that by allowing the right turn northbound queue lengths from the Market Place would reduce and would help to mitigate any additional traffic impact caused by the proposed Melksham Campus which is to be accessed from the Market Place.</p> <p>This matter was previously discussed in detail by the Melksham Community Area Transport Group who agreed not to take the matter further. This recommendation was subsequently endorsed by the Melksham Area Board.</p> <p>The decision not to take matters further has not been welcomed by some of the local community and a further request has been made that the matter be reconsidered.</p> <p>This briefing note gives a high level overview of the options for change and the likely impacts of those changes.</p>		
2	Current layout		
	<p>The current traffic signals operate on a 3 phase basis Phase 1 – north and south bound green, Church Street red, Pedestrians red Phase 2 - north and south bound red, Church Street green, Pedestrians red Phase 3 – north and south bound red, Church Street red, Pedestrians green</p> <p>All approaches to the stop lines are currently single lane and there is little scope within the existing environment for geometric changes to the current layout such as the creation of additional traffic lanes.</p>		
3	Option for change 1		
	<p>Maintain the existing timing phases with no other changes and allow right turn to take place.</p> <p><u>Impact</u> The ability to turn right would be dependent on gap availability in the north bound traffic stream. Whilst waiting to turn right all southbound ahead movement would be held up increasing the southbound queue length. During peak periods when there is a near continuous northbound flow, southbound right turners may have to wait a full signal cycle before being able to proceed. There is also the risk that some northbound drivers may</p>		

	<p>elect to stop to permit right turning vehicles to proceed. This could bring about an increase in the potential for nose to tail shunts in the northbound traffic stream when following drivers see a green light but the vehicle in front has stopped.</p> <p><u>Summary</u> – potential severe negative impact on overall junction capacity with considerable potential increase in southbound queue length. Potential for increased nose to tail collisions.</p>	
4	<p>Option for change 2</p> <p>Maintain the existing 3 signal phases but give an extension of time to the southbound green to allow any waiting right turners a defined gap in which to proceed.</p> <p><u>Impact</u> Similar to Option 1. Benefit to right turners in that a gap will exist within each cycle. However overall junction cycle time is increased with a commensurate decrease in overall capacity</p> <p><u>Summary</u> – Anticipated severe negative impact on overall junction capacity with considerable potential increase in queue length on all arms.</p>	
5	<p>Option for change 3</p> <p>Change the traffic signals from 3 phase operation to 4 phase to enable north and south bound movements to run separately. Phase 1 – northbound green, southbound red, Church Street red, Pedestrians red Phase 2 – northbound red, southbound green, Church Street red, Pedestrians red Phase 3 – northbound red, southbound red, Church Street green, Pedestrians red Phase 4 - northbound red, southbound red, Church Street red, Pedestrians green</p> <p><u>Impact</u> The right turn manoeuvre can be achieved without impacting on the ahead southbound movements. However the additional phase and resultant increase in the signal cycle time will have a significant impact on overall junction capacity, increasing queue lengths on all arms. The current pedestrian waiting time will also increase with the subsequent potential for impatient pedestrians to cross against a red signal bringing them into conflict with vehicles.</p> <p><u>Summary</u> – Provides best solution for safe right turn but has the largest negative impact on overall junction capacity with resultant largest increase in queue lengths on all arms.</p>	
6	<p>Melksham Campus</p> <p>The Traffic Assessment report that accompanied the Planning Application for the Melksham Campus considered the impact of the Campus on the surrounding road network.</p> <p>The following are extracts:</p> <p><i>High Street and Church street signalised junction</i> <i>Traffic flows at this junction will see only a minor increase as a result of the development. The PM peak period, which is impacted the most by the development, show net increases of 23 vehicles on the High Street south arm, zero vehicles on the Church Street arm and 26 vehicles on the High Street north arm. It is felt that these increases represent proportions which are likely to be similar to the daily variation in traffic at the junction and as a result no further assessment work is required.</i></p> <p><i>Summary</i> <i>The sections above show that the development will have negligible impact on the highway network. The improvement scheme for Market Square which is promoted by Wiltshire Council will be constructed concurrently with the development and will have sufficient capacity to deal with all traffic generated by the development.</i></p>	

7	<p>Summary</p> <ul style="list-style-type: none"> • It is clear that the permitting of a right turn movement would have a negative impact on the capacity of the junction overall with a resultant increase in queue lengths. • The extent of the capacity reduction is different with each of the identified options and could only be accurately determined through a modelling exercise. • Given the conclusion made in the Campus Traffic Assessment that the development will have a minimal impact on the surrounding road network it is difficult to justify the undertaking of a model given that none of the options for change would result in an increase in capacity or reduction in queue length. 	



