Document Reference LCC3/i

Lincolnshire COUNTY COUNCIL
HIGHWAYS ALLIANCE

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 Objector's Proof

Mr Alex Lake

OBJ/472/1

Introduction

The Hawthorn Road Overbridge in the proposed alternatives that are presented in Mr Lake's proof are generally in accordance with that which was included in the dual carriageway scheme of 2009.

It is apparent that he has made errors and mistakes in his submission and we will identify and respond to those that are relevant to the objection to the Orders as part of this response.

It is also apparent from Mr Lake's Proof that he has taken the opportunity to consider the proofs of evidence as submitted by the County Council prior to releasing his evidence.

Issues Raised by Mr Lake relate to the Side Road Order only and are summarised as follows:

1. The closure of Hawthorn Road will unnecessarily restrict route choice and that traffic flow changes on alternative routes to Hawthorn Road unless mitigated prior to opening of the LEB will cause unreasonable inconvenience and delay to residents of the eastern villages of Cherry Willingham, Reepham and Fiskerton.
2. LCC have often stated that it is not possible to create a viable alternative junction scheme that can be delivered within the physical constraints of the Project Scheme. However, alternative junction designs are feasible and the proof of evidence aims to demonstrate this.
3. The original decision to remove the Hawthorn Road Highway Bridge from the project was based on a cost comparison that has continued to change and with cost differentials that have diminished such that this decision on the grounds of cost is no longer robust.

Mr Lake raises points in a specific order that support the above issues; therefore the response deals with each point as it arises in his proof.

Before turning to the points he raised LCC would make two comments. The first is that in respect of the claim made in 2 above the assessment carried out in relation to the two alternatives is contained within separate documents entitled Altenative 1 & 2.

The second point is that in respect of both these alternatives that Mr Lake proposes is an a alternative is actually a change to the scheme for which Planning Permission has been granted rather than in respect to the SRO itself.

Responses from LCC

LCC will set out the points raised by Mr Lake and therefore give the Councils response to the point after.

1 The Alternative Routes

1.1 AL1.2.3 Comments on geometric assessments being masked by assessing over a long length.

1.1.1 Response: The geometric assessments seek to evaluate the routes that are currently used and are likely to be used once Hawthorn Road is stopped up. No attempt has been made to mask the effects of locally significant geometric deviations but have sought to demonstrate that all of the alternative routes are of similar characteristics and indeed they are similar to the comparative routes to the south of the city. The geometric assessment process has been carried out in accordance with that described in Section 1 of TD9/93 of the DMRB which states that the Alignment Constraint (Ac) shall be measured over a minimum length of route of two kilometres.

1.1.2 In terms of the accident assessment following on from the assessment above Dr Billington's evidence presents the results of analysis for the most recent five full years of accident data (2010-2014 inclusive), producing figures for accidents per million vehicle kilometres. The evidence presents this information for the currently available route along the Hawthorn Road between Cherry Willingham and Outer Circle Road as well as two alternative routes from Cherry Willingham and Outer Circle Road via Wragby Road and Greetwell Road. The findings of this analysis show that the accident rate for the five years analysed, is lowest on the Greetwell Road route (0.440 accidents per million veh/km), with the Kennel Lane/Wragby Road route having a rate of 0.490 and the existing Hawthorn Road/Carlton Boulevard route having a rate of 0.492. There were no fatal and very few serious accidents on these routes over the five year period. In conclusion, there is nothing in the analysis of the historic data which indicates that the alternatives to Hawthorn Road are inherently less safe either in terms of the risk of being involved in an accident or in likely severity of accidents. This analysis is supported by the conclusions of the Lincolnshire Road Safety Partnership and of the Inspector at the 2014 Inquiry.

1.2 AL 1. 2.4 Journey times west of the LEB benefiting due to traffic reductions. Mr Lake states *"Comparing routes say with large portions of the route to the west of the proposed LEB is of little benefit as such portions of those routes will clearly benefit from traffic reductions within the city road network of Lincoln and will mask the actual journey time dis-benefits of routes more local to the LEB and the east villages themselves. The city centre benefits will remain whether the alternative options described within this report are adopted or not".*

Response:

1.2.1 The County Council does not accept that savings in journey times on routes to the west of LEB should not be considered. Dr Billington states in his evidence that *"Journey times will also vary by time period and direction and this is addressed in the information in the table below.*

Table 2 – Journey Times between Pairs of Trip Origins and Destinations

Origin	Destination	Change in Journey Time (Minutes) in Scheme Opening Year		
		AM Peak	Inter-peak	PM Peak
Cherry Willingham	Railway Station	-02:03	-05:53	-08:02
Cherry Willingham	Wragby Road Tesco	+02:28	+00:22	-00:27
Cherry Willingham	Carlton Estate	+05:00	+02:57	+02:44
Cherry Willingham	City Centre	-01:58	-00:31	-02:21
Cherry Willingham	Fire and Rescue Station	-03:37	-07:28	-09:30
Cherry Willingham	Lincoln County Hospital	+02:20	+00:36	+00:05
Railway Station	Cherry Willingham	-05:05	-02:14	+01:00
Wragby Road Tesco	Cherry Willingham	-00:05	-00:06	+00:18
Carlton Estate	Cherry Willingham	+01:20	+01:33	+01:30
City Centre	Cherry Willingham	-02:40	-00:23	-03:52
Fire and Rescue Station	Cherry Willingham	-06:22	-03:07	-00:51
Lincoln County Hospital	Cherry Willingham	+00:04	+00:22	-00:08
Reepham	Railway Station	-04:01	-06:30	-06:36
Reepham	Wragby Road Tesco	+00:50	+00:33	+00:03
Reepham	Carlton Estate	+01:05	+03:12	+03:12
Reepham	City Centre	-04:19	-01:50	-02:43
Reepham	Fire and Rescue Station	-05:50	-08:06	-08:04
Reepham	Lincoln County Hospital	+01:08	+00:03	-00:16
Railway Station	Reepham	-03:42	-01:33	+01:21
Wragby Road Tesco	Reepham	-00:02	-00:05	-00:16
Carlton Estate	Reepham	+01:23	+01:34	+01:30

Origin	Destination	Change in Journey Time (Minutes) in Scheme Opening Year		
		AM Peak	Inter-peak	PM Peak
City Centre	Reepham	-03:01	+00:04	-03:14
Fire and Rescue Station	Reepham	-05:17	-02:26	-00:34
Lincoln County Hospital	Reepham	+00:11	+00:24	-01:28

In this table, an increase in journey times is indicated as "+" while a decrease is indicated as "-".

For some local trips it can be seen that journey times are expected to increase at certain times of the day, with the greatest increase of five minutes expected to be between Cherry Willingham and the Carlton estate in the morning peak. However, for some trips slightly further afield, for example to and from the city centre and the railway station, there will be improvements in journey times."

1.2.2 The information in Dr Billington's proof is presented to demonstrate that reasonably convenient alternative routes will be available with the Scheme in place and this is demonstrated for a variety of trips, including more local trips to and from Cherry Willingham and Reepham. As such the test to be applied to the Side Roads Order is met. Overall, the Scheme will result in significant time savings for a majority of trips across the highway network and this is reflected in the Cost Benefit Analysis reported in Mr Smith's evidence and accepted by DfT as part of the Business Case submission which resulted in the scheme being granted Programme Entry in 2011.

1.3 AL 1.2.5 Consultation with the emergency services promoted by the objectors to the Project Scheme has resulted in welcome reassurances that response times would be largely unaffected due to the wider road network benefits brought about more generally by the LEB, reducing traffic within the City centre. The alternatives promoted would likely result in further improved emergency response times where junction design within the project scheme is not robust.

1.3.1 **Response:** Mr Lake would have been aware from the information presented to the previous Inquiry that the emergency services have been content with the scheme since the time of the 2011 business case. It is incorrect to suggest that the County Council only consulted the emergency services at the prompting of objectors. In fact, the emergency services were consulted regarding the scheme in 2011 and this was known to the Inspector at the Inquiry in 2014 who concluded **'***The emergency services were consulted and supported the Scheme, including the left in left out junction at Hawthorn Road. On the basis*

of their operational knowledge it is reasonable to conclude that the stopping up would not adversely affect emergency service provision and response times'.

1.3.2 Assessments carried out by Lincolnshire Fire and Rescue (LFR) and East Midlands Ambulance Service (EMAS) have demonstrated that response times will be improved under the LEB and the emergency services have stated that this will be because:

1 LEB will provide a more direct, less congested route from the bases at South Park than having to travel through the City Centre, although it should be noted that there is a fire station on Nettleham Road and EMAS use the nearby supermarket car park as a waiting area. These vehicles will be able to travel down the LEB and turn left on to Hawthorn Road to access the villages to the east.

2 The design standard of LEB will provide a sufficiently wide carriageway to enable non-emergency vehicles to pull to the side of the road, allowing emergency vehicles to pass without being overly slowed

3 The junction arrangements will allow them direct access from LEB to Hawthorn Road; an overbridge which would not allow direct access to Hawthorn Road from LEB would result in slower response times.

Correspondence from the emergency services can be found in the Appendices to Dr Billington's proof of evidence.

2 Viable Junction Alternatives

The alternatives proposed in Mr Lake's evidence intend to prove that a viable junction alternative can be delivered within the physical constraints of the scheme.

2.1 AL 2.1.1 (vii) The assumed project constraints as set out in the proof include the design speed of Hawthorn Road and state that '*it is not fixed insofar as design speeds are not increased'*.

2.1.1 Response: It is not entirely clear what point Mr Lake is intending to make by this statement but it has been assumed that he believes that the speed limit along Hawthorn Road can be reduced in order to justify the adoption of a lower standard of provision in terms of highway alignment. DfT Circular 01/2013 *SETTING LOCAL SPEED LIMITS* states in para 128 '*A speed limit of 40 mph may be considered for roads with a predominantly local, access or recreational function, for example in national parks or areas of outstanding natural beauty (AONB), or across, or adjacent to, unenclosed common land; or if they form part of a recommended route for vulnerable road users. It may also be appropriate if there is a particular collision problem'.* Mr Lake is therefore incorrect in that the design speed of any route cannot be reduced beyond that which has been assessed in accordance with TD9

unless a clearly defined strategy of traffic calming measures can be provided. LCC has assessed the route between Bunkers Hill and Cherry Willingham as being 50mph and there is no such strategy presented in Mr Lakes proof beyond the proposed 40mph speed limit backed up with additional carriageway markings. This proposal is unlikely to be supported by the Highway Authority or the Lincolnshire Road Safety Partnership as it would not meet the standard criteria for justification.

2.2 AL 2.1.1 (xi) Designs for alternatives meet with the requirements of the Design Manual for Roads and Bridges (DMRB)

2.2.1 Response: Mr Lake is incorrect in that both the alternative designs fail to comply with the DMRB in the following areas:

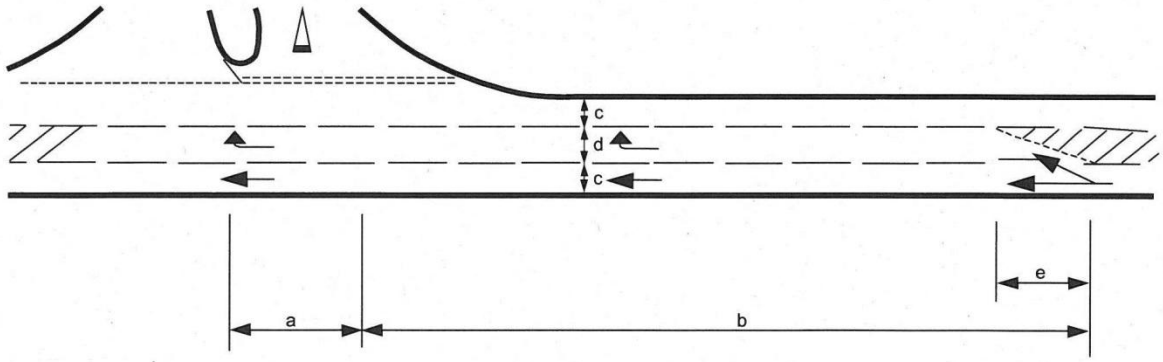
2.2.2 Bridge deck clearance over the LEB shown as 5.43 metres, this should be 6.45 metres as the LEB is currently designed as a high load route in accordance with TD 27/05. It appears that Mr Lake was not aware that the LEB was to be used as a high load route.

2.2.3 Carriageway widths of the LEB under the proposed alternative are 3.65 metres and do not include hard strips nor allow sufficient lateral clearance for vehicles to pass breakdowns.

2.2.4 In addition Mr Lake's proposal does not adopt the strategy of the proposed LEB as it does not appear to utilise the north bound carriageway of the dual scheme for the single carriageway scheme.

2.3 AL 2.8.4.7 of Mr Lakes proof states that '*The junction at Hawthorn Road with the connector road has been designed in accordance with TD42/95'.*

2.3.1 Response: Mr Lake is incorrect in that the design as shown does not comply with the 40 mph design speed (which as noted earlier would not be supported or used in any event by LCC or LRSP for this location), as described the tapers are too short being 15 metres instead of 57 metres assuming asymmetric widening. The tapers should however, be 71.25 metres for the required 50 mph design speed of the route. The correct combined taper, deceleration and turning lengths would impact on the bridge in Alternative 2 which would need to be widened in order to accommodate the additional carriageway width. Below are extracts from TD42/95: Figures 7/4, Paragraph 7.32 table 7/5a define turning and deceleration lengths, Figure 7/8 and Table 7/3 define Ghost Island tapers.



a Turning Length (+ Queuing length, if required, but see para 7.33)
b Deceleration Length
c Through Lane Width
d Turning Lane width
e Direct Taper Length

Figure 7/4 : Major / Minor Priority Junction with a Ghost Island (paras 7.20 - 7.48)

Turning Length

7.32 The turning length is provided to allow long vehicles to position themselves correctly for the right turn. The turning length shall be 10m long irrespective of the type of junction, design speed or gradient, measured from the centreline of the minor road. It is shown on Figs 7/4, 7/5 and 7/6.

Design Speed (kph)	Up Gradient		Down Gradient	
	0-4%	Above 4%	0-4%	Above 4%
50	25	25	25	25
60	25	25	25	25
70	40	25	40	40
85	55	40	55	55
100	80	55	80	80
120	110	80	110	110

Table 7/5a: Deceleration Length (m) for Ghost Island and Single Lane Dualling (paras 7.40 and 7.55)

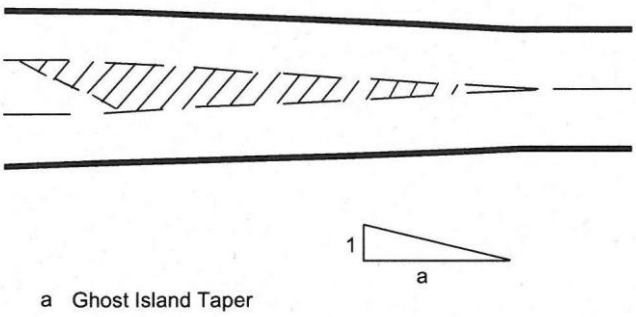


Figure 7/8 : Ghost Island Development and Taper (para 7.30)

Design Speed (kph)	Taper for Ghost Island and Single Lane Dualling	Taper for Dual Carriageways
50	1:20	1:40
60	1:20	1:40
70	1:20	1:40
85	1:25	1:45
100	1:30	1:50
120	--	1:55

Table 7/3: Tapers for Central Islands

2.4 AL 2.1.2 The key boundary constraints have been met within both alternative schemes.

2.4.1 Response: Mr Lake is incorrect in that while both of the proposed alternative structures fall within the redline Planning Boundary for the scheme they do not fall within the Planning Highway Boundary. Accordingly this would constitute development outside the permitted scheme. The area of Public Open Space north west of the proposal lies within the planning boundary but outside of the Planning Highway Boundary. Both structures would require Public Open Space in which to construct the west abutment of a road bridge that would include verge construction and a Vehicle Restraint System to tie in to the northern bridge parapet. Additional land in Public Open Space is also required to accommodate the regraded approaches due to the changes in level of the proposal over the existing Hawthorn Road. This would require a special Parliamentary Procedure unless equivalent land is offered in compensation in accordance with Section 19 of the Land Acquisition Act 1981; it is not clear that such land would exist or where it would be to meet the requirements of the Act. Land would also be required in the Public Open Space under licence for temporary works to construct the bridge and rights would be required to allow future maintenance of the structure and earthworks. In order to construct the structure outside of the Public Open Space it would be necessary to move the Structure south by five metres under the proposal,

this in turn would require the substantial realignment of Hawthorn Road and St Augustine Road outside of the current Planning Boundary and Planning Highway Boundary.

2.4.2 The main carriageway has been lowered under both of the proposed alternatives by 0.89 metres in order to accommodate the deck thickness of the proposal which is stated as being one metre. This would however need to be lowered by a further 1.1 metres in order to accommodate the required high load clearance over the proposed scheme at 6.45 metres. 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 proposed. The alternatives being promoted are one step below desirable minimum for a single carriageway crest value and have an absolute minimum sag value. In order to provide a future proofed scheme designed to a dual carriageway standard consistent with the proposals the alternatives would have to be revised. The revisions have been detailed in the individual assessments of Objectors Alternatives 1 and 2 which have been separately published. The increase in cut and the 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.

2.4.3 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.

2.5 AL 2.6.1 The bridge alternatives have been designed to accommodate a widened LEB carriageway.

2.5.1 Response: Mr Lake is incorrect in that while the bridge spans of the alternatives shown in his evidence reflect the Dual Carriageway Scheme of 2009, that did not include a left in left out junction; the alternatives do not allow sufficient space for the construction of the southbound carriageway or take account of the increased width of the cutting of the main line of the LEB due to the lowering of the carriageway that would be required to accommodate the alternatives. The proposals utilise a span of 55 metres while the cutting width has increased to 73 metres for Alternative 1 and 77 metres for Alternative 2.

2.5.2 The cross section in figure 3 of Mr Lake's Proof does not provide sufficient space for the construction of a future dual carriageway scheme; the section provides an indicative

width of 26.7 metres at road level as opposed to the 32.19 metres provided in the LEB scheme. To construct a dual carriageway scheme under the suggested cross section as proposed by Mr Lake would compromise the provision of the NMU route along the route and therefore the proposed LEB scheme for which planning permission has been granted.

2.5.3 Mr Lake is also incorrect in that the proposed Compact Grade Separated Junction (CGSJ) in Alternative 2 impacts on the land take as the left in left out is located further south than the current proposal and would exclude the construction of a nearside merge taper from a future dual scheme without impacting on the drainage attenuation scheme and the proposed public right of way. This would therefore compromise the future dualling of the scheme.

2.6 AL 2.7.2.3 The clearance beneath the bridge includes for 1m deck thickness and is in accordance with TD27/05.

2.6.1 Response: Mr Lake is incorrect in that the clearance beneath the bridge in the proposed alternatives is insufficient to accommodate High Load Routes in accordance with Table 6-1 of the standard.

2.7 AL 2.7.5.2 (ii) the proposed longitudinal alignment of the LEB has been lowered by 890mm at the location of the bridge.

2.7.1 Response: Mr Lake is incorrect in that the proposed alternatives would require a departure from standard for the future dual carriageway scheme to accommodate the vertical alignment constraints in order to provide 'safeguarding for future dualling' and would also need to be lowered a further metre to provide the required high load clearance. A future dual compliant alternative would significantly increase the land required to develop the cutting and is also likely to compromise the drainage of the area as the required storage volume would be significantly increased and could not be accommodated within the land available.

2.8 2.7.7.3 The design of the drainage ponds has been maintained and marginally improved.

2.8.1 Response: Mr Lake is incorrect in the above statement that the drainage design has been marginally improved in that the location of the ponds under Alternative 2 would require the construction of two additional Highway Structures (culverts) and a Vehicle Restraint System to protect vehicles using the connector road resulting in an increased maintenance liability. These additions would add to the construction costs and also the Council's long term maintenance liability for the scheme.

2.8.2 Mr Lake is also incorrect in his statement that the position may be improved. The increase in cut and the lowering of the route would create additional drainage problems with the interception of ground waters and surcharging of the lined attenuation ponds for both alternatives. This coupled with the enlarged cut area would increase the volume of water to be attenuated resulting in significantly larger ponds requiring significant additional land beyond the current planning boundary.

2.9 AL 2.8.2.2 The CGSJ connector road is designed for a 70kph design speed based on a 40 mph speed limit.

2.9.1 Response: The design speed for this form of junction should be 30kph in accordance with TD40/94.

2.10 2.8.3 Provision for Non Motorised Users.

2.10.1 Response: With regard to Mr Lakes comment that '*Alternative 1 provides complete unhindered continuity of NMU access across the proposed overbridge*', it should be noted that NMU's wishing to continue to use the eastern NMU route to Wragby Road will have to cross Hawthorn Road in the same manner as the LCC scheme.

2.10.2 The proposal under Alternative 2 would require the users of the existing NMU route on Hawthorn Road to cross the connector road, as would users of the proposed NMU route that runs along the eastern side of the LEB between Greetwell Road and Hawthorn Road.

2.10.3 The significant increase in traffic volumes associated with Hawthorn Road remaining open and / or the provision of the connector road would result in a less safe solution than the scheme.

2.10.4 As stated in Para 2.1; there is no clearly defined strategy of traffic calming measures in Mr Lakes proof that support the imposition of a 40 mph speed limit. The proposal is unlikely to be supported by the Highway Authority or the Lincolnshire Road Safety Partnership as it would not meet the standard criteria for justification and therefore the higher design speed would have to be adopted when considering this proposal.

3 Cost Comparisons

3.1 Mr Lake notes that Alternative 1 costs an additional £476,000 over the proposed scheme before the Inquiry, including safeguarding for future dualling. Alternative 2 costs an additional £715,000 over the proposed scheme before the Inquiry, including safeguarding for future dualling.

3.1.1 Response: For clarification, the value quoted as part of the overall saving in 2011 from the Best And Final Bid (BAFB) of the removal of the Hawthorn Road all users bridge was approximately £1m. During the February 2014 Public Inquiry, the cost of the NMU bridge to the north of Hawthorn Road was estimated to be approximately £0.25m. As a result therefore the cost differential between the BAFB saving and an NMU bridge was approximately £0.75m.

3.1.2 The cost of the NMU bridge that was relocated following the Secretary of States decision in July 2014 was estimated to be approximately £0.5m. As a result the cost differential between the BAFB saving and the NMU bridge was reduced to £0.5m.

3.1.3 In response to the alternatives submitted by Reepham Parish Council on 26th June 2015 and further information contained in Mr Lakes proof of evidence, cost estimates for the proposals were developed using the additional information and considered in a more detailed way than that adopted for the previous Inquiry.

3.1.4 The approach taken has been to include not only the detailed construction costs of the proposed alternative but also any costs associated with returning the scheme to its current status i.e. one that has planning permission and a new set of CPO and SRO orders. This would require additional fees for the delivery of the redesign, preparation and submission of a new planning permission and orders.

3.1.5 Detailed construction costs include additional substructure and superstructure costs, consequential earthworks associated with lowering the scheme to accommodate an all users road bridge as well as the High Load Route and statutory undertakers diversionary works costs.

3.1.6 The net cost of providing Alternative 1 is provided in the table below:

Element	Cost £k
Road Over Bridge with No Left In Left Out	4,176
Consequential Junction Improvement at Bunkers Hill Junction	867
Consequential Junction Improvement at Wragby Road / Outer Circle Road	854
Saving of not providing NMU Bridge and Left In Left Out Junction	1,053
Net Cost	**£4,844**

3.1.7 The net cost of providing Alternative 2 is provided in the table below:

Element	Cost £k
Road Over Bridge with Left In Left Out Junction	4,665
Consequential Junction Improvement at Bunkers Hill Junction	867
Consequential Junction Improvement at Wragby Road / Outer Circle Road	854
Saving of not providing NMU Bridge and Left In Left Out Junction	1,053
Net Cost	**£5,333**

3.1.8 Both of the alternatives as proposed are more costly solutions than the proposed scheme as they require the construction of an enlarged cutting through the Hawthorn Road Area that would in turn require the disposal of significant quantities of largely unacceptable material which could not be incorporated in the permanent works of the scheme; they impact on the viability of the drainage scheme and necessitate consequential highway improvements to mitigate the additional traffic flows generated. The structures as proposed are more costly than the current NMU proposal requiring a central pier with additional piling and a physical central reserve with Vehicle Restraint System. The spans of both alternatives are also longer than suggested due to the increase in the depth and therefore the width of the cutting. The design on both plans submitted does not show the central reservation extending under the proposed overbridge and the designs do not take account of the required headroom of 6.45 metres for the scheme which would necessitate the LEB main carriageway being lowered an additional metre. The structure in Alternative 2 needs to be wider to accommodate the widening for the ghost island right turn lane that connects to the compact grade separated junction further adding to the costs of the alternative

3.1.9 Although the level of details of the cost estimates provided is relatively low, neither of the additional cost estimates provided by Mr Lake appear to be robust as both schemes would require significant modification to comply with the required standards of the scheme and those set out in his proof. Furthermore the cost differentials stated in Table 1 do not include details of the estimated costs of the consequential junction improvements although he suggests they are included in paragraph 3.1.2 of his proof where he states: '*The cost appraisals include budgetary prices for junction 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'.*

4 Additional Comments

4.1 AL 2.1.3 Access to the Public Open Space / Play Area being poorly planned.

4.1.1 Response: The land was dedicated by the developer of Hawthorn Chase for the wider benefit of the community as part of the planning permission for the site. Access from the existing highway, whilst not ideal is the best that could have been provided under the circumstances and was determined as being the most appropriate solution by the Planning Authority for the development. The situation would be made worse under the proposed alternatives but would however improve significantly with the stopping up of Hawthorn Road.

4.2 AL 2.5.4 Alternative 2 could be developed to create a four arm junction providing greater flexibility for future development.

4.2.1 Response: The creation of such a junction at this location would provide direct access to the Bunkers Hill area for north bound LEB traffic and thus further exacerbate the issues of congestion and rat running through the Hawthorn Road and Carlton Boulevard Area. It would require significant modifications to the existing highway network including St Augustine Road and its junction with Hawthorn Road and is likely to require the purchase of land from the Hospice and other properties on Hawthorn Road. Additional land in Public Open Space would also be required. This would require a special Parliamentary Procedure unless the equivalent land is offered in compensation in accordance with Section 19 of the Land Acquisition Act 1981.

4.3 AL 2.7.5.6 The lowering of Hawthorn Road will likely have noise mitigating benefits for local residents.

4.3.1 Response: Any additional benefit gained from lowering the main LEB carriageway is likely to be marginal and most probably lost due to the additional volume of traffic using Hawthorn Road if it were to remain open.

5 Addendum to Mr Lakes Proof of Evidence

5.1 AL "*i. The following plans present an addendum to the plans submitted within my proof of evidence dated 10th July. Further interrogation of the LCC terrain model and existing Hawthorn Road kerb lines on site, in conjunction with highway dimensions confirmed recently by LCC, have allowed me to make very minor alterations to the proposed alternatives to provide increased confidence in their feasibility.*

ii. In conjunction with the above, I also provide here an additional cross sectional elevation which may be of assistance in visualising a different engineering option for the format of the proposed overbridge. This format remains consistent with the possibility of future dualling should that be a requirement.

iii. The information contained within this addenda does not alter any other facet of my proof of evidence except that these sketches are intended to supersede the corresponding ones in my earlier proof."

5.2 **Response:** It appears that the addendum has been issued following the response issued to the Reepham Parish Council proof of evidence and seeks to address issues raised in that proof surrounding construction of the scheme in Public Open Space (POS). The changes appear to be as follows:

I. The west abutment of the bridge has been modified from a bank seat to a retaining wall abutment and has been moved east to be outside of Public Open Space.
II. The earthworks interface of the west approach to the bridge has been recut into the highway to avoid incursion into POS.
III. Two additional piers have been introduced into the structure.

5.3 **Response:** The details as submitted fail to address the issue of the construction of the west abutment and approach in Public Open Space (POS) for the following reasons:

- The pile cluster and associated cap for the abutment would extend beyond the above ground footprint of the structure and therefore into POS and would still require additional land under licence in order to construct the works.
- The narrowing of the east bound carriageway to accommodate the earthworks interface within the existing highway appears to result in a carriageway that is narrower than that which exists currently creating a horizontal step in the carriageway cross section adjacent to the bridge.
- The proposal also fails to take into consideration the requirement for a Vehicle Restraint System (VRS) to protect the end of the parapet of the structure and protect

the LEB cutting from errant vehicles leaving Hawthorn Road. Provision of VRS would require Public Open Space.

- The introduction of the two additional piers is not explained but appears to compromise the provision of the NMU route on the west side of the LEB as well as the forward visibility for vehicles entering the LEB from the connector road provided in Alternative 2. This provision would also add significant additional costs due to the increased number of piles and substructure works required.