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High Level Review of the Transport Assessment Addendum (TAA)

Northgate End Car Park Development, Bishops Stortford

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1 Introduction

- 1.1.1 Edwards & Edwards Consultancy Ltd (EAE) have been commissioned by the Bishops Stortford Civic Federation (BSCF) to follow up their earlier work looking at the Transport Assessment that was submitted in support of planning application (3/18/0432/FUL) for a Northgate End Car Park Development. This commission is to review the Transport Assessment Addendum (TAA) that has been produced in response to observations from Herts County Council¹ (HCC), Waitrose and the BSCF.
- 1.1.2 The objective is to review the evidence as presented in the TAA and to provide the BSCF with:
- A critique of the responses provided in the TAA
 - A highlight of the points raised by BSCF, HCC and Waitrose, and how these have been addressed in the TAA
- 1.1.3 It should be noted that in the limited time available for undertaking this study EAE cannot guarantee to have identified all the issues that may concern BSCF within the TAA.
- 1.1.4 A summary of the observations from BSCF, HCC and Waitrose and the response in the TAA are reported in Appendix A, B and Appendix C

2 Key Points to note in the TAA

2.1 Overview

- 2.1.1 Modelling in the TAA shows that the existing Rye Street-Link Road - Hadham Road junction is already under stress with the modelling of 2017 traffic levels showing the ratio of flow to capacity (RFC) at the junction of around 100%, and at 120% on the Hadham Road arm in the evening peak hour. This results in queues and delay at the junction on all entry arms with the longest queues on the Northgate End entry arm.
- 2.1.2 For future years the TAA uses TEMPRO to scale the traffic levels rather than using the traffic generation from local developments to estimate the traffic growth. This approach was agreed between the promoters and HCC at a meeting on 10th May.
- 2.1.3 Whether the use of TEMPRO to determine the level of growth is appropriate is unfortunately a very subjective decision. The TAA suggested that some local developments would have an impact on the junction and concluded that using TEMPRO is the most appropriate method for forecasting growth and results in a 10% increase in observed traffic levels to 2025 and a 18% increase to 2030.
- 2.1.4 **Assuming that using TEMPRO is appropriate** then the modelling undertaken with the new layout shows that the junction, with the car park, will provide improved operation compared to the existing roundabout, **but** that the new junction will still be over capacity from the moment the car park is opened in 2020.

¹ The Local Highways Authority

- 2.1.5 The proposed junction, without the Waitrose, access is an improvement over the earlier design. There is greater storage space for vehicles making a right turn, and less opportunities for the blocking of the junction by inconsiderate drivers. The reduced traffic signal cycle time is beneficial for all traffic movements including pedestrians. The modelling in the TAA shows that compared to the existing roundabout, the signalised junction is likely to result in shorter queues in the peak hours. This is likely to be due to the signal timings allowing traffic on the different arms to be optimally prioritised (whereas with a roundabout the entry to the right always has priority). The results show that the queues on Link Road could be reduced, but the queues on Hadham Road and Northgate end remain.
- 2.1.6 **However, is the use of TEMRPO appropriate?** Part of the difficulty in determining the 'local' growth is determining what additional traffic will come into the town from the new developments in and around the town. In this part of Stortford this is difficult to estimate because the highway is already at capacity and thus some drivers are likely to change their driving behaviour. This may result in drivers rerouting, changing their destination, changing their mode of travel, adjusting the timings of their trips, or avoiding making the trip altogether, in order to avoid the congestion that is predicted to be in this area. This behaviour is very difficult to predict without the use of a model.
- 2.1.7 Section 5.3 of the TAA reviews developments within the town and provides a **subjective** assessment of whether a site could lead to a rise in traffic in the town centre. This is summarised in section 5.3.5 of the TAA in 4 bullets:
- **Bullet 1: Bishops Stortford North (BSN) is a mixed-use development that will have a large number of internal trips.** This is generally not true. People do not necessarily live adjacent to their employment. This also applies to the new schools on the BSN site. These will be available to all pupils in the town (and beyond). This statement also ignores the new junction to the A120 which will be delivered by the BSN development. This will provide a new link though Rye Street and Northgate End to the town centre which will potentially increase traffic from the A120 on this route
 - **Bullet 2: Trips from Bishops Stortford South will only enter the town centre to access the MSCP.** This is a very sweeping statement. This ignores school trips and trips to the leisure centre for example.
 - **Bullet 3: People can walk or use the existing bus services.** What is the promoter proposing to encourage people to use these services? A strategy for the town would help address this. If (for instance) there is an over-supply of parking spaces then what is the inducement to travel by bus?
 - **Bullet 4: Trips to the MSCP have been considered within the MSCP trip generation.** This is true. However, the *need* for the spaces has not been demonstrated. In addition, the traffic associated with the 100 dwellings proposed at the Old River Lane development has not been included. In table 5-2 of the TAA the impact is described as 'It is **anticipated** that the **majority** of car parking for Old River Lane will be accommodated in the MSCP, and will therefore have no further impact'. The use of 'anticipated' and 'majority' reduces the weight of this statement.
- 2.1.8 In their original observations HCC recommended that "*It is the view of the Highway Authority that it would have been preferable to analyse the wider picture of development in Bishop's Stortford using the VISSIM model, and this should have included the redevelopment of the former Causeway site*".
- 2.1.9 According to the TAA (para 3.1.3 and 7.1.6), the purpose of the carpark is to 'facilitate the Old River Lane Development, which is included in the pre-application submission of the East

Herts District Plan as a committed development site for the creation of a mixed use cultural quarter'. If this is the case, it would thus appear sensible to have developed the proposal for the multi-storey car park as part of a transport strategy for the Old River Lane Development and for the town. A VISSIM model (such as that developed for the Bishops Stortford North development) would allow local traffic demands to be considered explicitly and the re-routing of traffic in response to changes in delay and congestion to be included. The strategy for the town could thus have explicitly been considered, predict how traffic could grow and how parking demand might change due to interventions *such as* improved bus services, a car-park charging strategy, a town walking/cycling strategy or a park and ride strategy.

2.1.10 Based upon the output of the strategy it would then have been possible to evaluate the value and impact of a multi-storey car park as part of a package of transport measures for the town.

2.1.11 As proposed at the moment the application for the car park:

- Draws traffic towards an already congested part of the highways network where the modelled capacity is already at over 100%,
- Does not demonstrate the *need* for the uplift in parking spaces in the town. There is no evidence as to whether the 197 spaces (as quoted in the TAA), or 141 (as estimated by BSCF) is **more or less** than is needed to support the Old River Lane Development.
- Delivers junction improvements which their own modelling shows are over capacity on the day that the car park opens. Even if it is accepted that the delays and queues could be lower than what could be expected with the existing roundabout. It should also be noted (although it is not reported in the TA or TAA) that during the off-peak periods the signalised junction will likely cause greater delays than at present as traffic will have traffic signals to negotiate which have a 90 or 120 second cycle time compared to free flowing with the existing roundabout.
- Does not provide transport evidence that can be used to support the development of the old River Lane Development. We would expect the Old River lane development to provide a separate transport assessment in support of any planning application
- Has rejected the option 8a and 8b designs for the access which included the Waitrose car park entrance. However, the meaning of the text within the TAA 'Deferment of Waitrose access to a later point in the town centre development plan and inclusion of option 8a within a technical appendix as a without prejudice note of 'future proofing' the junction' suggests that the access to the Waitrose car park from Link Road has not been dropped completely

2.1.12 Some further explanations are included below:

2.2 The Existing Northgate End – Hadham Road Roundabout

2.2.1 Modelling of the Existing Northgate End – Hadham Road roundabout shows that it is at capacity today in both the AM and PM peak hours. Note the results are worse in the original TA due to using traffic from a Friday rather than a Monday. Queues of 56 vehicles are modelled on Northgate end in the evening peak.

2.3 New Junction design without access to the Waitrose car park

2.3.1 The access to the Waitrose car park is removed from the scheme

2.3.2 This is a benefit that will increase the highways capacity at this location compared to the previous design as it:

- Does not need a signal stage to access Waitrose which reduces efficiency of the junction
- Does not predict traffic blocking back from the Waitrose access onto Link Road
- Provides more space for queueing without blocking traffic
 - From Link road into the car park, and
 - from Link Road in Northgate End
- Has the ability to run a 90 or 120 second cycle time

2.4 Number of Residential Car parking spaces proposed

2.4.1 This BSCF question has not been addressed. There is a shortfall of 5 parking spaces (with respect to the emerging local plan standards). A shortfall in spaces increases the likelihood of inconsiderate or illegal parking.

2.5 Number of Car parking spaces modelled

2.5.1 The TAA assumes 581 spaces rather than a figure of 625 which was used in the original TA (This is a reduction of 44 spaces)

2.5.2 This will lead to a reduction in the modelled impact from the development, however there was no reason why they modelled 625 in the previous TA

2.6 What is the uplift in car parking spaces?

2.6.1 The TAA did not respond to the comments from BSCF regarding the actual net increase that this proposal adds to the town centre

- It quotes an uplift of 197 spaces. However, this does not include:
 - 7 spaces for the B1 business associated with the delivery of the car park
 - 49 spaces that are now in use at No1 The Causeway

2.6.2 BSCF therefore estimate a net increase of 141 spaces

2.7 Justification for the number of spaces provided in the car park

2.7.1 The need for the uplift of spaces (197 quoted in TAA) is justified in para 3.1.3 and 7.1.6 of the TAA to '[facilitate the Old River Lane Development, which is included in the pre-application submission of the East Herts District Plan as a committed development site for the creation of a mixed use cultural quarter, including up to 100 homes](#)'

2.7.2 I have not seen any quantified evidence as to how this figure is determined. Is 197 too big or too small? The amount of this uplift is further questioned by not including the parking spaces at No1 Causeway and the parking for the B1 business located in the car-park development itself. This means the net increase in parking spaces would be 141.

2.7.3 As noted above in paragraph 2.1.7 (of this note) the multi-storey car park should be delivered as part of a package of transport measures that will influence the demand for parking spaces in the town. If there is an oversupply of spaces then the availability of car parking spaces will act as a deterrent to people who might consider using sustainable modes of travel and lead to additional car trips on an already congested part of the towns highway network. An undersupply of spaces would see the viability and attractiveness of Bishops Stortford town

centre reduced as congestion, delays and lack of parking would act to dissuade travel to the town.

2.8 Determining existing traffic levels

- 2.8.1 Observed traffic flows in the TAA have been derived from counts obtained on a Friday and not a Monday as in the original TA. This results in the assessment using a 9.9% increase in traffic volumes in the AM Peak hour and a 17.7% increase in traffic in the PM peak hour. Currently turning movements from a Monday are used, but this will be updated to a Friday based upon counts that were obtained in May
- 2.8.2 No comment was made regarding the BSCF observation that the existing counts were obtained during the Bishops Stortford College holiday.
- 2.8.3 This has the potential to impact weekday and Saturday traffic volumes and turning movements.
- 2.8.4 Previous turning counts had been collected on a Monday in 2017. Further turning movement counts were planned to be undertaken on Friday 11th and Saturday 12th May 2018 in order to incorporate patterns of turning movements from a Friday and Saturday into the model.
- 2.8.5 However, it should be noted that the western end of Hadham Road has been involved in extensive construction works to provide access to the Bishops Stortford North development. This has resulted in several months of temporary road closures as well as traffic signals with single alternate lane working on Hadham Road. It is thus likely that traffic volumes and patterns of movement through the Hadham Road- Rye Street – Link Road roundabout are not representative of a 'normal' Friday or Saturday.

2.9 Traffic Growth Forecasting

- 2.9.1 TEMPRO is used to generate future traffic levels.
- 2.9.2 Section 5.3 of the TAA subjectively reviews the potential impact of developments within the town before concluding that TEMPRO is acceptable. This is summarised in section 5.3.5 of the TAA in 4 bullets:
- **Bullet 1: Bishops Stortford North (BSN) is a mixed use development that will have a large number of internal trips.** This is generally not true. People do not necessarily live adjacent to their employment. This also applies to the new schools on the BSN site. These will be available to all pupils in the town (and beyond). This statement also ignores the new junction to the A120 which will be delivered by the BSN development. This will provide a new link though Rye Street and Northgate End to the town centre which will potentially increase traffic from the A120 on this route
 - **Bullet 2: Trips from Bishops Stortford South will only enter the town centre to access the MSCP.** This is a very sweeping statement. This ignores school trips and trips to the leisure centre for example.
 - **Bullet 3: People can walk or use the existing bus services.** What is the promoter proposing to encourage people to use these services? If there is an over-supply of parking spaces then what is the inducement to travel by bus?
 - **Bullet 4: Trips to the MSCP have been considered within the MSCP trip generation.** This is true. However, the *need* for the spaces has not been demonstrated. In addition, the traffic associated with the 100 dwellings proposed at the Old River Lane development has not been included. In table 5-2 of the TAA the impact is described as 'It is anticipated that the majority of car parking for Old River Lane will

be accommodated in the MSCP, and will therefore have no further impact'. The use of 'anticipated' and 'majority' reduces the weight of this statement.

- 2.9.3 Whether the use of TEMPRO is acceptable is thus very subjective. In the HCC highways observations, they note that 'It is the view of the Highway Authority that it would have been preferable to analyse the wider picture of development in Bishop's Stortford using the VISSIM model, and this should have included the redevelopment of the former Causeway site". However, at a meeting on 10th May HCC agreed that based upon the evidence in the TAA the use of TEMPRO was acceptable.
- 2.9.4 Developing a transport strategy for the town (including a parking strategy) that included evidence from a VISSIM model would provide a tool that could help estimate the 'need' of additional parking and provide a platform in which the local growth around the town could be determined. The impact and access design/mitigation could then be assessed.

2.10 Traffic Signal Cycle Time

- 2.10.1 The junction design proposed in the original TA incorporated 180 second cycle times for the traffic signals. Longer cycle times can result in a greater volume of vehicles being able to move through the junction. However, long cycle time cause greater inconvenience for road users and drivers and can lead to safety issues as drivers are more likely to pass an amber signal, and pedestrians more likely to cross during a traffic running phase rather than wait for the next 'green'.
- 2.10.2 The latest design has been tested with 90 seconds and 120 seconds cycle times which are within the industry norm.

Appendix A. BSCF Observations

2.10.3 BSCF provided a number of observations which were listed in the TAA. The following table notes how these observations were addressed:

Observation	BSCF concern	How it was addressed
Justification for Multi-storey car park	The car park contains an uplift to the existing number of spaces. No justification is provided as to whether this is greater or smaller than is required to support the growth planned in the town centre	Not <i>satisfactorily</i> addressed in the TAA para 3.1.3 and 7.1.6 of the TAA state that the purpose of the carpark is to 'facilitate the Old River Lane Development, which is included in the pre-application submission of the East Herts District Plan as a committed development site for the creation of a mixed use cultural quarter'. However no quantitative evidence of how this was determined was provided
Car Parking Spaces for the Proposed Residential Flats	Short fall of 5 spaces.	Not Addressed in the TAA
Car parking for the New commercial B1 office space	Requirement for 7 spaces which would reduce the available spaces in the new car park	Not Addressed in the TAA
Traffic Surveys	Traffic Surveys undertaken during the Bishops Stortford College school holiday. This could effect weekdays as well as Saturday traffic levels.	Not Addressed in the TAA. <i>The TAA did note that the Friday traffic was greater than the Monday traffic levels and that the assessment would be redone based upon Friday traffic levels</i>
Landownership related to junction design	The proposed junction would extend into land owned by Waitrose	Waitrose access removed from the application (although the design is still included in an appendix)
Design of Junction	Limited space and danger of blocking back onto the highways	New design with Waitrose access removed (although included in an appendix)
Delivery Vehicles at Waitrose	Not possible to access from Hadham Road	Design improved to allow access
Trips to/from flats and B1 office		No action was required
Development Assumptions	Is the use of TEMPRO appropriate?	This was addressed in the TAA to the satisfaction of HCC. However , it was a very subjective assessment. A VISSUM model and transport/parking strategy to support the Old River Lane development and the town would provide more robust evidence.
Transport Modelling	Blocking back onto the highways (The primary concern was the Waitrose entrance)	The new design without the Waitrose entrance should address these concerns

Appendix B. HCC Observations

2.10.4 HCC raised 3 objections to the proposal and numerous observations

2.10.5 A summary of the objections together with how they were addressed are shown in the table below.

Objection	HCC concern	How it was addressed
Pedestrian Safety:	Long wait times at the crossing due to the long cycle times of the traffic sequence. A large proportion of the pedestrian movements from the car park will cross the A1250	The revised junction design (without the Waitrose access) allows shorter cycle times
Traffic	The signalised junction requires a 180 second (3 minute) cycle time. Tests by HCC using shorter (more acceptable) cycle times showed that the model produced results outside of what was acceptable to HCC	The revised junction design (without the Waitrose access) allows shorter cycle times and the modelling shows there will be shorter queues
Sustainability	The highways authority considers that insufficient justification is provided for the uplift in car parking spaces	The conclusion of the TAA states that the scheme will 'facilitate the Old River Lane Development, which is included in the pre-application submission of the East Herts District Plan as a committed development site for the creation of a mixed use cultural quarter'

2.10.6 In addition, the developer has met with HCC on 17th April and 10th May. The 17th April meeting appears to have been primarily related to reviewing the observations from the Highways authority.

2.10.7 The 10th May meeting produced a set of agreed changes to the application

- Removal of Waitrose Access from the application
 - Although they agreed to 'Deferment of Waitrose access to a later point in the town centre development plan and inclusion of option 8a within a technical appendix as a without prejudice note of 'future proofing' the junction' It is not clear what this actually means!
- Application of TEMPRO growth for assessment in 2025 and 2033
- Develop 2 options, 8c and 8d, for the junction and access design which differ in how the pedestrian movements are accommodated.
- Using the existing traffic counts to determine the existing traffic levels, but factor up to a Friday volume instead of a Monday flow volume. Further traffic counts of turning movements on a Friday and Saturday will be made in order to revise the proportions making each turning movement.

Appendix C. Waitrose Observations

2.10.8 Waitrose make many useful observations regarding the operation and design of the junction, pedestrian movements, noting that traffic volumes on a Friday were greater than a Monday, and the safety and accessibility issues associated with a wait of upto180seconds to cross Link Road. The limited time available has meant that these have not been reviewed comprehensively.