

# Summary Report

# Evesham Transport Model; Pre-Feasibility Option Testing



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# **Evesham Transport Model; Pre-Feasibility Option Testing**

## **A summary of the results**

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## **1 Introduction**

- 1.1 Worcestershire County Council (WCC), in partnership with Wychavon District Council, is developing an "Evesham Town Transport Strategy". This strategy will set out a long-term investment plan for Evesham's transport infrastructure and services, with the aim of improving transport within the town, in turn supporting development growth and the economic vitality of the town.
- 1.2 To support the development of the Evesham Town Transport Strategy, WCC has commissioned the construction of a multimodal VISUM model. This traffic model, which is a computer-based simulation of the town's road network, will be used to test potential schemes and options for inclusion in the town's Transport Strategy.
- 1.3 WCC has a considerable number of proposals for improving transport within Evesham, many of which have been kindly submitted by members of the public. WCC commissioned WSP Consultancy to carry out an "Evesham Transport Model: Pre-Feasibility Option Testing" study with the purpose of assessing which of the proposals or options should be tested within the traffic model, and which of them should be ruled out for reasons of impracticability.
- 1.4 This Report summarises the findings of WSP's Pre-Feasibility Option Testing study.

## **2 Criteria For The Pre-Feasibility Option Testing**

- 2.1 Each option was assessed as to whether it could be delivered:
  - Either within the available highway space, or with 'proportionate' acquisition of land;
  - In compliance with current guidance and best practice, and;
  - For a cost that would be proportionate to the likely benefit.

## **3 Results**

- 3.1 Table 1 summarises the findings of the Pre-Feasibility study. Appendix A contains a plan that shows the location of each proposal.

**TABLE 1; PRE-FEASIBILITY STUDY FINDINGS**

Nos.	Proposal	Assessment	Suitable for further consideration?
1	Abbey Road/ Waterside/ Cheltenham Road/ Pershore Road junction	A minor improvement to capacity might be possible, but this would likely come at disproportionate cost	Further study required (see Note 1, below)
2	High Street/ Greenhill/ Worcester Road junction	A small improvement might be possible, but 'exit blocking' on the High Street arm is the major limiter of capacity.	Further study required (see Note 2)
3	Cheltenham Road/ Davies Road junction	Updating the traffic signal equipment could bring improved capacity	Yes (see Note 3)
4	Induced Queueing To Alleviate Port Street (Air Quality Management Area)	Moving the town-centre-bound queue on Port Street back to Broadway Road and Elm Road could alleviate air quality problems on Port Street.	Yes (see Note 4)
5 to 11	Seven different proposals for altering traffic flows in the town centre	None of the proposed reconfigurations of the town centre's roads are feasible.	No (see the Appendices for an outline of each proposal and details of each assessment)
12	20 MPH Limit in the town centre	This could be feasible, but a need for such has not been established	Yes
13	20 MPH Limit throughout the Town	The need for such has not been established and it would likely be unworkable.	No
14	Abbey Road/ Waterside/ Cheltenham Road/ Pershore Road junction; additional proposals – add a right-turn (from Cheltenham Road) filter	Cost would far exceed benefit.	No
15	Replace Abbey Road/ Waterside/ Cheltenham Road/ Pershore Road junction signals with a roundabout	The amount of land that would need to be acquired, the negative impacts of such a scheme and the costs would all add up to greatly outweigh the limited benefits that might be possible.	No
16	New roundabout at Worcester Road/ Tesco entrance	Some considerable amount of land would need to be acquired (to the detriment of the businesses on either side of the road) and some considerable construction work would be needed to offset level differences: all to address an unproven problem.	No
17	New roundabout to replace Cheltenham Road/ Davies Road junction signals	The existing signals work well (and can be improved further, as detailed above); introduction of a roundabout would necessitate the removal of pedestrian signals which would be highly detrimental for those walking to/ from Evesham College.	No

18	Proposed new road to link Common Road to the A46	This couldn't meet guidance, wouldn't deliver much 'capacity', couldn't meet safety and environmental concerns and would be very costly. But perhaps even more fundamentally; a new junction on the A46, as this option proposes, so close to an existing junction, would not be possible.	No
19	New traffic signals at the junction of Elm Road/ Offenham Road	The recently installed mini roundabout at this location functions well and does not need to be replaced.	No
20	High Street/ Greenhill/ Worcester Road junction; additional proposal – add a left-filter signal from Worcester Road	Very limited benefit against a relatively high cost rules this out.	No
<b>Proposals 21 to 24 were not assessed by WSP, for the reasons set out below.</b> (See note 5)			
21	Close Cheltenham Road to through traffic, near to its junction with the A46	Minimal cost and no land required, so this proposal did not need to be assessed by WSP.	
22	Swan Lane/ High Street/ Avon Street junction: make Avon Street one-way, away from High Street	The cost of such a scheme would likely be proportionate and no land would be required. The first test of 'feasibility' will be an assessment of the impact of the one-way on the surrounding road network and this was beyond the scope of WSP's commission.	
23	Port Street/ Waterside/ Bridge Street junction: upgraded signal control equipment	Again, a proportionate cost and in-line with WCC's management of highways and highway infrastructure.	
24	Improved walking and cycling infrastructure	A proposed network of walking and cycling enhancements is being developed that does not impinge on Evesham's road network.	

## Notes

- 1 The most efficient set-up for the signals was adopted for Abbey Bridge/ Waterside/ Cheltenham Road/ Pershore Road junction when they were refurbished. The minor increase to capacity would require acquisition of land/ property, which could put it beyond what is measurable as 'feasible' (i.e. the cost significantly outweighs the benefit).
- 2 If an improvement of Swan Lane/ High Street/ Avon Street traffic signals is possible (see Section 4.2), then it might be possible to improve the capacity at the High Street/ Greenhill/ Worcester Road junction.
- 3 The traffic signal equipment at Cheltenham Road/ Davies Road junction could be updated (in-line with a programme of routine maintenance/ improvement), but this junction is very much affected by high demand placed on Abbey Bridge/ Waterside/ Cheltenham Road/ Pershore Road junction (which often leads to queues reaching back from there to the Cheltenham Road/ Davies Road junction).

- 4 Signalisation of the junction of Broadway Road and Elm Road (currently a roundabout) could hold town-centre-bound queuing traffic on Elm Road and on Broadway Road, which are both much wider and more 'open' than Port Street, thereby alleviating the air quality problems of Port Street. (See also Section 4.4.)
- 5 Proposals 22 to 24 did not need to be tested against the Pre-Feasibility study's assessment criteria, for the reasons set out in Table 1. Instead they can each proceed to the next stage of the Evesham Transport Strategy, which will be testing in the traffic model. Proposal 21 was ruled out ahead of assessment by WSP: see section 4.6.

#### **4 Proposals That Will Be Tested Within The Evesham Traffic Model**

- 4.1 As indicated in Note 1, more detailed consideration of Abbey Bridge/ Waterside/ Cheltenham Road/ Pershore Road junction is needed before it can be taken any further.
- 4.2 Impact assessment and consultation is needed as the next step, but if these prove positive, it might be possible to improve the function of the traffic signals at Swan Lane/ High Street/ Avon Street junction by making Avon Street one-way (away from High Street): this would allow the Avon Street phase to be removed from the signals, reducing the 'cycle time'. If this reconfiguration does prove to be beneficial for flow-capacity, then improvements to the High Street/ Greenhill/ Worcester Road junction should be assessed too (since exit blocking on that junctions High Street arm is the major limiter of capacity there).
- 4.3 The functioning of the signals at Cheltenham Road/ Davies Road junction could be improved by updating the signal equipment there.
- 4.4 Proposal 4 seeks to address the pollution that had required the western end of Port Street to be designated as an 'Air Quality Management Area' (AQMA). Whilst WSP's study did show that the proposal is feasible, steadily improving air quality in Port Street has recently seen the AQMA designation revoked. This means this proposal won't need to be taken forward at this time.
- 4.5 If only signage was required, the proposed 20 MPH limit in the town centre would appear to be feasible. But if traffic calming were to be required (known as a '20 mph zone', wherein calming is needed to ensure that the -lower- speed limit is adhered to), there might not be enough support for such a scheme and it might be problematic for the emergency services. Whatever the case, the Department for Transport's 'Setting Local Speed Limit' (July 2012) guidance suggests that consideration of a 20 mph limit or zone is not appropriate at this point in the development of the Evesham Transport Strategy. This guidance states "it may well be that a speed limit need not be changed if the collision rate can be improved or wider quality of life objectives can be achieved through other speed management measures, or other measures. These alternative measures should always be considered before proceeding with a new speed limit." Accordingly the Evesham Transport Strategy will assess such "other measures" first.
- 4.6 Proposals received from members of the public included an option to close Cheltenham Road near to its junction with the A46. This didn't need to be tested within the Pre-Feasibility study since no land would be required and there would be little cost. Closing the road as suggested would simply transfer traffic to other roads and it would add considerable distance/ time to many journeys, both of which would exacerbate congestion. This proposal can be discarded.
- 4.7 The proposal to make Avon Street a one way road (heading away from High Street) could see the 'capacity' of the traffic signals at the junction of Swan Lane/ High Street/ Avon Street improved, since it could allow the Avon Street phase to be removed from the traffic signals' 'cycle'. The next step in assessing this proposal's feasibility will be to test it against quite different criteria from the Pre-Feasibility study: the test will be to assess how such a change would affect the functioning of the surrounding road network and, particularly, how it would affect access to the houses and businesses to the west of High Street.

- 4.8 Upgrading the traffic signal control equipment at the Port Street/ Waterside/ Bridge Street junction would likely be a proportionate cost and very much aligned with WCC's Highway Authority role of managing the highway and its infrastructure.
- 4.9 As mentioned in Table 1, a proposed network of walking and cycling enhancements is being developed that does not impinge on Evesham's road network. The traffic model will be used to assess how a modest modal-shift from car use to walking and cycling (which could be attributed to improved walking and cycling infrastructure) would affect traffic flows throughout the town.
- 4.10 Table 2 lists the options that will be assessed within the Evesham Traffic Model.

**TABLE 2; PROPOSALS TO BE TESTED WITHIN THE EVESHAM TRAFFIC MODEL**

Nos.	Proposal	Comment
1	Abbey Road/ Waterside/ Cheltenham Road/ Pershore Road junction	Further assessment needed first
2	High Street/ Greenhill/ Worcester Road junction	Contingent upon proposal 22 both being feasible and returning positive results
3	Cheltenham Road/ Davies Road junction	Upgraded traffic signal control equipment
4	Induced Queueing To Alleviate Port Street (Air Quality Management Area)	With the recent revocation of the AQMA designation, this proposal does not need to be taken forward at this time
22	Swan Lane/ High Street/ Avon Street junction	Rationalisation of the traffic signals
23	Port Street/ Waterside/ Bridge Street	Upgraded traffic signal control equipment
24	Improved walking and cycling infrastructure	The town-wide traffic surveys showed that 21.8% of trips are of no more than four miles in length. Not all short trips can be 'switched' from car trips to walking and cycling, but a modest conversion would bring worthwhile benefits.

- 4.11 Worcestershire County Council's Local Transport Plan fourth edition (LTP4) sets an ambition to develop a Parking Strategy for Evesham. Parking plays a huge role in the provision of transport in any town, but especially so in Evesham where the relatively small car parks and the constrained connecting road network might well combine to add to some of the difficulties people face moving around the town (for example, people seeking a parking space might find their favoured car park full, setting-off a hunt for a space that adds to the town's traffic). The provision and location of parking has a huge, parallel role to play in the vitality of a town too. Accordingly, a Parking Strategy for Evesham will be developed as a project in its own right and is certain to be an essential component of the town's Transport Strategy.
- 4.12 Although beyond the remit of a Transport Strategy for Evesham (see Section 5.4), it is worth noting here that Worcestershire County Council is supporting Highways England's development of proposals to improve the traffic-flow-capacity of various junctions on the A46 in the vicinity of Evesham.

## **5 Other Proposals That Won't Need To Be Taken Further**

- 5.1 For completeness, this Section sets out all of the remaining proposals shared with Worcestershire County Council that won't need to be assessed further.

- 5.2 "Extend the bypass from the football club roundabout to Pershore Road, or extend it to Worcester Road": such a 'bypass extension' would completely undermine the business case for improving the A46 Trunk Road.
- 5.3 "Pedestrian Crossings". A number of alternative ideas have been put forward relating to crossing facilities:
- More needed/ pedestrians need to be given more precedence;
  - Signalised crossings need to be synchronised, and;
  - Raised tables.

Changes to pedestrian facilities are considered on a case-by-case basis rather than as central components of a transport strategy, and the need (or otherwise) for any raised table is assessed in the same way.

- 5.4 "Improvements to A46". Quite a range of suggestions for the A46 were shared with WCC, but these are not for consideration under the Evesham Town Transport Strategy commission since the A46 is not WCC's asset; designated as part of the nation's Strategic Road Network, it is operated and maintained by Highways England (N.B. an extensive 'whole-corridor' study of the A46 has been commissioned by Midlands Connect, the partnership of Local Authorities and Local Enterprise Partnerships that seeks to improve transport across the Midlands. This study is supported by WCC and Highways England.)
- 5.5 "Rat-running"
- Concern was raised over Briar Close to Merstow Green rat-running; with the construction of a Waitrose Supermarket almost complete on the old fire station/ car park site, this route is now closed-off.
- 5.6 In addition to the new road proposed to link Common Road to the A46, via the dismantled railway, a further road scheme and traffic restriction were suggested:
- Pedestrianisation of part of High Street, with Park and Ride facilities based at Twyford and at the football club. All parking-related options will be considered within the separate Evesham parking strategy.
  - Prohibit right turns in to Port Street Lidl. On its own, this would not improve traffic flow since those heading east on Port Street wishing to access Lidl would be forced to 'u-turn' at the nearby roundabout, adding extra unnecessary vehicle movements to that junction. This will not be pursued.
- 5.7 A number of different suggestions for changes to parking were made (see below), but as mentioned before, all parking-related options will be considered within the separate Evesham Parking Strategy.
- Remove High Street and Vine Street chevron parking (replace with parallel parking).
  - Place parking in High Street in the centre of the carriageway.
  - Prohibit parking in Market Place
  - Coach parking needed
- 5.8 The following were described as "congestion points", but these stand as 'informative', rather than proposals:



- Greenhill, by Victoria Avenue - caused by school coaches for the High School.
- Workman Bridge/ Bridge Street - cars parked outside takeaways.

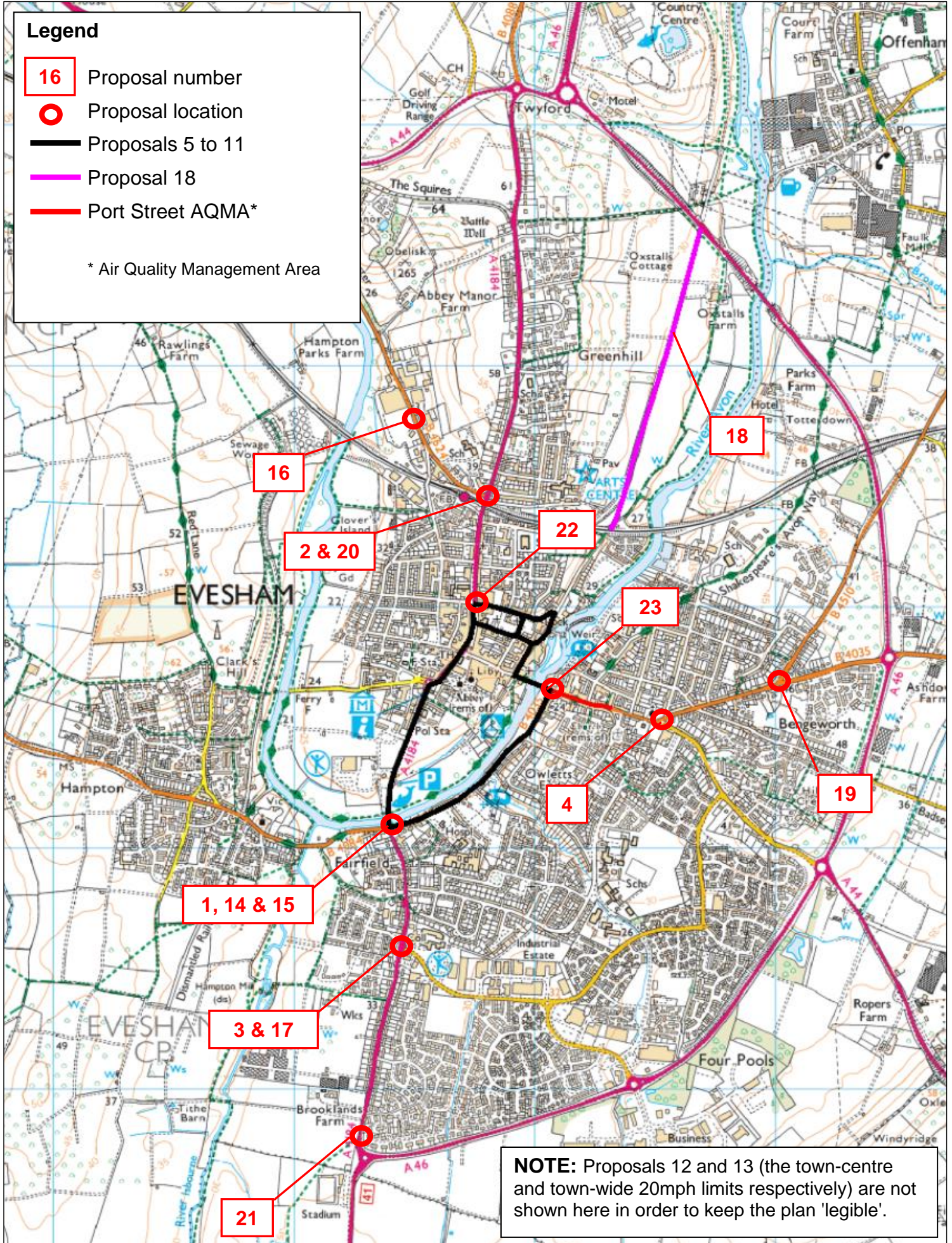
5.9 A new roundabout was proposed for the junction of Elm Road and Offenham Road; one has recently been installed here, so this proposal can be considered closed.

5.10 A number of suggestions were made under the theme of "traffic reduction":

- Cycle facilities; the mode-shift away from motorised transport that can be attributed to improved infrastructure for cycling [and walking] will be assessed by the Evesham Traffic Model.
- Footbridges over the river; the development of proposals for a network of improved facilities for walking and cycling will consider such.
- Park and ride; as mentioned before, all parking-related options will be considered within the separate Evesham parking strategy.
- Banning of HGVs from the town centre; the life of the town would grind to a halt, so this option cannot be pursued.

# APPENDIX A

## Proposal locations

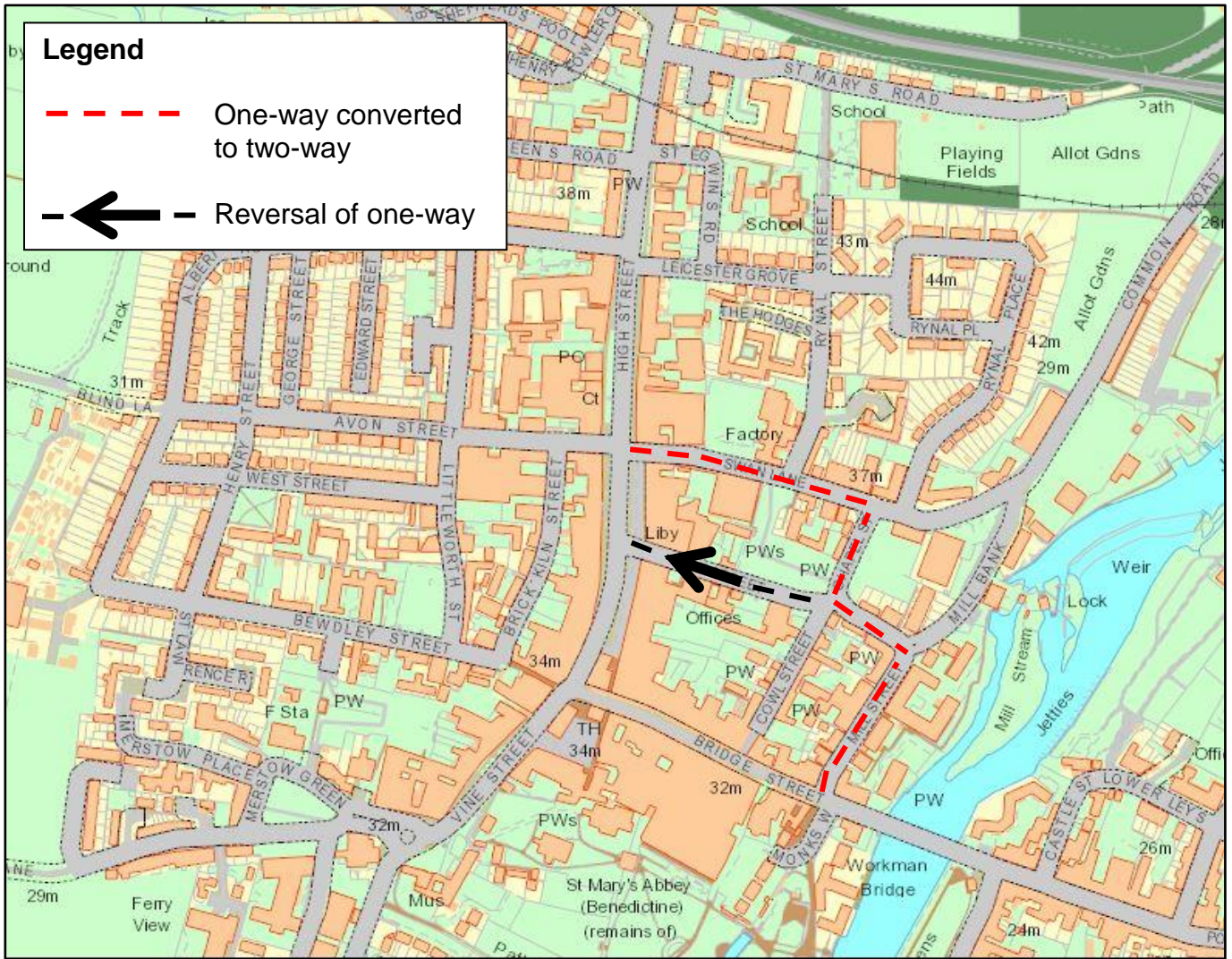


# APPENDIX B

## Proposed changes to town centre road network

Each of the proposals in this Appendix has been suggested by a member of the public. Proposals 5 to 8 and 10 & 11 are all based around the same part of the town centre, and are assessed in Appendix C. Proposal 9 is based on a much wider area of the town and so for simplicity is assessed separately in Appendix D.

### Proposal 5

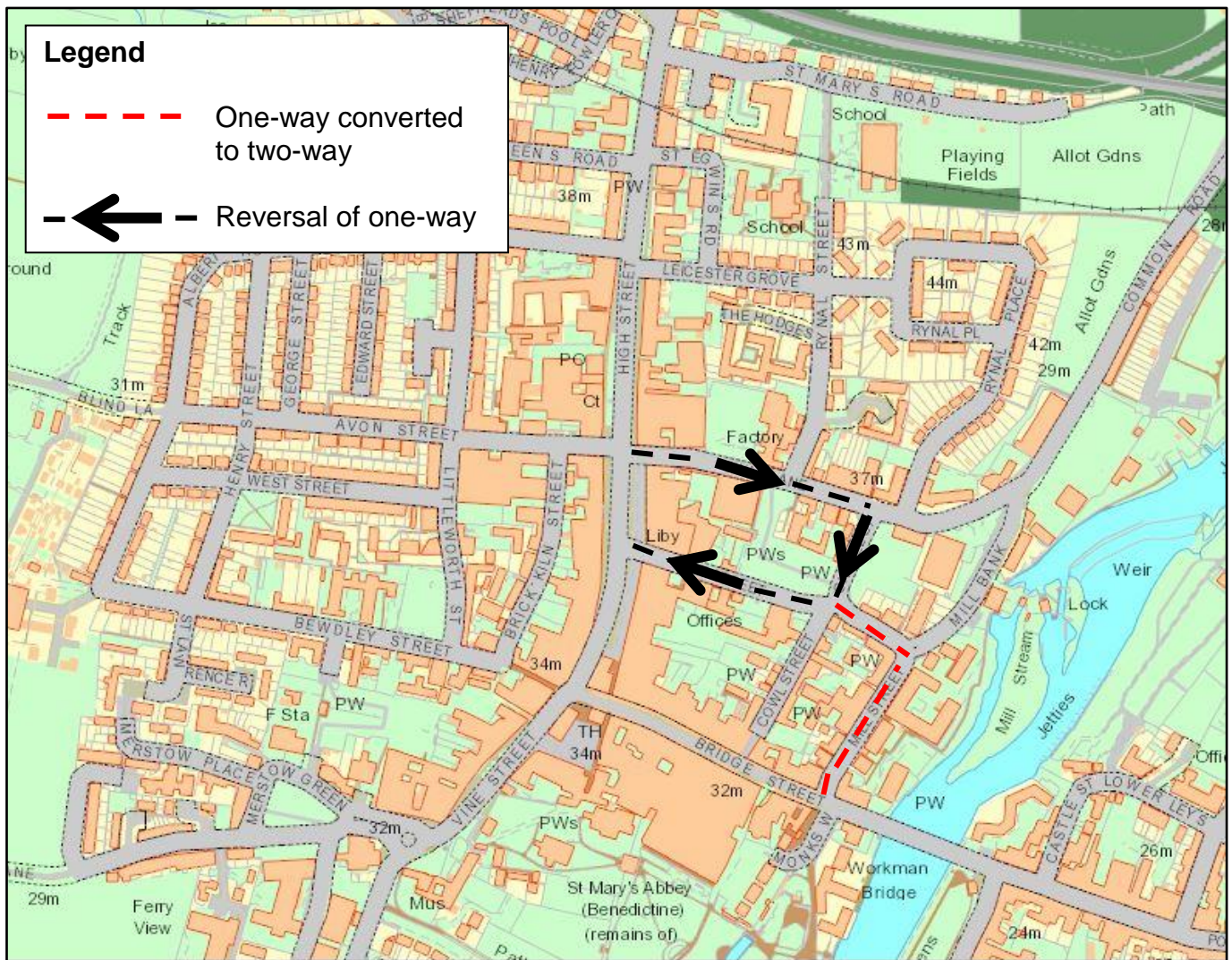


This proposal would see Swan Lane, Chapel Street and Mill Street all converted to two-way traffic flow, combined with a reversal of the one-way operation of Oat Street.

Supplementary proposals:

- Replace signals at Swan Lane/ High Street junction with a roundabout.
- Prohibit left turns from Swan Lane and right turns from Oat Street.
- Relocate Swan Lane car parking to Chapel Street car park.

## Proposal 6



This proposal would see the one-way restrictions on Swan Lane, Chapel Street and Oat Street reversed, together with the conversion of Mill Street to two way working.

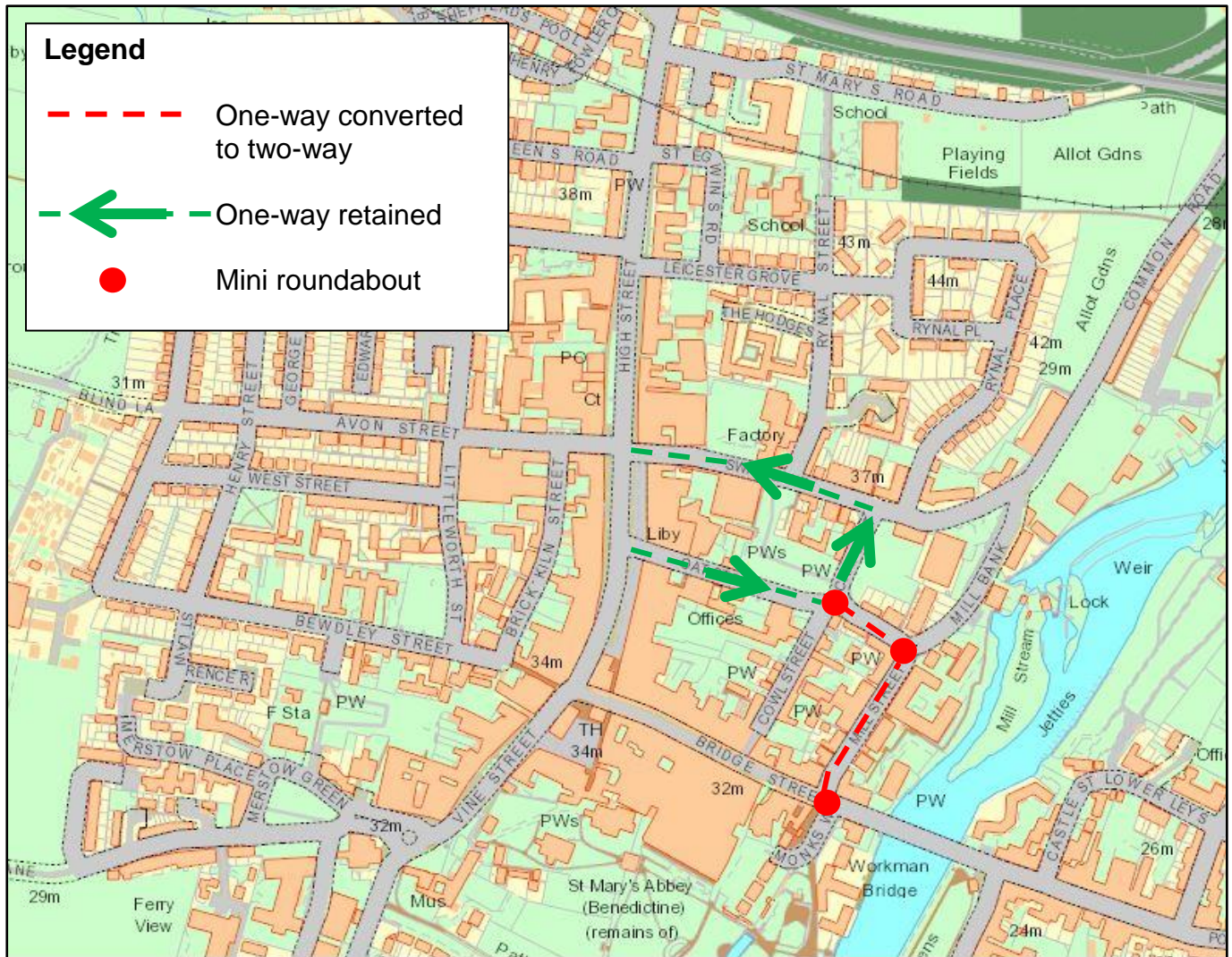
This proposal contends that access to Mill Street should be limited to cars and light vehicles (enforced with physical width limiters) and that the buses that would otherwise have used Mill Street could instead be rerouted (to the town centre) via Abbey Bridge, or that the existing bus stand between Oat Street and Swan Lane could be swapped with the taxi rank and disabled parking.

This proposal further posits that the traffic signals on the Avon Street/ High Street/ Swan Lane junction could be removed (but with new signals installed at the Oat Street/ High Street junction).

Supplementary proposals:

Prohibit right turns from Oat Street.

## Proposal 7



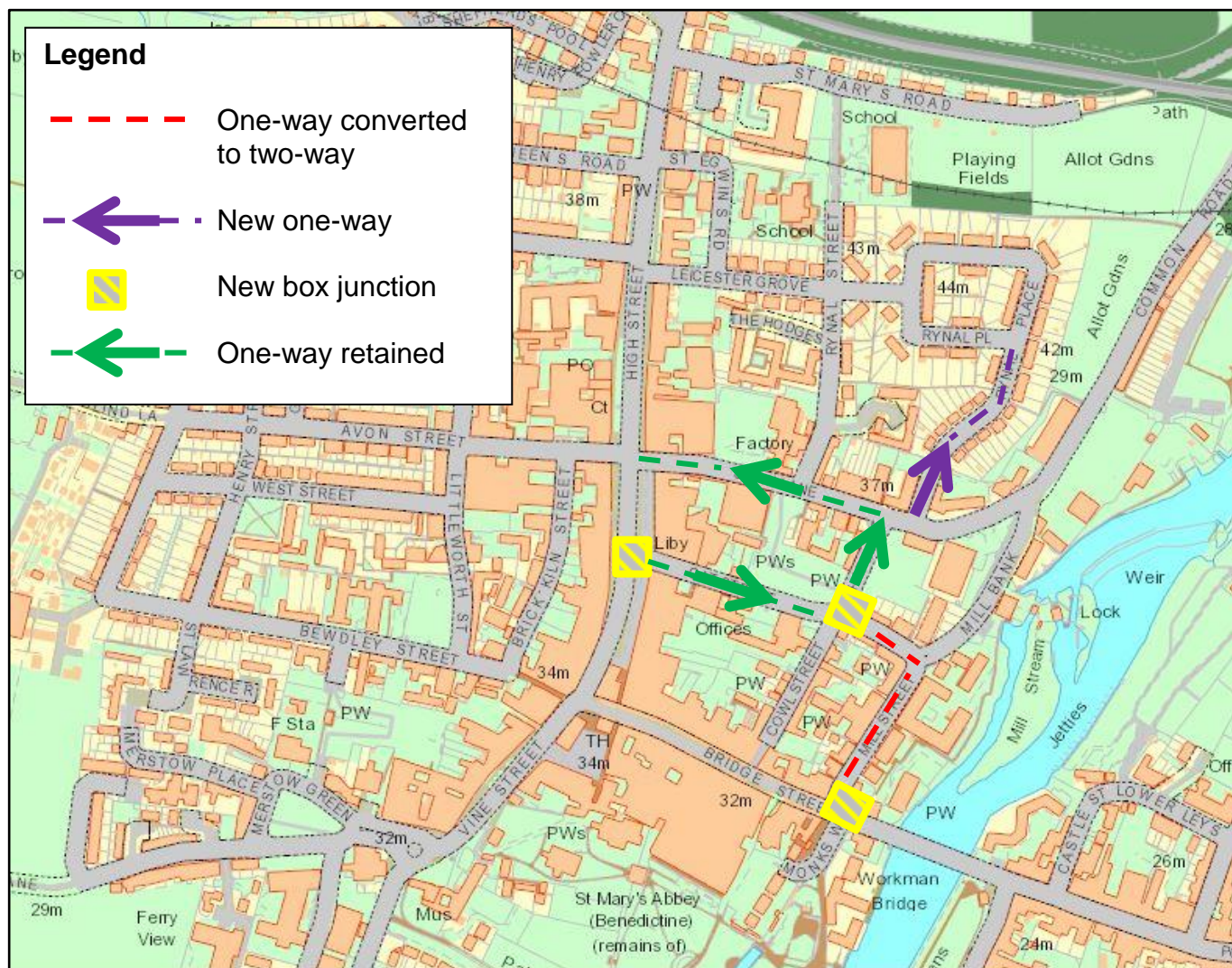
This proposal would see Mill Street converted to two-way working, and it would see three mini roundabouts introduced on that road; one either end and a third at the junction with Mill Bank.

This proposal includes the suggestion that a 'priority' system would allow cars on Mill Street to give way to buses traveling towards High Street.

Supplementary proposals:

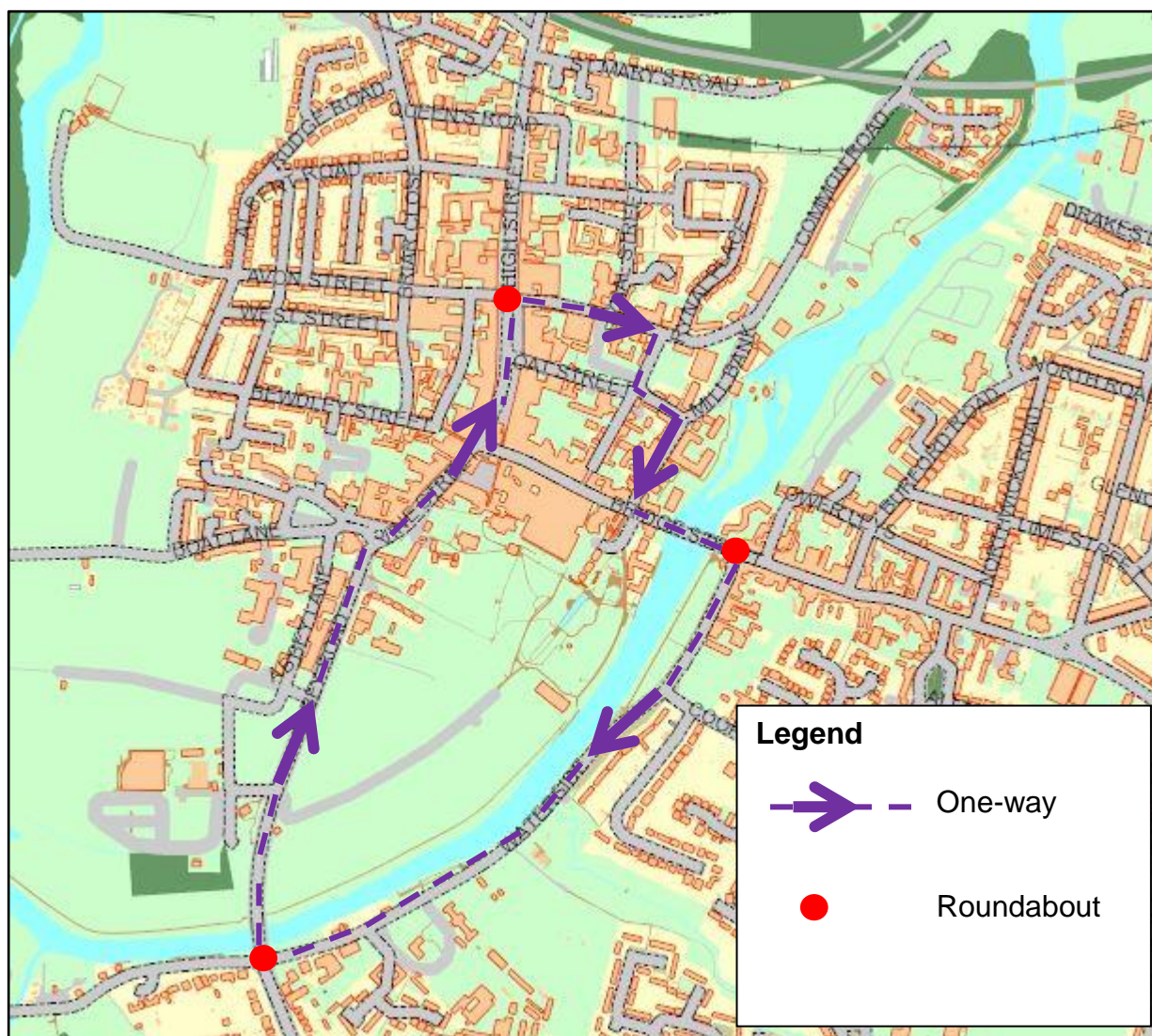
- Pedestrian bridge over Chapel Street.
- Widen Oat Street.

## Proposal 8



This proposal would see three box-junctions introduced; one either end of Mill Street and a third on the junction of High Street/ Oat Street. It would see Mill Street converted to two-way traffic flows and it would see a one-way introduced on Rynal Place.

## Proposal 9

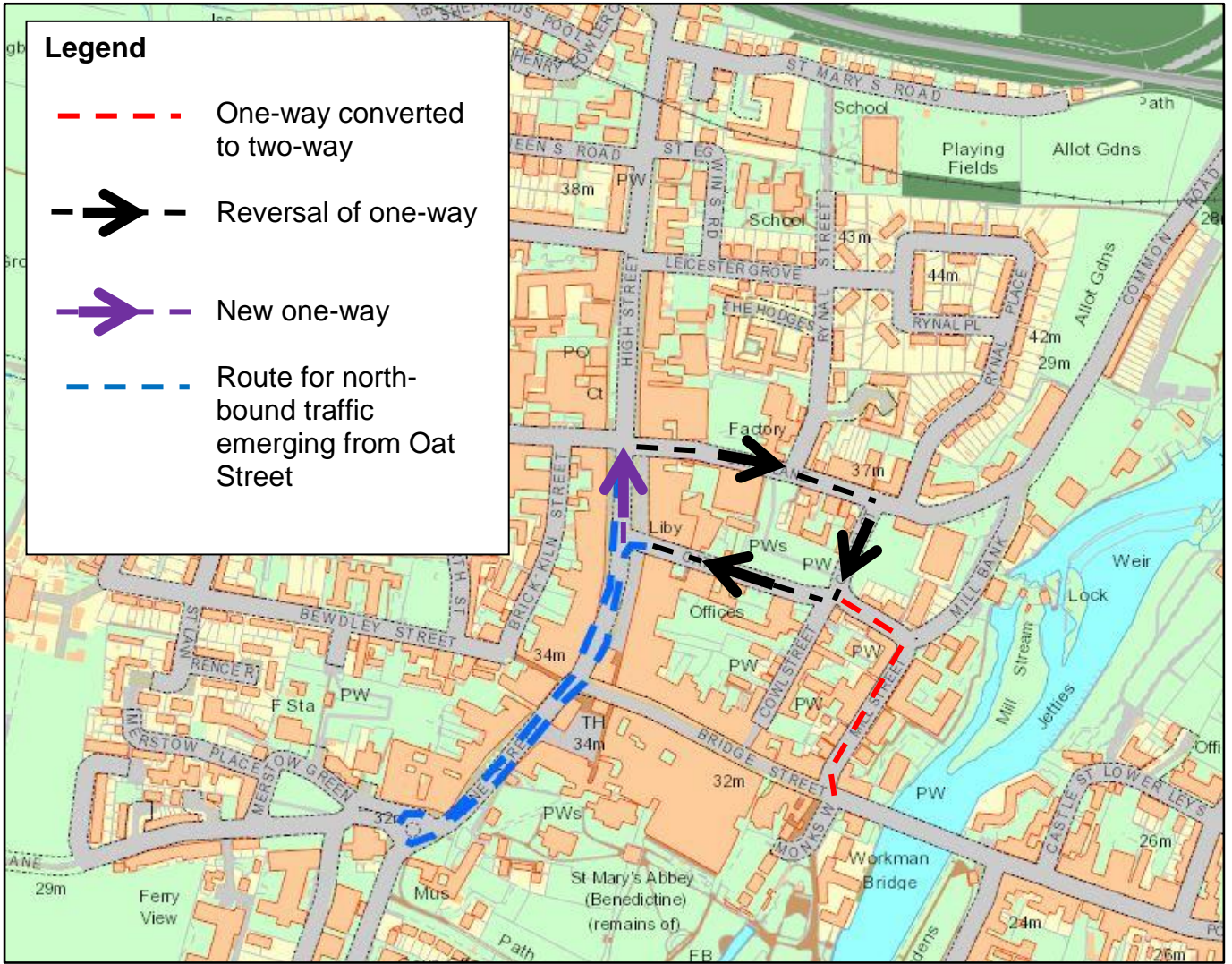


This proposal would see a large 'gyratory' one-way system introduced onto Bridge Street - Waterside - Abbey Road - Vine Street - High Street (southern end) with the existing one-way on Swan Lane - Chapel Street - Mill Street would be reversed. Traffic signals would be replaced with roundabouts at the junctions of Bridge Street/ Waterside, Waterside/ Abbey Road and High Street Swan Lane.

Supplementary proposal:

Make system anti-clockwise.

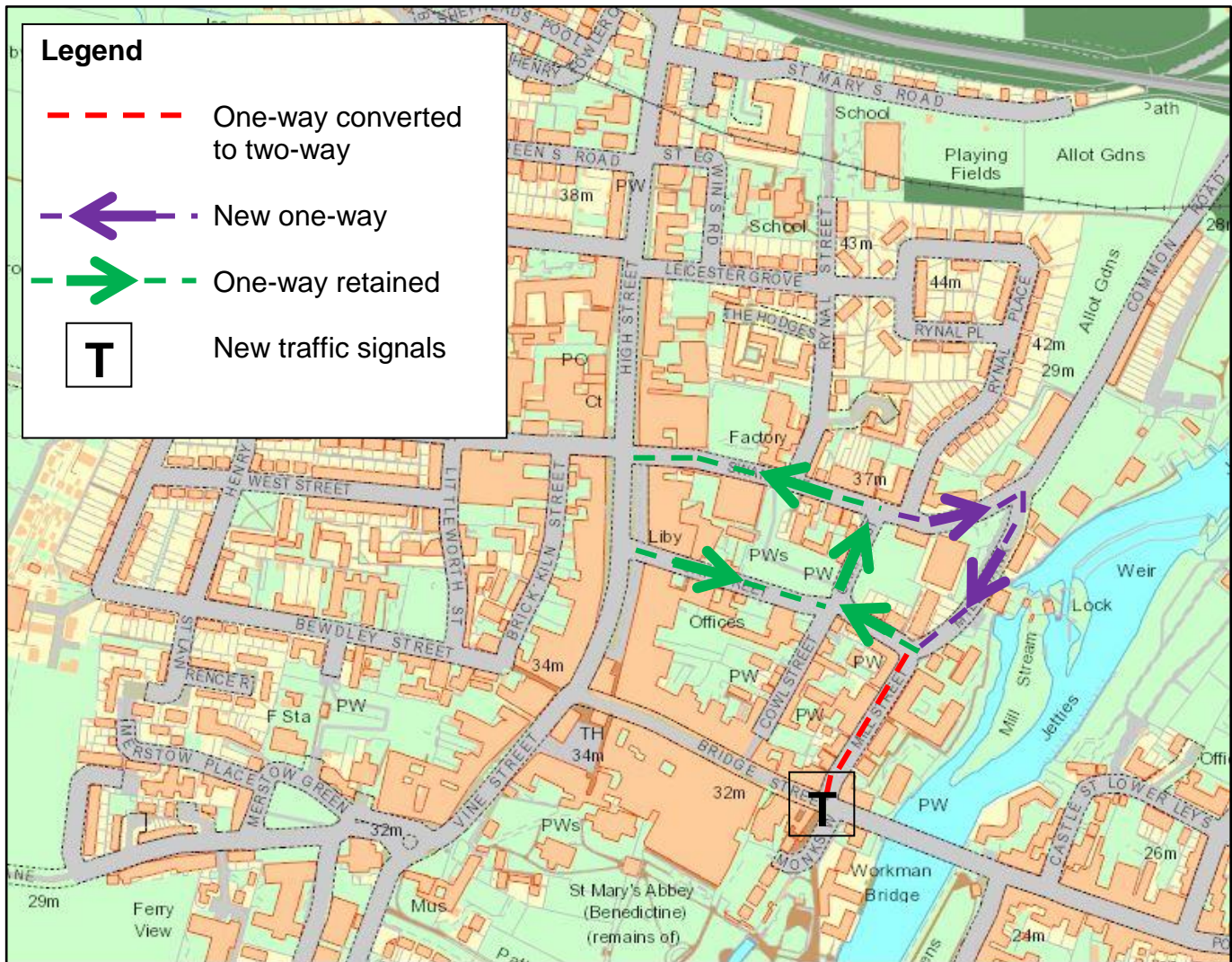
**Proposal 10**



This proposal would see Mill Street converted to two-way, the one-way restrictions on Oat Street, Swan Lane and Chapel Street reversed, a new stretch of one-way introduced on High Street (between Oat Street and Swan Lane) and a right turn prohibition for traffic emerging from Oat Street onto High Street (requiring those wishing to travel north on High Street to first travel south to the roundabout at Merstow Green).



## Poposal 11



This proposal would see two-way traffic introduced onto the stretch of Mill Street south of its junction with Mill bank, new one-way restrictions imposed on Mill Bank and Conduit Hill, whilst the existing one-way restrictions on Oat Street, Chapel Street, Swan Lane and the Mill Bank to Oat Street stretch of Mill Street would all be retained. This proposal also includes traffic signals on the Mill Street/ Bridge Street junction.

Supplementary proposal:

Simply introduce two-way traffic to the stretch of Mill Street as indicated in the plan (i.e. from Bridge Street to Mill Bank), keeping the remainder of the one-way system as-is (and without new traffic signals at the junction of Bridge Street/ Mill Street).

## APPENDIX C

Proposals 5 to 8 and 10 & 11 all focus on the town centre roads of: Mill Street, Chapel Street, Swan Lane, Oat Street and High Street (plus a few other side roads). Proposal 9 looks at a much wider area of the town and is discussed separately in Appendix D.

Proposals 5 to 8 and 10 & 11 all suggest introduction of two-way traffic to Mill Street (they then differ in their suggested treatments for the other listed town-centre roads).

It is worth noting that when High Street is closed for the Mop Fair, Mill Street and Oat Street operate as the diversion route, with two-way flows on Mill Street temporarily allowed. However, this is only possible with 'shuttle' traffic signals. This shuttle operation is needed because the junction of Bridge Street/ Mill Street and the deflection in Mill Street (where it meets Mill Bank) are both very tight turns, without any onwards visibility. Without shuttle operation there would be a high risk of collisions and a high risk of large vehicles that are heading in opposite directions becoming 'stuck'.

Since conversion of Mill Street to two-way traffic is a common element of the six proposals 5 to 8 and 10 & 11, the risk of collision and/ or large vehicles becoming stuck is shared by them all.

Table 3 sets out the particular 'functionality' difficulties for each of these six proposals. (Table 4 in Appendix D sets out the same for proposal 9.)

There would be a number of other difficulties associated with these seven proposals (such as worsened air quality and the need to demolish buildings) that are not included in the tables. The intention has been to restrict the assessment in the tables to considerations of functionality: if a proposal can't work, it must be ruled out. But some of these other difficulties would be equally problematic for the proposals.

**TABLE 3; ASSESSMENT OF TOWN CENTRE PROPOSALS**

Proposal	Issue	Commentary
<b>5</b>	Narrow roads with sharp bends and limited or no visibility	In addition to the risks associated with the Bridge Street/ Mill Street junction and with the deflection in Mill Street (mentioned above) ruling this proposal out, Chapel Street/ Swan Lane junction is very tight too, with no onwards visibility.
	HGV and bus access	This proposal could only start to be considered if HGVs and buses were to be banned from Mill Street, Chapel Street and Swan Lane. This would have serious and unacceptable negative impacts on bus operations and it would mean that the businesses (including a supermarket) along these roads could not be serviced.
	On-street car parking	The eastern end of Swan Lane currently hosts 'resident permit holder only' on-street parking (serving the properties at this end of the road). Quite apart from the residents' view of the loss of this parking (for it would have to be removed if two-way traffic was to traverse the corner between Swan Lane and Chapel Street), displacement of this on-street parking would seriously affect the surrounding roads that are narrow and always full with parked cars.
<b>5:</b> supplementary proposals	Replace signals at Swan Lane/ High Street junction with a roundabout	There simply isn't the space for a safe and functional roundabout to be installed here. It would have a negative effect on pedestrian and cyclist movements: to the detriment of the High Street.

	Prohibit left turns from Swan Lane and right turns from Oat Street	This would 'rationalise' traffic movements, but it would not offset the problems set-out above and it would be detrimental to bus service routing.
	Relocate Swan Lane car parking to Chapel Street car park	This would not offset the problems set-out above, but the Evesham Transport Strategy will look at parking provision throughout the town centre.
<b>6</b>	Narrow roads with sharp bends and limited or no visibility	The risks associated with the Bridge Street/ Mill Street junction, and with the deflection in Mill Street, rule this proposal out.
	Oat Street	Reversing the one-way 'loop' around Swan Lane/ Chapel Street/ Oat Street would require the HGVs that service the businesses in this part of the town to traverse Oat Street (whereas currently these vehicles don't need to). At its High Street end, Oat Street is too narrow (carriageway and footways) for this to be considered a tenable permanent set-up.
	Oat Street	Reversing the one-way loop would also see Swan Lane's two-lane approach to the High Street traffic signals replaced with one single (and very narrow) approach to High Street from Oat Street. This would more than double queue length (removing the segregation of left-turning vehicles from ahead & right-turning vehicles has a compound effect on flow capacity), which in turn would seriously affect the other roads in this proposal.
	HGV and bus access	Banning HGVs from Mill Street would require them to traverse Oat Street: an untenable permanent set-up because of the narrowness of the footways and the carriageway. Banning buses would have serious and unacceptable negative impacts on bus operations: routing them along Oat Street would be as untenable as sending HGVs along this narrow road.
	Replace Swan Lane/ High Street signals with new signals at Oat Street/ High Street	It is likely that signals would be needed at Oat Street/ High Street in this suggested layout, but this would put the queue across the through-route for the pedestrianised area of High Street (detrimentally affecting the attraction of the shopping and market area as well as impacting traffic on other roads, as mentioned above), whilst it isn't clear that the existing signals at Swan Lane/ High Street could be removed.
<b>6:</b> supplementary proposals	Prohibit right turns from Oat Street	This would do nothing to offset the difficulties listed above.
<b>7</b>	Narrow roads with sharp bends and limited or no visibility	The risks associated with the Bridge Street/ Mill Street junction, and with the deflection in Mill Street, rule this proposal out.
	Mini roundabouts	The proposed mini roundabouts would not offset any of the risks described in the above row: indeed with such poor visibility, roundabouts might only accentuate the risk. It is doubtful that there would be the space to install the roundabouts.

	HGV and bus access	This proposal could only start to be considered if HGVs and buses were to be banned from Mill Street. This would have serious and unacceptable negative impacts on bus operations. HGVs that need to access the businesses in this part of town would need to traverse Oat Street, which would not be acceptable (as set-out under proposal 6).
	'Priority' system that would allow cars on Mill Street to give way to buses traveling towards High Street	It is unclear how such a proposal might function (one that would allow car drivers to give way to buses, but not to other cars) but aside from this, such set-ups require good inter visibility and here there would be almost none.
<b>7:</b> supplementary proposals	Pedestrian bridge over Chapel Street	To gain enough height above the carriageway, the ramps for such bridges are extensive. It is not clear if such a bridge could be squeezed in at this location, but if it could it would certainly take-up footway and car park space, and it is even less clear that anyone would use it, requiring as it would the user to take quite a detour and to climb (and then descend) long ramps. It is likely most people would still cross the road at ground-level.
	Widen Oat Street	Oat Street cannot be widened without demolishing all the buildings along it.
<b>8</b>	Narrow roads with sharp bends and limited or no visibility	The risks associated with the Bridge Street/ Mill Street junction, and with the deflection in Mill Street, rule this proposal out.
	Box junctions	It is unlikely that the box junction proposed for Bridge Street/ Mill Street could function well or safely given the lack of visibility at this junction, and there already is a box junction that assists with right turns from High Street into Oat Street.
	HGV and bus access	This proposal could only start to be considered if HGVs and buses were to be banned from Mill Street. This would have serious and unacceptable negative impacts on bus operations. HGVs that need to access the businesses in this part of town would need to traverse Oat Street, which would not be acceptable (as set-out under proposal 6).
	One way imposed upon Rynal Place	This would do nothing to offset the difficulties listed above.
<b>9</b>	This suggestion is quite different from the other six town-centre proposals and is assessed separately in Appendix D	
<b>10</b>	Narrow roads with sharp bends and limited or no visibility	The risks associated with the Bridge Street/ Mill Street junction, and with the deflection in Mill Street, rule this proposal out.
	HGV and bus access	This proposal could only start to be considered if HGVs and buses were to be banned from Mill Street. This would have serious and unacceptable negative impacts on bus operations. HGVs that need to access the businesses in this part of town would need to traverse Oat Street, which would not be acceptable (as set-out under proposal 6).

	Oat Street	Reversing the one-way loop would see Swan Lane's two-lane approach to the High Street traffic signals replaced with one single (and very narrow) approach to High Street from Oat Street. This would more than double queue length (removing the segregation of left-turning vehicles from ahead & right-turning vehicles has a compound effect on flow capacity), which in turn would seriously affect the other roads in this proposal.
	Proposed one way on High Street	This would require traffic southbound on High Street to follow a circuitous 'detour' around Swan Lane-Chapel Street-Oat Street. Quite apart from the undesirability of forcing more traffic onto such a narrow road as Oat Street, this detour of itself would add considerably to the time it would take for vehicles to pass through this part of town. This would be exacerbated further by the diminished queue capacity in Oat Street (discussed above).
	Proposed 'loop' down to Merstow Green for traffic northbound from Oat Street	This would offer the prospect of 'simplifying' traffic movements at the Oat Street/ High Street junction (thus bringing increased flow capacity) and, in conjunction with the proposed one-way on High Street it could be physically enforced by the layout of the road. But it would add considerable journey time to northbound movements and as with the stretch of one-way discussed above, this would only add to congestion.
<b>11</b>	Narrow roads with sharp bends and limited or no visibility	This proposal does remove the risk associated with the Bridge Street/ Mill Street junction but the risk associated with the deflection in Mill Street remains and this rules this proposal out.
	HGV and bus access	The junction of Mill Street/ Mill Bank (with its tight deflection and limited visibility) would still present an unacceptable risk of collisions occurring, so this proposal could only start to be considered if HGVs and buses were to be banned from Mill Street. This would have serious and unacceptable negative impacts on bus operations. HGVs that need to access the businesses in this part of town would need to traverse Oat Street, which would not be acceptable (as set-out under proposal 6).
	Traffic signals on the Mill Street/ Bridge Street junction	If two-way traffic was to be introduced to Mill Street, traffic signals would offset the risks associated with the tight layout of the roads and the limited visibility at this junction. However, these very issues would dictate that traffic signals at this junction would require separate phases for each of the Bridge Street, Monks Walk and Mill Street arms of the junction, as well as a phase for pedestrians. The cycle-time for four-phase signals here would significantly affect traffic flow rates.
	Oat Street-Chapel Street-Conduit Hill-Mill Bank-Mill Street	Quite apart from the undesirability of introducing higher flows of traffic to Oat Street, the 'through-route' for traffic from High Street heading for Workman Bridge (as listed in the previous column) would be complex and lengthy and likely to contribute to congestion.

## APPENDIX D

Proposal 9 looks at a much wider part of Evesham than the other 'town-centre' proposals assessed in Appendix C, so for simplicity it is assessed separately here in Appendix D.

**TABLE 4; ASSESSMENT OF PROPOSAL 5**

Proposal	Issue	Commentary
<b>9</b>	Town centre access	Trip distance for any kind of access to the town centre- whether for the private motorist, for HGVs servicing the town centre shops or even for cyclists- would be greatly increased which would inevitably increase congestion. This alone rules-out this proposal.
	Emergency service access	Access for each of the emergency services would be significantly worsened. This too would be reason enough to rule the proposal out.
	Hospital access	Access to any number of homes, businesses and public services would be severely affected as mentioned in the first row of this table, but perhaps special mention needs to be given to Evesham Community Hospital, which would be in the middle of the proposed town-centre-wide gyratory. This would be highly unlikely to be seen as feasible.
<b>9:</b> supplementary proposals	Reversal of the proposed one-way	Reversing the flow of the proposed one-way system would not mitigate any of the above problems.