

Objectors' Alternative Proposals Alternative 2 Hawthorn Road Overbridge With Compact Grade Separated Junction Onto LEB

- 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

Promoted By: Reepham Parish Council

Supported By: Mr A Lake

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1. Introduction

The A15 Lincoln Eastern Bypass is a Major Project promoted by Lincolnshire County Council. The published Scheme includes the construction of 7.5km of single carriageway between the A158 Wragby Road in the north and the A15 Sleaford Road in the south. It also includes the additional NMU bridge at Hawthorn Road.

Alternative 2 (as submitted by Reepham Parish Council on 1 July 2015) involves the provision of an all user bridge to maintain the current route of Hawthorn Road and replace the NMU bridge, on the line of Hawthorn Road. The left in / left out junction with the LEB currently provided in the scheme is adapted into a Compact Grade Separated Junction (CGSJ) that includes a ghost island right turn facility on Hawthorn Road to accommodate turning manoeuvres on to the proposed Slip road. A pedestrian crossing of the CGSJ is provided to maintain the existing NMU route along the south side of Hawthorn Road. A Left In Left Out (LILO) junction is provided on to the bypass.

Alternative 2 was published in the Lincolnshire Echo on 23rd July 2015.

The County Council has carried out a desktop assessment of the Alternative but has not undertaken a detailed engineering design, or environmental assessment. The time available within the statutory process would make such detailed work unfeasible and the cost of a fully detailed assessment would not be justified in the County Council's view. Further information can be derived from the response to the proof of evidence submitted by Mr Alex in support of Reepham Parish Council.

This note records the results of the desktop study assessment.

2. Engineering and Buildability

The structure would generally be in accordance with that included in the dual carriageway scheme of 2009. The structure is of two spans requiring the construction of a Pier in the proposed central reserve which would require the inclusion of a Vehicle Restraint System. The alternative proposal uses Bank Seat abutments at the top of the proposed cutting.

The Bridge deck would need to be deeper than that required for an NMU Bridge in order to accommodate the additional design loading for road vehicles and would retain the need for high parapet rails to provide protection for Equestrians and Cyclists. This coupled with the increased vertical curvature to accommodate the design speed parameters of the existing route and provide the High Load Route clearance over the proposed scheme at 6.45 metres would mean that increased earthworks would be required to accommodate the approaches on the mainline of the LEB and some regrading of the Western approach to the structure.

The main carriageway has been lowered under the proposed alternative by 890mm but would need to be lowered a further 1000mm in order to accommodate the required headroom as a High Load Route. The main carriageway would also need to meet the future requirements of a dual carriageway in terms of vertical design parameters; to be consistent with the LEB as promoted. The promoted alternative has not followed this

approach and is one step below desirable minimum for a single carriageway crest value and has an absolute minimum sag value. In order to provide a future proofed scheme designed to a dual carriageway standard the alternative has been revised for consideration under this assessment. The revision significantly increases cut as a result of lowering the carriageway and generates approximately 19,750 cubic metres of additional material. This material would be unacceptable for reuse in the scheme and would have to be disposed off-site adding considerable costs to the scheme; the costs are summarised in section 8 below.

The increase in cut and the further lowering of the route would create additional problems with the interception of ground waters that would need to be dealt with by the installation of extensive pre excavation infiltration drainage and further surcharging of the already lined attenuation ponds in the current scheme. The enlarged cut area would increase the volume of water to be attenuated resulting in significantly larger ponds, this coupled with the reduced area required to accommodate the link road to the bypass would require significant additional land beyond the current planning boundary and therefore leave the scheme without a drainage solution and drainage consent. The proposed twin pipe culvert under the link road would also increase the maintenance liability of the Highway Authority.

The increase in cut would also impact on the deck length which would increase from the 54 metres as proposed to 77 metres further increasing the cost of the structure. The retaining wall along the West side of the LEB that protects the Eastern boundary of the Public Open Space would also have to be increased in length and depth which would also significantly increase costs.

The Ghost Island facility is significantly below standard for the design speed of the route, it is assumed that the proposal is to a 40mph standard for which there is no justification suggested by the supporter of the proposal. A mitigation of a speed limit reduction to 40 mph has been proposed but is unlikely to be supported by the Highway Authority or the Lincolnshire Road Safety Partnership. For the selected design speed a 57 metre taper would be required on the lead in to the ghost island as opposed to the 15 metre taper shown in the alternative. For the assessed design speed of the route (50mph), the ghost island would require to be to the following dimensions: the deceleration and turning lengths would total 65 metres and the taper would increase to 71.25 metres. The increase in the length of the junction would impact on the carriageway width of Hawthorn Road over the Bridge that would require widening of the deck by approximately 2.7 metres. This would further impact on the land required to construct the Bridge and the construction costs.

The realigned left in / left out junction with the bypass would require significant changes to the drainage features and the Eastern NMU route currently proposed due to the mainline widening being moved further South and would require land outside of the current Planning Redline Boundary in order to maintain the future proofing of the scheme.

There would also be an increased impact on the statutory undertakers diversions over and above those required by the scheme.

Environmental Impacts

This would have a moderate visual impact over and above that of the proposed NMU bridge due to the increased earthworks on the approach.

It would introduce more road noise and pollution in the Carlton Boulevard Development than the Scheme due to the increase in traffic flows resulting from not stopping up Hawthorn Road, whilst maintaining the left in left out access from the bypass to Hawthorn Road. There may be some limited noise benefit for the lowering of the main line but this is likely to be outweighed by the additional flows elsewhere.

3. Traffic, Safety and Economics

As stated in Mr Smiths Evidence; some journeys to and from Cherry Willingham and Reepham would be shorter and quicker with this alternative and some would be longer and slower; as has been outlined previously in evidence presented to the Inquiry. Considering only the traffic associated with Cherry Willingham and Reepham, in the 2018 Opening Year, the over bridge and compact junction would deliver a saving of less than 2% in vehicle kilometres travelled in all of the time periods considered and a daily saving of less than 6% in vehicles hours spent travelling. These savings equate to an average of 0.1 kilometres per vehicle trip and less than 1 minute per vehicle trip in the peak periods.

However, when considering all traffic in the Lincoln area, analysis shows that the differences in journey times and distance travelled between the preferred scheme and this alternative are negligible and would make no discernible difference to the benefits in a cost/benefit analysis.

This alternative will attract additional traffic through the Carlton development, increasing traffic flows on Hawthorn Road to the west of LEB, St Augustine Road and Carlton Boulevard. This will have a negative impact on residents of the Carlton development in terms of air quality, noise and safety.

This alternative will attract higher flows on Hawthorn Road on both sides of LEB in the AM peak giving a higher safety risk for pedestrians and cyclists, including school children. In addition an NMU crossing of the slip road is considered a safety risk.

4. Consequential Impacts

Following the Secretary of State's decision not to confirm the Orders after the previous Inquiry, the County Council took the opportunity to refine its current modelling. This was done in order to better understand travel patterns in the locality, refine model responses to take account of detail and provide a platform upon which the revised future growth and local development assumptions could be tested with the latest configuration of LEB. The modelling work included a Sensitivity Test in which traffic flows on Hawthorn Road were calibrated to surveyed 2015 traffic flows.

The results of the modelling work indicate that the Junction of Hawthorn Road with Bunkers Hill would be significantly over capacity due to traffic growth with the non-stopping up Hawthorn Road and maintaining access to and from the bypass from

Hawthorn Road. This is also the case in the Sensitivity Test. The only option available to address the imbalanced flows at this junction would be to provide traffic signals.

The junction of Wragby Road with Outer Circle Road is currently running near to capacity and would be relieved with the construction of the LEB. However, the inclusion of an all user overbridge and CGSJ at Hawthorn Road would increase traffic levels sufficiently to require improvements that would provide additional capacity as necessary on the Wragby Road East / Bunkers Hill approach including the junction of Wolsey Way. This is also the case in the Model Sensitivity Test.

5. Land Requirements

The proposed alternative requires land that falls outside of the highway boundary for which Planning Permission exists for both the permanent works and the temporary works areas required to construct the alternative. Some of the additional land is within Public Open Space which is outside of the extent of land within the published CPO before the Inquiry. The acquisition of such land would require the consideration of the need to go through the special parliamentary procedure to acquire the land in accordance with Section 19 of the Land Acquisition Act 1981 which would have cost and delay implications and will need approval from the Secretary of State. The North West corner of the abutment falls outside of the Planning Highway Boundary for the scheme, it is not possible to move the proposed structure South without realigning Hawthorn Road and impacting on the existing layout of Hawthorn Road and Saint Augustine Road which in turn would require land outside of the current Planning Boundary. Land would also be required under licence for temporary works and to allow the future maintenance of the structure and earthworks.

Additional land outside the planning boundary would also be required to accommodate the proposed noise barrier and NMU route, which includes the diversion of the existing right of way; that is to run North South along the eastern side of the LEB.

The proposal will require additional land and as a result will need new Compulsory Purchase Orders. A change to the Side Roads Order will be required to reverse the current proposal to stop up Hawthorn Road.

6. Planning Considerations

A new Planning Permission would be required to accommodate the new bridge and the changes to the left in left out junction and the drainage features.

7. Cost\Funding

The net additional cost of providing the road bridge including the bridge, the required lowering of the carriageway and associated matters in lieu of an NMU bridge and revising the left in left out junction is approximately £3.61m.

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 / Outer Circle Road junction - £0.85m.

In total therefore there would be a net increase of approximately £5.33m for this alternative.

Additional costs would also be incurred due to the elongated construction programme to construct the road bridge.

The change would require additional funding and would potentially require a resubmission of a new Business Case for the scheme to DfT as a result of the changes to the costs and benefits of the scheme.

8. Programme

Programme would be delayed because of new planning application and CPO\SRO.

9. Conclusion

The Alternative, when compared with the Scheme with planning permission does not provide any advantages that justify investigating it any further.

There is no advantage in traffic terms over the Scheme beyond some very limited opportunities for movements between residential areas close to the LEB and villages to the east; which in the Scheme will be served for all non-motorised movements by the additional NMU bridge.

In all other respects, the advantages offered by the LEB without the Hawthorn Road over bridge are reduced or negated by this provision. There is also additional cost when compared to the provision in the published scheme.

10. Previous Inspectors Comments from the 2014 Inquiry

This Alternative was not submitted to the previous Inquiry in February 2014. At the previous Inquiry the Inspector however concluded the following with respect to an Alternative No 1 (the provision of a bridge to maintain the current route of Hawthorn Road as a direct access to Bunkers Hill to replace the proposed NMU bridge with the left in left out junction removed):

"In summary, there would be limited improvements to vehicle journeys between the Carlton area and the east villages and the safety issue for cyclists would be resolved. Nevertheless, these positive factors are substantially outweighed by the negative traffic, environmental and economic effects and Alternative 1 offers no material advantage over the Scheme".

Appendix – Plan Showing Alternative 2

