

Table 2 A37 Options and Feasibility Study: Farrington Gurney - 'Long List' Option Assessment

Option Ref:	Description	Opportunities and Issues	Recommendation
1	<p>Review the existing Method of Control at the A37/A362 traffic signals to increase junction capacity, including changes to the existing signal sequencing and/or the removal of the pedestrian stage.</p>	<p>Opportunities</p> <ul style="list-style-type: none"> Possible increase in vehicular capacity by removal of the pedestrian phase and altering the Method of Control <p>Issues</p> <ul style="list-style-type: none"> The existing controlled pedestrian crossing on the north side of the A37/A362 junction is the only facility for assisting pedestrian crossing movements across the A37 in Farrington Gurney. It is, however, lightly used because most of the attractors for local pedestrian movement ie Co-op store/Budgens/Farrington Inn are at the northern end of Farrington Gurney. Nevertheless. Its loss will increase severance and difficulties for mobility impaired pedestrians. The existing signals have a four stage Method of Control, although one of these stages caters for safe egress from a private access on the west side of the junction and is little used. From observation and examination of MOVA log data the other three stages appear regularly most cycles. Stage 1 which provides for the appearance of the pedestrian phase also caters for the controlled right turn to the A362. As such, removal of the pedestrian phase would only benefit the phase controlling northbound 'ahead' traffic on the A37. 	<p>DISMISS</p> <p>This proposal would require the loss of the only controlled crossing point over the A37 in Farrington Gurney, to the detriment of pedestrian safety.</p> <p>As the appearance of the crossing phase occurs in the same stage as that controlling the right turn to the A362 (Stage 1), the only phase that would benefit from its removal would be the northbound 'ahead' phase on the A37. As such the queuing/delay on the southbound A37 approach where air quality exceedances occur would not be improved by the potential allocation of additional green time.</p>
2	<p>Implement proposed junction improvements at the A362/A37 junction linked with the Somer Valley Enterprise Zone (SVEZ) development - Extended two-lane entry on the A362 approach.</p>	<p>Opportunities</p> <ul style="list-style-type: none"> Increasing the capacity of the A362 approach by extending the two-lane section could reduce the green time needed to service Stage 3. This may allow MOVA to operate with lower cycle time (so reducing delay) or allocate more green time to the main A37 (Stage 2). The present 'short' lanes on 	<p>DISMISS</p> <p>LinSIG modelling indicates that, as an isolated measure, the effect in reducing queuing and delay on the A37 southbound approach would be negligible.</p>

		<p>the A362 approach have a storage capacity for 5-6 vehicles, after which the discharge during the green phase falls to a single lane</p> <p>Issues</p> <ul style="list-style-type: none"> Whilst widening is achievable within the highway verge there is, however, a line of trees along the fence/hedge-line which could be affected by the revised kerb-line insofar as clearance to the lower part of canopies is concerned. As such, some cropping back of the lower branches may be necessary to accommodate the passage of higher vehicles The disposition of services within this verge is unknown, but a higher concentration of utilities is likely to exist in the northern verge close to the developed edge of the housing estate. The critical period for this approach is the weekday PM peak period. The dominant flow is the right turn to the A37(N), so extending the nearside lane could only serve to prevent some left turners from getting 'trapped' in the queue of right turning vehicles. 	<p>Results for the critical PM peak period show that extending the two-lane length to allow storage capacities of 12 vehicles in each lane would only improve the overall junction PRC from -3.4% to +4.2%, with a high cycle time close to 120 seconds still required.</p> <p>On the A37 southbound approach the mean maximum queue (MMQ) at 'end of red' (PM) is predicted to reduce only marginally from 33 to 31 vehicles. The associated mean delay changes from 54 to 39 seconds, but overall the effect is unlikely to have a notable effect on emissions.</p>
3	Construction of an additional lane on the A37 southbound approach to the A37/A362 signals utilising the existing verge and possibly the existing footway or hatchway if required.	<p>Opportunities: Refer to Drawing 674726CH.CI.59.01-11</p> <ul style="list-style-type: none"> Directly increasing the capacity of the southbound A37 approach where air quality exceedances occur by widening to create a two-lane section some 50-60m in length. The newly created nearside lane would cater for the left turn to the A362. <p>Issues</p> <ul style="list-style-type: none"> Widening would remove the verge on the eastern side between the bus stop lay-by and the A362 exit. This would remove the present 'buffer' between pedestrians using what is a narrow footway on this side and passing southbound traffic. Some ancillary widening of this footway 	<p>SHORT LIST FOR TESTING:</p> <p>Initial LinSIG modelling shows that this could assist in notably reducing the mean maximum queue (MMQ) on the A37 southbound approach at 'end of red' in both peak hours.</p> <p>In the AM peak period the predicted MMQ could be reduced from 30 to 19 vehicles, and from 28 to 14 vehicles in the PM peak period. Results suggest the operational cycle time needed could be lower in both periods, particularly in the PM peak hour. This will assist in</p>

		<p>would be possible, although a 'pinch-point' section circa 1.7m in width would remain.</p> <ul style="list-style-type: none"> • A need to shift and reduce the 'hatched' area will reduce in a narrower running lane for vehicles on the northbound 'exit' side. There is a narrow footway on this west side, so narrowing the adjacent lane will reduce the intimidation effect of vehicles (notably HGVs) on pedestrian users. Risk of HGV wing mirror overhang to the footway. A full topographical survey of this junction arm will be needed to establish the exact width of the highway should this option be taken forward. • Necessary relocation of the large ADS on the southbound approach with verge removal. 	reducing delays, which will also serve to reduce the MMQ.
4	Combination of Option 2 and Option 3 works to the A37/A362 junction	<p>Opportunities</p> <ul style="list-style-type: none"> • Refer to Options 2 and 3 above. <p>Issues</p> <ul style="list-style-type: none"> • See above 	<p>DISMISS</p> <p>Option 2 has little impact in isolation, so there would be little benefit in increasing the cost of the Option 3 works which deliver a tangible operating benefit to the critical area for emissions on their own.</p> <p>The Option 2 works to the A362 approach are likely to come forward anyway as part of the SVEZ highway improvements. This is currently part of the Outline Business Case.</p>
5	The construction of a roundabout to replace the existing traffic signals. Smallest type of 'Normal' Roundabout (Compact)	<p>Opportunities: Refer to Drawing 674726CH.CI.59.01-12</p> <ul style="list-style-type: none"> • Introduction of a potentially more 'free-flow' junction layout removing the forced stopping associated with the existing traffic signal control. <p>Issues</p>	<p>SHORT LIST FOR TESTING:</p> <p>Initial ARCADY modelling shows that this 'compact' roundabout layout (single lane approaches) could accommodate existing flows in the weekday 'peak' hours. Modelling suggests that the single lane entries could achieve maximum capacities of circa 1,350 pcu/hr with negligible circulating cross-flow.</p>

		<ul style="list-style-type: none"> The ability to actively manage the traffic flows at this key junction would be lost with removal of the traffic signals. Significant cost of construction and potential impact on services, even with the 40m ICD 'Compact' design shown. Need for third party land outside of the public highway from the field to the SE of the existing junction. There will be a need to retain the controlled crossing on the A37 to the north of the roundabout. This would need to be no closer than 20m from the roundabout entry for safety reasons. A location between 20-60m from the roundabout exit is not recommended (TD 16/07). Maintaining driveway access to properties on the west side of the proposed roundabout. Four existing driveway accesses are shown to be affected. 	<p>Results for the AM peak hour indicate MAX RFCs of circa 0.74 and 0.71 on the A37 southbound and northbound entries to the roundabout. A lower RFC of 0.46 is predicted for the A362 entry. An RFC of 0.85 is taken as accepted design capacity, so there is some predicted 'spare' capacity for growth, albeit limited.</p> <p>Results for the PM peak hour indicate MAX RFCs of circa 0.73 and 0.75 on the A37 southbound and northbound entries to the roundabout. A lower RFC of 0.54 is predicted for the A362 entry.</p>
6	The construction of a roundabout to replace the existing traffic signals. Larger ICD 'Normal' Roundabout allowing 'flared' 2-lane entries	<p>Opportunities: Refer to Drawing 674726CH.CI.59.01-13</p> <ul style="list-style-type: none"> Introduction of a potentially more 'free-flow' junction layout removing the forced stopping associated with the existing traffic signal control. This larger design with an ICD of 60m permits flaring of all approaches to two lanes at entry. As such, it would offer greater capacity and future operating resilience than Option 5 (Compact Roundabout). <p>Issues</p> <ul style="list-style-type: none"> The ability to actively manage the traffic flows at this key junction would be lost with removal of the traffic signals. Although the proposed circulatory carriageway would be greater, signalling this roundabout at some future date if desired would be difficult. Significant cost of construction and potential impact on services. Need for third party land 	<p>DISMISS</p> <p>The 'compact' roundabout of 40m ICD considered under Option 5 is shown to cater adequately with peak flows with some 'headroom' for growth. As such, there is no justification for seeking to implement a much larger layout with significantly increased land-take and cost.</p>

		<p>outside of the public highway from the field to the SE of the existing junction.</p> <ul style="list-style-type: none"> • There will be a need to retain the controlled crossing on the A37 to the north of the roundabout. This would need to be no closer than 20m from the roundabout entry for safety reasons. A location between 20-60m from the roundabout exit is not recommended (TD 16/07). • Maintaining driveway access to properties on the west side of the proposed roundabout. As with Option 5, four existing driveway accesses are shown to be affected. However, the greater westward shift needed to achieve adequate deflection on the northbound A37 approach provides scope for incorporating a parallel service road. 	
7	The implementation of a Clean Air Zone for this section of the A37	<p>Opportunities</p> <ul style="list-style-type: none"> • The introduction of a Class C CAZ as proposed in Bath would speed-up/encourage the use of cleaner HGV fleet on the A37 route through Farrington Gurney. A charge could be imposed on all HGV's under Euro Class 6 (Diesel). Unlike a weight limit or width restriction it would impose no regulatory restriction on lorries on a certain size or weight. <p>Issues</p> <ul style="list-style-type: none"> • Undesirable HGV diversion impacts on surrounding local roads such as the A362 through Midsomer Norton (to A367), or possible use of Paulton Road as a local 'bypass' to get to/from the A39. Routing via the former would increase HGV traffic through Paulton and Hallatrow. • Need for 'strategic' advance signing to warn HGV drivers of a local 'charging' CAZ covering Farrington Gurney. 	<p>DISMISS:</p> <p>As noted with Temple Cloud, whilst a CAZ 'Type C' charging HGVs would specifically target a key contributor to emissions, a significant amount of this fleet (as surveyed, Nov-17) is Euro Class 6 compliant and so would be unaffected by the CAZ.</p> <p>The introduction of a local CAZ on what is a strategic HGV route is likely to create undesirable diversionary issues affecting local roads which are less suitable. Whilst non-compliant HGV drivers will have the option of paying the charge, many will choose not to, and seek out local diversionary routes.</p> <p>Linked to the above, the absence of suitable alternative HGV routes to the A37 for north-south movements between the Yeovil area (A303(T)) and Bristol is a strategic network</p>

		<p>issue. As such, a 'point' restriction at Farrington Gurney could have regional impacts, to the point that many operators may simply pay the charge when faced with the additional operating costs of significant diversion.</p>
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