

- 1. The Lincolnshire County Council (A15 Lincoln Eastern Bypass)
(Classified Road) (Side Roads) Order 2014**
- 2. The Lincolnshire County Council (A15 Lincoln Eastern Bypass)
Compulsory Purchase Order 2014**
- 3. Application In Relation To Proposed Compulsory Purchase Of
Land Held By The Canal & River Trust**

Department for Transport Reference: NATTRAN/EM/LAO/0084

Response to Rebuttal to Proof of Evidence of Mr David Chetwynd

Mr Alex Lake

1 Rebuttals to the Engineering Proof of Evidence of Mr Chetwynd (LCC4) from Mr Alex Lake

1.1 **Item 1:** Within paragraph 2.7 Mr Chetwynd has described how the proposed single carriageway bypass capacities have been optimised by increasing capacity at roundabouts. Whilst such a course of action is a pragmatic engineering solution, I note that the Project Scheme fails to provide the same level of capacity enhancement at the A158 Wragby Road roundabout.

1.2 **Response:** When developing the scheme at the Best And Final Bid (BAFB) (CD46) stage the opportunity was taken to design the proposed new roundabouts with future proofing for the future dualling of the LEB on the 'Right first time basis'. The A158 roundabout however, is an existing roundabout with sufficient capacity to deliver the single carriageway scheme and does not require the significant additional capital outlay. Any such outlay at this stage would have therefore been difficult to justify at the BAFB stage to the DfT as the roundabout can be improved when the scheme is dualled in the future.

1.3 **Item 2:** Whilst the roundabout capacities are noted from Appendix 1 of Mr Chetwynd's proof, it is not clear from the evidence if the queue lengths have taken into account the highly seasonal nature of the A158 route, which as all local people know is one of the principal routes from the Midlands to the east coast. During such times I would anticipate that the combination of seasonal traffic and the crossing LEB traffic could result in greater queuing than has been forecast at 2033 and presented in Mr Chetwynd's Proof.

1.4 **Response:** It is agreed that the traffic modelling does not reflect seasonal peaks in traffic, nor does it reflect times when traffic levels will be lower than average. The model uses the industry standard approach, as required by the Department for Transport for scheme assessment, of adopting a neutral month to reflect 'normal' non-seasonal conditions that drivers would expect to experience for the majority of the year. It should be noted that summer seasonal peaks in traffic flows only occur on certain routes while flow levels on most local roads are generally lower than in neutral months as children are not attending school and many people are on holiday and hence not driving on their normal routes during peak periods. Thus, it is not the case that summer traffic flows will be higher on all roads as implied by Mr Lake, and so using a neutral month is the appropriate approach.

- 1.5 **Item 3:** In para 2.13 Mr Chetwynd states that “*the Inspector’s rejection of the SRO and CPO was based on a safety consideration which I would have been able to address at the Inquiry had the matter been raised with me*”. My recollection of events at that Inquiry was that Mr Chetwynd was present to hear evidence from a number of objectors and that the specific safety matter was raised in a number of those representations; it is after all upon that evidence that the Inspector formed her decision. It is incorrect therefore to state the matter had not been raised in front of Mr Chetwynd at the last Inquiry who I recall was at liberty to respond to this point.
- 1.6 **Response:** Mr Lake is incorrect in his reading of the proof in that while I was asked if the Inspector at the previous Inquiry if the solution was safe to which I responded that it was; I was not however asked to offer an alternative solution as stated in the final sentence of para 2.13. A solution was offered to the previous Inspector that could be carried out under the Council's normal highway powers and within highway land; however the Inspector chose to treat this in a way that led to the SRO not being confirmed.
- 1.7 **Item 4:** From item (b) under the principal heading, I note that LCC has confirmed the overall carriageway width at Hawthorn Road as being widened to 9.4m to accommodate a central reserve with nearside verges of 3.5m width that includes 1m hard strips. Within my own proof, allowance for a wider cutting has been made based on the topographic model data received from LCC. Therefore, because Mr Chetwynd’s proof does not appear to correlate with the model data received, although this is not a point of contention, it is apparent therefore that the earthworks for the Project Scheme have not been designed with a view to safeguarding for the future dualling possibility. There appears from Mr Chetwynd’s evidence to be some scope therefore to further reduce the presented costs for the OBJ/472/1 alternative proposals (set out in my own Proof of Evidence) as the necessary span of the proposed bridge can be reduced by at least 5m and potentially up to 11m.
- 1.8 **Response:** Mr Lake is incorrect in his interpretation of the evidence as the cutting that has been provided for the single carriageway scheme will also accommodate a future dual carriageway scheme to a 120kph design standard. This is the same as presented to the previous Inquiry. Mr Lake’s proposed alternative does not take account of the vertical alignment design parameters utilised in the scheme nor does it take account of the high load route clearance that needs to be provided over the main LEB.

- 1.9 **Item 5:** Such a reduction in bridge length would yield additional savings on the estimated costs for alternatives 1 and 2 of up to £300,000 based on the cross sectional description provided by Mr Chetwynd. Note that this further saving can only be applied to those costings previously set out to include for the safeguarding of the future dualling. I am conscious that there may still be a desire to safeguard for future dualling, but the LCC strategy on this is unclear.
- 1.10 **Response:** Such a reduction is not possible due to the issues raised in 1.8 above requiring a wider cutting to accommodate the resultant additional depth.
- 1.11 **Item 6:** Within paragraph 3.1.2 I note that the vertical alignment for the bypass as it reaches the proposed Hawthorn Road junction is restricted to 100kph and this accords with my own proof of evidence in the evaluation of alternative junction strategies.
- 1.12 **Response:** Mr Lake is unfortunately incorrect in his statement regarding the section of the LEB between Wragby Road and Greetwell Road as the scheme that is before this Inquiry has been designed to a 120kph design standard both horizontally and vertically.
- 1.13 In assessing the Alternatives put forward by objectors to the scheme it has become apparent that some incorrect information has been transferred from previous design report documentation. As a result of this discovery an errata (Document LCC4.1) has been issued to the Inquiry in order to clarify matters. The scheme as proposed is the same as the scheme that was before the previous Inquiry and does not change the Planning Permission or the Orders being considered at this Inquiry and ensures the provision of future proofing for the future dualling of the scheme.
- 1.14 **Item 7:** In paragraph 3.6.4 I accept that at the last inquiry, LCC confirmed a net cost differential of £700k between a full road bridge and the proposed NMU bridge at that time. LCC stated: "The net cost saving for removing the road bridge from the Dual Carriageway Scheme was £954,800 as stated in the Best and Final Bid document of August 2011 (an estimate that is still considered to be valid), which included for the addition of slip roads, street lighting and splitter island construction. The current estimate of £250,000 for the NMU bridge provides a net additional cost to the scheme of £699,800 for the road bridge."
- 1.15 However, Mr Chetwynd has failed to note within his evidence that further development of the NMU bridge since the public inquiry in early 2014 has resulted in the net cost differential between the road bridge and the latest NMU bridge becoming less than £500k and with the potential further reduction in the length of the motorised

bridge (noted above) this figure is considered to potentially drop even further to circa £170k. This represents less than 0.5% of the Project Scheme value.

- 1.16 **Response:** The cost differentials stated at the previous Inquiry were based upon broad like for like assessments of unitary elements of the scheme proposals due to the short time that was allowed to prepare responses to alternatives.
- 1.17 The estimates produced for this Inquiry are based upon individual estimates of the various elements associated with each proposal based upon the original estimate for the scheme and compared against schemes that have recently been procured by LCC. The estimates also include fees associated with redesign costs of the implementation of the alternative proposal to return the scheme to its current state i.e. one that has planning permission.
- 1.18 Alternative 1 as proposed by Reepham Parish Council and supported by Mr Lake has a net additional cost of providing the road bridge in lieu of an NMU bridge and the left in left out junction removed is approximately £3.12m.
- 1.19 Consequential junction improvements in the City arising from the LEB would be assessed post implementation of the Scheme and delivered as part of the Highway Authority's general duties and obligations under the Highways and Traffic Management Acts. Additional consequential junction improvements arising from this alternative proposal would however include the following:
- Signalisation of Hawthorn Road Bunkers Hill junction - £0.87m
 - Improvement of Wragby Road / Outercircle Road junction - £0.85m.
- The overall net increase is therefore approximately £4.84m.
- 1.20 **Item 8:** Within Mr Chetwynd's evidence reference is made in paragraph 3.6.5 to the potential need to fully signalise the junction of Hawthorn Road with Bunkers Hill should the alternative bridge options be adopted. It is my consideration that a significant amount of capacity enhancement at this junction could be achieved through simple geometric alterations to enhance left turning flow. It is not at all clear however if LCC has considered this option, or indeed others.
- 1.21 **Response:** With regard to the existing Ghost Island Right Turn junction; an assessment in accordance with TD42/95 which provides a starting point for junction choice and has been carried out using the modelled data for the scheme. Under the 2018 Do Minimum Scenario (no LEB) Bunkers Hill will have an AADT of 14610 vehicles and Hawthorn Road an AADT of 8189 vehicles. When assessed against Figure 2/2 of TD42/95 this places the choice of junction unambiguously in the category of a Roundabout (or other type) junction.

- 1.22 A roundabout was proposed as an alternative prior to the previous Inquiry but withdrawn due to the significant costs associated with constructing such a provision. These would include significant statutory undertakers diversions and the extensive demolition of residential property.
- 1.23 The very nature of a major / minor priority junction means that there is little scope for improving flows through minor geometric changes as there are with existing roundabouts for example. Alterations to the side road (Hawthorn Road) have been modelled in PICADY however, and there is little benefit to be gained from the minor alterations to the geometry of the junction as it is difficult to deal with the inbalanced flows that source from Hawthorn Road in the AM peak and Bunkers Hill in the PM peak.
- 1.24 It has been concluded therefore that signalisation of this junction would be the only option available should Hawthorn Road remain open post completion of the LEB. Mr Lake indicates in paragraph 3.1.2 of his proof of evidence that *'The cost appraisals include budgetary prices for improvements that I consider would likely be required to make each option acceptable. This includes signalisation of the junction at Hawthorn Road and Bunkers Hill and improvements to the Greetwell Road junction with Allenby Road.'*
- 1.25 **Item 9:** In paragraph 3.6.6 Mr Chetwynd makes reference to capacity issues at the junction of Wragby Road and Outer Circle Road. I would refer the Inspector to the proofs of evidence and rebuttals provided by Mr Paul Moore who provides detail on this issue.
- 1.26 **Response:** The modelling work presented in Mr Smith's proof of evidence provides details of reduced queuing at this junction on the Wragby Road stages of the junction which supports my conclusion that the issue of capacity is relieved at the junction with the LEB scheme as proposed under the orders being considered at this Inquiry and therefore requiring no intervention by the Highway Authority.
- 1.27 Mr Smith's evidence goes on to demonstrate that the increased volume of traffic generated on Wragby Road by the inclusion of an all users road bridge at Hawthorn Road would however require the capacity issues in respect of Wragby Road flows to be addressed as a direct consequence of the proposed alternative.
- 1.28 **Item 10: Engineering Assessment of Alternative Routes (Paras 12 to 20 in Mr Lakes rebuttal).** Mr Lake finds the implementation of the assessment by LCC as misleading as the routes include duplication and do not consider the less safe lengths of road contained within the chosen alternative routes.

- 1.29 **Response:** As stated in my proof of evidence there is no known set methodology available that provides a comparison of measurable characteristics of existing routes. Consequentially there are no established acceptable criteria upon which this data can be judged. The design speed assessment process defined in TD9/93 was chosen to provide a comparative assessment of each route and does not seek to emphasise parts of the routes that may be used to justify a case for or against the route. The assessment process as defined in Chapter 1 of the Directive states that routes shall be assessed over a minimum length of route of two kilometres. The purpose of providing the data was merely to provide a comparison of the alternative routes and those available to other road users around the City in response to an observation made by the Inspector at the Pre Inquiry Meeting.
- 1.30 The roundabout at the A158 is treated as discontinuity under the assessment process and is therefore ignored in accordance with TD9.