

**LOCAL AUTHORITY MAJOR SCHEMES  
PRE-QUALIFICATION POOL: EXPRESSION OF  
INTEREST**

<b>Scheme Name</b>	<b>LINCOLN EASTERN BYPASS</b>
<b>Local Authority</b>	<b>LINCOLNSHIRE COUNTY COUNCIL</b>

**SENIOR RESPONSIBLE OWNER DECLARATION**

**I confirm that Lincolnshire County Council wishes the Lincoln Eastern Bypass to be taken forward for consideration for funding in the Spending Review period. I understand that any cost incurred in submitting the scheme through the prioritisation process is at the authority's own risk.**  
As Senior Responsible Owner for the Lincoln Eastern Bypass I confirm that I have the necessary authority to make the above declaration

<b>Signed:</b>	
<b>Name:</b>	
<b>Position:</b>	

## SECTION 1: THE SCHEME AS PREVIOUSLY CONFIGURED

*For schemes with a bid for Programme Entry (or PE combined with other approval stages) with the Department this section should describe the scheme as submitted in the business case. Please state separately if there had been any changes since business case submission prior to June 2010.*

*For schemes with a previous approval (Provisional Approval or Programme Entry) please describe the scheme as previously approved, stating separately any subsequent changes previously notified to or discussed with DfT prior to June 2010 or identified in the scheme as prioritised within the former Regional Funding Allocations.*

### **1.1 Description of the scheme** *This should clearly state the scope of the scheme and describe all of its key components.*

The Lincoln Eastern Bypass (LEB) is being promoted by Lincolnshire County Council (LCC). LCC is working in partnership with a number of stakeholders who are committed to the successful delivery of the scheme. In October 2003 a Memorandum of Understanding was signed between the leaders of LCC, North Kesteven District Council, City of Lincoln Council, West Lindsey District Council and Lincolnshire Enterprise to work together to promote the delivery of the LEB.

The LEB is located entirely in the East Midlands within the Eastern Sub-area of the region lying to the east of Lincoln city centre. The regional context is illustrated in **Figure 1** below.

**Figure 1: Regional Context**



The City of Lincoln is the County Town of Lincolnshire and so its continued economic success is important not just in a local context, but also for the County and the wider East Midlands. Over three million people visit the city every year, particularly drawn by the historic cathedral and castle, as well as the new state-of-the-art City and

County Museum known as 'The Collection'. The expansion of the University and Lincoln's status as a New Growth Point has seen Lincoln's national profile rise significantly in recent years.

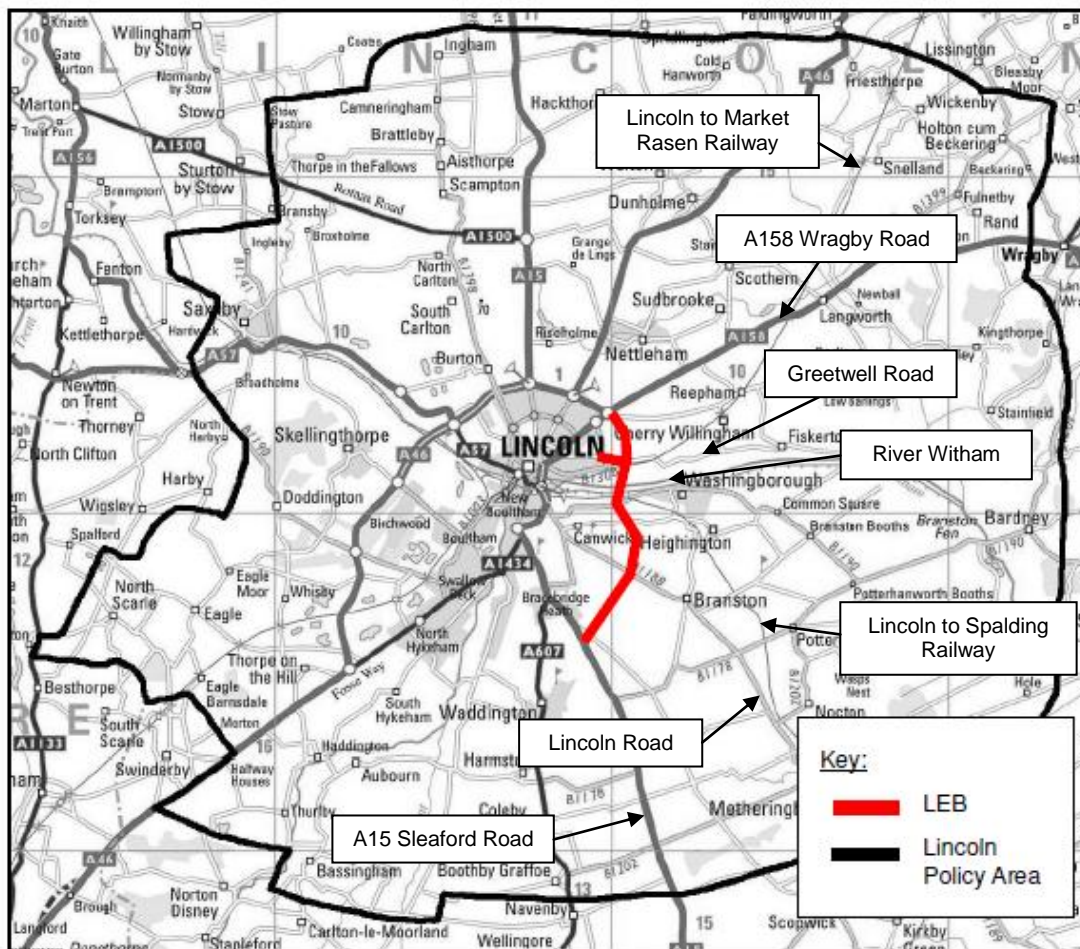
Whilst the above demonstrates that Lincoln can be considered to be a city 'on the up' a lack of recent investment in major transport infrastructure has been identified as a key constraint to its continued success.

As a result of a lack of alternative routes to the A15 within the city centre, Lincoln currently suffers from high levels of congestion from local, regional and strategic traffic. This impacts on the quality of life for local residents, acts as a constraint on the economy and reduces the attractiveness of the city for visitors and investors. The LEB is considered to be a necessary piece of infrastructure to alleviate the above problems and support the delivery of national and local policy agendas identified for Lincoln up to 2026.

In addition, significant housing and economic development is targeted for the Lincoln area and as identified Lincoln was afforded Growth Point status by the Government in July 2008. Regional and Local housing targets include the delivery of an additional 25,000 dwellings within the Lincoln area by 2026. Key to the delivery of these growth aspirations are the North East and South East Quadrant development sites located to the east of Lincoln. These sustainable urban extensions have the potential to accommodate significant levels of development within the Lincoln area and as identified in the March 2009 Regional Spatial Strategy, the LEB is required to support their delivery. See **Section 1.8** for further detail regarding these development sites.

The scheme as promoted in June 2010 is described within the remainder of this section. As illustrated in **Figure 2**, the LEB provides a highway link between the A15 to the south east of the city and the A158 Northern Relief Road to the north east of the city. It would provide a strategic link within the County's highway network and remove a bottle neck for Heavy Goods Vehicles (HGVs) travelling north / south to and from the Humber ports and for east / west traffic travelling from the East Midlands and South Yorkshire to the East Coast.

**Figure 2: Proposed Lincoln Eastern Bypass**



The scheme as promoted in June 2010 would provide a 7.85km dual carriageway, linking the existing northern relief road at the junction of the A15 and A158 Wragby Road in the north to the A15 Sleaford Road in the south. Improvements would also be made to the existing Greetwell Road between the proposed Greetwell Road roundabout and its junction with Outer Circle Road.

A 3.0m wide combined cycle and pedestrian right of way would be provided along the full length of the scheme which would link up with existing public rights of way. There would be additional provisions for equestrians in the form of a widened verge.

The scheme design has been produced in accordance with the Design Manual for Roads and Bridges guidance and has been designed to allow for a 70mph speed limit. The scheme is shown in detail in **Figure 3** (appended to the Expression of Interest).

A new four arm roundabout is to be constructed to replace the existing roundabout at the A158 Wragby Road / A15 junction. From here the scheme would be at existing ground level adjacent to the roundabout before falling into a cutting below the existing level of Hawthorn Road. Hawthorn Road would be raised on embankments to cross the bypass on an overbridge. No junction would be formed at this location.

The LEB would then pass southward; mainly in cutting and adjacent to the edge of Greetwell Quarry before being carried on embankment over the eastern corner of the limestone quarry cavity and on towards its junction with Greetwell Road. Within this

section the minor road, Greetwell Fields, is to be stopped up with alternative provision made for access.

At Greetwell Road, a four arm roundabout is proposed. A pedestrian / cycle bridge would be provided over the scheme, to the north of the roundabout. Between the bypass and Outer Circle Road junction, Greetwell Road would be realigned to remove the dip and bend that the existing road follows.

From the junction with Greetwell Road the scheme would continue south passing over an embankment and a new structure over the Lincoln to Market Rasen Railway. The LEB then turns south-westerly and falls gently into the Witham Valley on an embankment towards the River Witham and the adjacent watercourses.

A five span viaduct is proposed to carry the LEB over the River Witham and the adjacent watercourses. A pedestrian / cycle bridge is proposed to link the pedestrian and cycle facility adjacent to the LEB to the Sustrans cycle route which runs along side the river.

The LEB would then pass under the Lincoln to Spalding Railway, and immediately to the south, would connect to the B1190 Washingborough Road via a new four arm roundabout. From here the scheme would travel in a south-easterly direction while climbing in a deep cutting and passing under Heighington Road. Heighington Road would be carried over the scheme along its existing alignment on a new bridge. No junction would be provided with the LEB at this location. The LEB turns to travel south west to form a new four arm roundabout at its junction with the B1188 Lincoln Road.

A pedestrian / cycle underpass is proposed to cross the scheme just north of the roundabout junction with the B1188 Lincoln Road.

The route would then continue south-westwards towards the A15 Sleaford Road. A new three arm roundabout would be formed at the junction with the A15 Sleaford Road, south of Bracebridge Heath. Bloxholm Lane to the east of the scheme would be diverted to join Sleaford Road at the roundabout. A bridleway bridge would cross over the scheme to link both sections of Bloxholm Lane.

The LEB running from the A158 Wragby Road to the A15 Sleaford Road would contain five junctions, these are:

- A158 Wragby Road roundabout;
- Greetwell Road roundabout;
- B1190 Washingborough Road roundabout;
- B1188 Lincoln Road roundabout; and
- A15 Sleaford Road roundabout.

The construction of the LEB would include 10 structures between the A158 Wragby Road junction and the A15 Sleaford Road junction. The structures would include:

- Three overbridges;
- Two underbridges;
- Three pedestrian / cycleway bridges;
- One pedestrian / cycleway underpass; and
- One retaining wall.

Through demand management measures the LCC is committed to

'locking in' the benefits of the LEB associated with the removal of through traffic from Lincoln city centre and using the additional road space released by the LEB to promote more sustainable modes such as Quality Bus Corridors, Park & Ride and improved non-motorised user facilities.

It should be noted that following the Comprehensive Spending Review, LCC acknowledge the need to further refine the LEB in order to develop the most affordable solution within the current economic climate. This Expression of Interest therefore outlines LCC's revised scheme proposals which include changes to the scope / design and value engineering. These revised proposals are outlined in **Section 2** of this Expression of Interest.

## **1.2 What are the primary objectives of the scheme?**

*Please limit this to the primary objectives (ideally no more than 3) such as reducing congestion; the problems to which this scheme is the solution. Do not include secondary objectives i.e. things that the scheme will contribute to (for example it may be an objective of a new road scheme to include improved facilities for cyclists, but that is not a primary objective)*

In recognition of the importance of the role that transport will play in the future economic growth of Lincoln, LCC and its partners (the District Councils of North Kesteven, West Lindsey and the City of Lincoln) commissioned the Lincoln Transport Strategy (LTS) in 2004. The LTS was developed as a means of identifying and prioritising the delivery of transport improvements across the Lincoln Policy Area (LPA) up to 2026. It included consideration of a broad range of transport solutions aimed at solving identified problems and delivering defined objectives.

The LTS was designed to be a live strategy able to accommodate changes in local, regional and national policy and as such has been reviewed and updated periodically, with the latest version being approved by LCC and partners in 2010. It was and continues to be developed in line with best practice guidance using a problem and policy driven approach for the identification, appraisal and prioritisation of transport improvements. As such it accords with the Departments WebTAG appraisal framework.

The LTS recommends that even with the introduction of alternative modes such as public transport and non-motorised user facilities there is still a requirement for the introduction of the LEB in the short-term if the aspirations of the LTS are to be achieved (see **Section 2.5** for further details).

As the LEB is identified as a key element of the delivery of the LTS, in order to promote a consistent approach to the decision making within the LPA the scheme objectives for the LEB are consistent with those identified as part of the LTS. The key objectives of the LEB can be summarised as:

**Objective 1:** To support the delivery of sustainable economic growth and the Growth Point agenda within the Lincoln Policy Area through the provision of reliable and efficient transport infrastructure.

**Objective 2:** To improve the attractiveness and liveability of central Lincoln for residents, workers and visitors by creating a safe, attractive and accessible environment through the removal of strategic through traffic (particularly HGVs).

**Objective 3:** To reduce congestion, carbon emissions, improve air and noise quality within the Lincoln Policy Area, especially in the Air Quality Management Area in central Lincoln, by the removal of strategic through traffic (particularly HGVs).

**1.3 What are the key milestones for delivery, including estimated start and completion date of the scheme as proposed?**

Please list all relevant milestones with dates including start and completion of statutory processes, public inquiries procurement etc. For the purposes of this question assume that no Full Approval decision will be given before December 2011 and no DfT funding will be available before 2012/13. Please describe any implications arising from the non-availability of DfT funding until 2012/13 if that represents a delay to your previously assumed timetable.

The key milestones for the delivery of the LEB are summarised in **Table 1**. Stages 1 to 8 represent the key delivery milestones defined within the Delivery section of the Programme Entry Major Scheme Business Case (MSBC). For comparative purposes, **Table 1** includes both the Programme Entry MSBC estimates and updated estimates as a result of the spending review process.

**Table 1: LEB Delivery Milestones**

Milestone	PE MSBC	Update	Comments
Stage 1: Submit Major Scheme Business Case for Programme Entry	November 2009	<b>November 2009</b>	As the Programme Entry submission determination was suspended prior to the Comprehensive Spending Review, this Expression of Interest has been submitted.
Stage 2: Planning Application Submitted	October 2009	<b>October 2009</b>	Submitted on schedule.
Stage 3: Planning Application Consent Granted	February 2010	<b>October 2010</b>	Determination was prolonged due to the Planning Authority's workload. No difficulties encountered.
Submit Pre-Qualification Pool Expression of Interest	N/A	<b>January 2011</b>	No Comment.
Submit Best and Final Offer (Development Pool)	N/A	<b>Autumn 2011</b>	No Comment
Funding Approval Decision	N/A	<b>December 2011</b>	Assumes 1 month decision period
Stage 4: Public Inquiry (Orders)	May 2011	<b>March 2013</b>	LCC is unlikely to commence the Statutory Process until funding is committed for the scheme.
Stage 5: Secretary of State's Decision	March 2012	<b>January 2013</b>	No Comment
Stage 6: Submit Major Scheme Business Case for Conditional Approval	June 2012	<b>N/A</b>	Assumed to be no longer required once funding is committed.
Stage 7: Submit Major Scheme Business Case for	January 2013	<b>N/A</b>	Assumed to be no longer required once funding is committed.



Full Approval			
Stage 8: Start Construction	September 2013	<b>August 2014</b>	A three-year construction period is envisaged. Therefore completion in Summer 2017.

Since the submission of the November 2009 Programme Entry MSBC the scheme has been granted Planning Permission. The planning determination was trouble free, with the only issue being the Planning Authority's workload which prolonged the determination period. The scheme was granted Planning Permission in October 2010.

Within the above milestone table the most significant factor contributing to the delayed start of construction is the uncertainty relating to DfT Funding Approval (assumed to be December 2011) and the knock-on impact to the start of the Statutory Process (Compulsory Purchase Orders and Side Road Orders). Due to the significant expenditure required, LCC is unlikely to commence the Statutory Process until funding is committed for the scheme. However, there remains an opportunity for the Statutory Process to be undertaken without a Public Inquiry which would help reduce the delay.

In addition, it has been assumed that the need to prepare and submit Conditional Approval and Final Approval MSBC's has been removed from the funding approvals process and replaced by the Best and Final Offer process which is due to conclude in December 2011. This has reduced the programmed period between funding approval and the start of construction.

#### **1.4 What are the key risks to the delivery to this timetable, aside from the availability or otherwise of DfT funding?**

*Please list the biggest risks (ideally no more than three) that have a potentially significant impact of the timing of the scheme. For each risk please describe its likelihood, and quantify the potential time delay.*

A Quantified Risk Assessment (QRA) and Risk Register have been developed by LCC, their Design Consultants and ECI Framework Contractor (both documents are available on request). The QRA was developed using the Highways Agency Risk Management System (HARM). Both the QRA and Risk Register are regularly reviewed and monitored throughout the scheme development process with risk workshops held at key programme milestones. All risks are assigned 'risk owners' and progress is reported by the Project Manager on a monthly basis to the Project Board.

The key risks associated with the delivery of the LEB to the revised timetable are summarised below:

- Risk 1)** The Statutory Processes;
- Risk 2)** Procurement; and
- Risk 3)** Engagement with Network Rail.

Risk 1 relates to the Statutory Process (publication of draft Compulsory Purchase Orders and Side Road Orders to the Secretary of State). There remains a distinct opportunity for the Statutory Process to be undertaken without the need of a Public Inquiry, which would help to mitigate this risk. This opportunity has been reiterated during the Public Consultation and Planning Application processes. There is significant public and business support for the scheme (see **Section 4**) and as



reported Planning Permission was secured trouble free in October 2010.

With regards to Procurement (Risk 2), it is worth noting that May Gurney (LCC's ECI Framework Contractor) was engaged to prepare the Cost Estimate for the Programme Entry submission and they remain a Framework Contractor to LCC until summer 2011. Beyond that, LCC will consider the most appropriate procurement options available to them in order to secure a robust delivery plan and maintain cost certainty. This will be identified once the scheme enters the Development Pool. For this Expression of Interest, we have therefore identified procurement as being a notable risk, but one that is currently under serious consideration and can be dealt with during the revised timetable.

Risk 3, engagement with Network Rail, relates to the need to engage early, secure rail possessions and undertake works whilst the line is closed. LCC and their consultants have been liaising with Network Rail since 2004 and have good lines of communication. LCC and their consultant are fully aware of the lead-in times for booking rail possessions and the likely availability of the line (Easter or Christmas). The programme / milestones set out in **Section 1.3** allows sufficient time for the engagement, agreement of possessions and works to be undertaken in a controlled manner.

It should be noted that as promoting authority LCC has an excellent track record of the successful delivery of major transport schemes and the management of associated risks. LCC has recently delivered the following major schemes:

- **A16/A158 Coastal Access Improvement:** LCC has recently delivered phases 1 and 2 of the Coastal Access Improvement. Scheme costs for both phases were £23.6 million. Phase 1 of this scheme was the Partney Bypass. DfT funding approval was secured in 2003 and the scheme opened in 2005. The highway works were delivered 3 months ahead of programme. Phase 1 was used by the Office of Government Commerce as a best practice example of Early Contractor Involvement. Phase 2, the Burgh Le Marsh secured DfT funding in 2005 and opened 4 months ahead of programme in 2007.
- **A1073 Spalding to Eye Improvement Scheme:** This £80million improvement scheme secured full funding approval from the DfT in 2007. Sections of the scheme were opened in 2010 with the remaining sections to be open by spring 2011.

As a consequence of the above track record and detailed risk management processes in place for the LEB, the DfT can have confidence that LCC are experienced in the successful delivery of major schemes to cost and programme.

### **1.5 What is the total estimated outturn cost of the scheme?**

*Please provide the latest estimated cost of the scheme (and for schemes with a live Programme Entry bid with DfT an explanation of any key changes from the costs in the MSBC) broken down by main category (construction, land, utility diversions etc.) and including any eligible preparatory costs as defined in previous guidance. For the purposes of this question please assume no DfT funding available until 2012/13. Include the impact of any delay, if applicable. Please also include the revised funding profile for the scheme and breakdown by funder based on the funding split assumed in the MSBC. Please also state what inflation assumptions you are using.*

As requested this section of the Expression of Interest provides an update on the total estimated outturn costs of the scheme as promoted in June 2010. **Table 2** below sets

out the revised outturn funding profile for the scheme broken down by funding source. It therefore provides an update on the outturn costs provided in Table 13.5 (The Financial Case) of the November 2009 Programme Entry MSBC.

**Table 2: LEB Current Funding Profile (£millions)**

	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	
Total Scheme Costs (QCE) (inc Inflation and Risk, exc Optimism Bias)	£0.000	£1.819	£27.551	£45.815	£44.697	£19.281	<b>£139.163</b>
DfT Requested Contribution	£0.000	£1.637	£21.910	£38.347	£37.341	£17.353	<b>£116.588</b>
Local Authority Contribution	£0.000	£0.182	£2.434	£4.261	£4.149	£1.928	<b>£12.954</b>
Third Party Contribution	£0.000	£0.000	£3.207	£3.207	£3.207	£0.000	<b>£9.620</b>

It should be noted that as stated within the Programme Entry MSBC the Third Party Contributions are yet to be formally secured, however these shall be underwritten by LCC.

In comparison to the costs provided with the Programme Entry MSBC there are two key changes to the funding profile. These are:

- The adjusted programme (mainly the later start of construction) has led to a greater outturn cost; increase of approximately £5.4million; and
- Due to the uncertainty of DfT funding for the scheme, Growth Point Funding of £6.78million allocated to the LEB has been transferred to another scheme within the city centre. If the LEB secures a position in the Development Pool this will be reconsidered.

A detailed scheme cost breakdown is appended to the Expression of Interest (see **Appendix B**). The cost estimate was prepared by LCC, their ECI Framework Contractor and their Design Consultants in Quarter 3 2009.

To obtain an outturn cost, the cost estimate has been increased inline with general building cost index over a similar period. Taken from the Building Cost Information Services of Royal Institute of Charter Surveyors, "*general building cost index rose by 3.9% in the year to 2<sup>nd</sup> Quarter 2010*". We have then assumed 2.7% year-on-year inflation going forward.

**1.6 What is your best estimate of the scheme's BCR? If there is any variance between this and the BCR in your most recently submitted business case, please explain the reason and attach AMCB/TEE tables and supporting information. For schemes that do not have a live business case with the Department please indicate when this BCR was calculated and provide AMCB/TEE tables and any other supporting evidence.**

Using the scheme costs and funding profile included within the November 2009 MSBC the monetised costs and benefits of the LEB are summarised below in **Table 3**. The Analysis of Monetised and Costs and Benefits (AMCB) Table included within the Programme Entry MSBC presented a BCR of 5.03. However, this did not include the monetised noise benefits claimed. This was queried by the DfT following the

submission of the MSBC in November 2009. A revised AMCB has therefore been produced, which now includes the monetised cost benefits associated with the Noise sub-objective.

**Table 3: LEB AMCB Table**

	Values in £000's	
Noise	£5,846	
Local Air Quality		
Greenhouse Gases		
Journey Ambience		
Accidents	£3,392	
Consumer Users	£105,062	
Business Users and Providers	£364,019	
Reliability		
Option Values		
Present Value of Benefits <sup>(see notes)</sup> (PVB)	£478,319	
Public Accounts	£94,011	
Present Value of Costs <sup>(see notes)</sup> (PVC)	£94,011	
<b>OVERALL IMPACTS</b>		
<b>Net Present Value (NPV)</b>	<b>£378,46m</b>	$NPV=PVB-PVC$
<b>Benefit to Cost Ratio (BCR)</b>	<b>5.09</b>	$BCR=PVB/PVC$

It should be noted that this does not include any cost savings through value engineering practices which are discussed in **Section 2**.

**1.7 Are there significant benefits or costs that have not been captured in the above BCR?**

*Please explain whether there likely to be material benefits or costs that have not been captured in the above BCR. Please differentiate between monetised NATA benefits that have not been captured in the above BCR, non monetised NATA benefits and impacts that you do not think are included within the NATA framework. Please provide evidence to support any further impacts claimed. We will ask for more detailed evidence in due course during 2011 for schemes in the Development Pool.*

As part of the development of the November 2009 Programme Entry MSBC the

scheme appraisal was undertaken in line with the most recent WebTAG Guidance available at that time. LCC do however recognise that as part of the development of a Best and Final Offer (BaFO) the scheme appraisal may require further updates to reflect recent developments in appraisal methods.

A summary of the key benefits or costs that have not been captured within the BCR reported in **Section 1.6** are outlined below. It is understood that there may be additional requests by the Department for further scheme appraisal during the BaFO period. LCC are therefore committed to continue to liaise with the Department during the BaFO period to ensure that all requirements are met.

### **Wider Impacts**

As previously reported, the City of Lincoln is the County Town of Lincolnshire and so its continued economic success is important not just in a local context, but also for the County and the wider East Midlands within which it is identified as one of the region's five Principal Urban Areas. The recent expansion of the University and Lincoln's status as a Growth Point has seen Lincoln's national profile rise significantly in recent years.

As part of Lincoln's Growth Point status, the four local authorities (LCC, City of Lincoln Council, North Kesteven District Council and West Lindsey District Council) are working together to regenerate the area and have further plans to secure continued growth for the City. Their ambitions for Lincoln include a 30 Year vision for a regenerated city centre, promotion of city centre living, upgrading of the inadequate infrastructure to support further employment growth and to build sufficient new dwellings to support the delivery of the Regional Spatial Strategy housing allocations for the Lincoln Policy Area (an additional 25,000 dwellings over the plan period – see **Section 1.8** for further detail).

However, a lack of recent investment in major transport infrastructure has been identified as a key constraint to its continued success and growth of Lincoln. Due to a lack of alternative routes being available for through traffic, Lincoln's city centre currently suffers from high levels of congestion which impacts on the quality of life for local residents, acts as a constraint on the economy and reduces the attractiveness of the city for residents, visitors and investors. The LEB is therefore considered to be a key component of the future economic growth and success of the city. Planned growth to the north east and south east of the city has been identified as being dependent on the introduction of the LEB (see **Section 1.8** for further detail).

As such, LCC feel that there may be significant benefits that will result from the delivery of the LEB that are not explicitly captured within the BCR reported in **Section 1.6**. These include but are not limited to Agglomeration, Labour Supply Impacts, Output Change in Imperfectly Competitive Markets and Move to More or Less Productive Jobs (Wider Impacts and Regeneration).

In addition to the potential benefits associated with the Wider Impacts and Regeneration appraisal, LCC has used local land-use forecasts and undertaken a high level assessment of the theoretical economic potential associated with the North East and South East Quadrant sustainable urban extensions (see **Section 1.8** for further details). As reported, the LEB is identified as being required to support the delivery of these mixed use sites.

For the employment areas within these urban extensions, Gross Value Added (GVA) figures for Lincolnshire have been used to estimate the total additional economic

value associated with increased economic output through new jobs. Using the Employment Density Guide 2010 and the latest land use proposals for these sites up to 2026, an estimate of the total number of additional jobs has been made. This has subsequently been used to derive the potential GVA contribution that the additional jobs would generate for the Lincolnshire economy. The results indicate that by 2026 the North East and South East Quadrant would bring forward between 22,000 and 30,000 additional jobs. This will add between £327m and £446m to the GVA of Lincolnshire. Beyond 2026 this would deliver an additional 11,000 jobs and a potential additional GVA of £162m. In total, between 33,000 and 41,000 jobs will be facilitated by the scheme generating an uplift in GVA of between £489m and £608m.

It is understood that the Wider Impacts and Regeneration guidance which is currently marked 'for consultation' will become definitive in the near future and LCC welcome the opportunity to fully explore and quantify the level of wider benefits that can be attributed to the scheme as part of the development of the BaFO (see **Section 5**).

### **Reliability**

As part of the development of the Programme Entry MSBC, monetised reliability impacts were not included within the overall Analysis of Monetised Costs and Benefits.

It is understood that the Department has applied estimated adjustments to those schemes within both the Development Pool and the Supported Pool. LCC would therefore aim to explore the level of monetised reliability benefits that would be delivered by the LEB as part of the BaFO period (see **Section 5**).

Based upon figures provided by the Department it is currently estimated that the monetised reliability benefits associated with the delivery of the LEB would be equivalent to at least 5% of the overall time savings. These are considered to be additional benefits not currently captured within the BCR reported in **Section 1.6**.

### **Scheme Costs**

As part of the development of the BaFO, LCC will aim to drive down scheme costs through efficient and proactive risk management and ongoing Value Engineering, whilst increasing confidence in delivery through the development of a robust procurement strategy. For example, since the submission of the Programme Entry MSBC the scheme has been awarded planning permission. As a result, it is expected that although they cannot be captured as additional benefits, reductions in both risks and scheme costs would result in an increased BCR to that reported in **Section 1.6**.

### **1.8 Please describe the latest position regarding any developments associated with the case for the scheme?**

*If the business case for the scheme is associated with housing and commercial developments please describe the latest position regarding each of these developments, particularly where there have been changes since the most recently submitted business case. This should include any changes to numbers of housing, jobs etc. and information of planning consents applied for or granted. If possible please provide a letters or statement of intent from individual developers that state their present intentions regarding the scale, nature and timing of their developments.*

As discussed above, the LEB is considered to be a key component in the delivery of LCC's future growth aspirations. Within the recently revoked Regional Spatial Strategy (adopted March 2009), the Lincoln Policy Area was identified as an area for

significant housing growth with over 25,000 dwellings to be provided over the plan period.

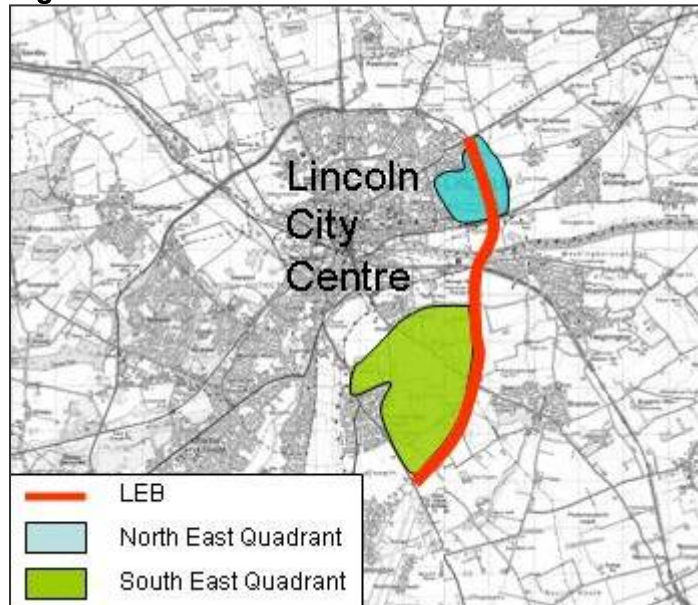
Within the Regional Spatial Strategy, sustainable urban extensions to the north east and south east of Lincoln were supported as key development sites in meeting regional housing targets. The LEB was identified within the Regional Spatial Strategy as being required to support the delivery of these development sites.

Following the Secretary of States announcement in July 2010 that Regional Spatial Strategies were to be revoked with immediate effect, the Central Lincolnshire Joint Strategic Planning Committee has been reviewing housing allocations as part of the development of the emerging Core Strategy for the Local Development Framework. As part of this process two sustainable urban extensions, namely the North East and South East Quadrants continue to be supported as priority locations for development. The Joint Strategic Planning Committee includes representatives from LCC, City of Lincoln Council, North Kesteven Council and West Lindsey District Council.

In addition to the above, Lincoln was afforded Growth Point Status as part of the Governments announcement on the second round of Growth Points in July 2008. These two development sites are fundamental to the success of the Growth Point aspirations and the LEB is essential for supporting development at these locations.

The North East Quadrant and the South East Quadrant are shown in **Figure 3** below within the context of the Lincoln Policy Area.

**Figure 3: North East and South East Sustainable Urban Extensions**



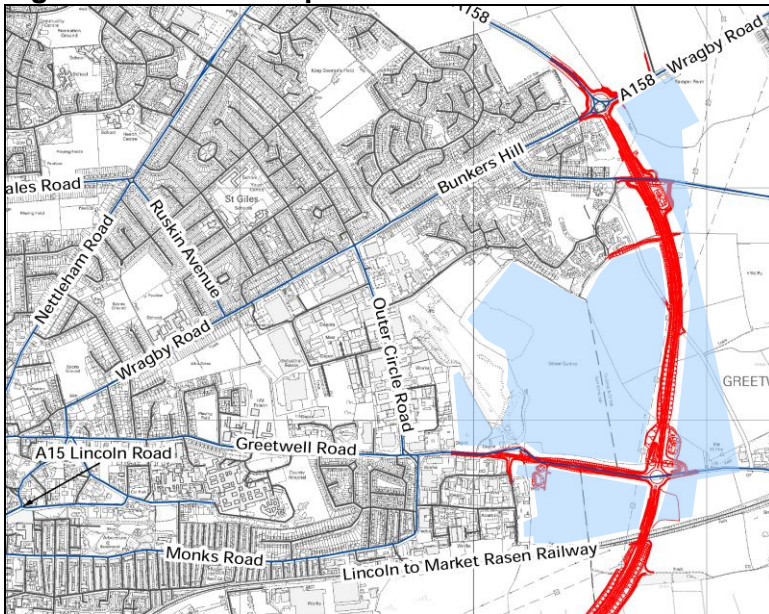
### **North East Quadrant (NEQ)**

This site is located to the east of Lincoln city centre, bounded by the Lincoln to Market Rasen railway line to the south, the proposed line of the LEB to the east and an area called Broadgate to the west (as illustrated in **Figure 4**). It is anticipated that the development would consist of 1,850 dwellings, 5.4 hectares of mixed use development plus community facilities such as a school and leisure and health care facilities. The land owners for the site (The Church Commissioners) have engaged consultants to produce Masterplan options for the development. The assessment of these Masterplan options has been informed by discussions with LCC and their



consultants and discussions are ongoing. The site continues to be supported within the emerging Joint Core Strategy for the Central Lincolnshire Local Development Framework.

**Figure 4: NEQ Development Area**

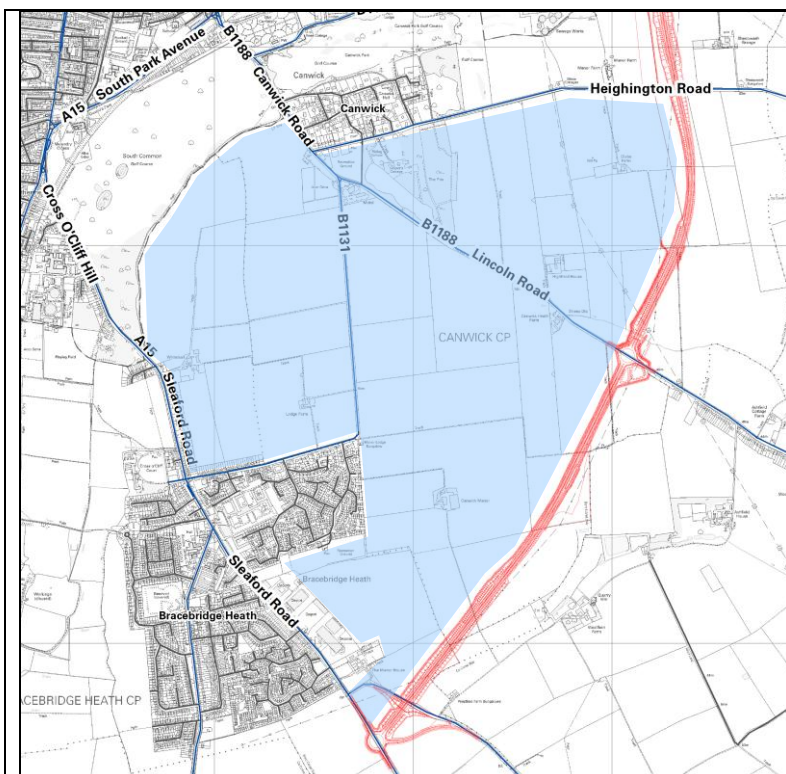


**South East Quadrant (SEQ)**

This site is located to the south east of Lincoln between Bracebridge Heath and Canwick between the A15 and the B1188 (as illustrated in **Figure 5**). The proposed LEB would enclose the site for the foreseeable future. It is anticipated that the development would consist of up to 10,000 new dwellings and 50 hectares of employment, including commercial development plus schools, local shops, community facilities and open space.

**Figure 5: SEQ Development Area**





As identified within **Appendix C**, the landowners (Jesus College Oxford) and the developers (Barratt Developments PLC) have confirmed their legal interest in the land known as the South East Quadrant and have reaffirmed their support for the LEB and confirmed that land will be made available to LCC to ensure its successful implementation. In addition the site continues to be supported within the emerging Joint Core Strategy for the Central Lincolnshire Local Development Framework.

During the BaFO period LCC and partners will continue to work together to progress both sites and investigate the appropriate mechanisms for securing reasonable Third Party Contributions (see **Section 3.2**).

## SECTION 2: SCOPE FOR REVISED PROPOSALS

*In this section we are asking for an early indication of your intent, without prejudice to what you might choose to include in your Best and Final Bid in autumn 2011, if selected for the Development Pool. Nothing you include here will be binding upon you or on DfT.*

### 2.1 What changes in scope do you plan to consider as compared against the scheme as described above?

*Please attach plans and/or maps if necessary to illustrate the nature of the possible changes. You may include more than one option here but please be clear on any 'red line issues' – e.g. reductions in scope below which you would not be prepared to take the scheme forward.*

In order to deliver the identified aspirations / objectives for the Lincoln Policy Area it is considered essential that the LEB provides the 'point' to 'point' link between the A15 and A158 Wragby Road in the north to the A15 Sleaford Road in the south. This will ensure that in line with the schemes core objectives (identified in **Section 1.2**) the LEB will enable the removal of both local and strategic through traffic from the city centre and facilitate the delivery of the sustainable urban extensions and associated

economic benefits (identified in **Section 1.8**).

The Next Best / Lower Cost Alternative as described in Chapter 2 of the November 2009 Programme Entry MSBC, is a shorter dual carriageway route which links with the A15 and A158 Wragby Road in the north, but terminates at the B1188 Lincoln Road in the south, not the A15 Sleaford Road. Although this would cost less to construct (approximately £17million), the associated benefits are much lower due to the lack of connection between the A15 not removing as much through traffic from the city centre and potential delivery issues associated with the South East Quadrant sustainable urban extension.

Taking the above in to account, it is considered that the BaFO would be based on the scheme design as described in **Section 1.1** but cost savings will be explored in order to reduce the requested funding from the DfT. The potential for cost savings are detailed below. All figures stated are 'ball-park' estimates and should be treated as indicative at this stage.

### **Carriageway and Junction Standards**

Through this Expression of Interest, LCC propose to seek funds sufficient for a single carriageway highway only between the A15 and A158 Wragby Road in the north to the A15 Sleaford Road in the south. Considering the current economic climate, LCC accept that affordability is critical to funding and have altered their proposals accordingly. Reducing the carriageway standard from a dual two lane all purpose highway to a single carriageway road would offer substantial savings estimated (in the time available to prepare this Expression of Interest) to be of the order of 30%. Potential Saving of £25.8million.

Whilst the DfT funding requested within this Expression of Interest is based on this change in standards, during the BaFO period LCC will seek to secure additional sources of funding to those quoted in **Section 3.4** to determine if the preferred scheme promoted within the November 2009 Programme Entry MSBC is deliverable. However as stated the DfT contribution would be limited in scope to a single carriageway scheme.

### **Side Roads and Radial Routes**

During the BaFO period LCC will also reconsider the treatment of side roads and radial routes which cross the LEB and reassess the size / type of junctions provided along the route.

### **Greetwell Road Improvements**

Due to the significant increase in traffic flows predicted on Greetwell Road once the scheme is constructed, improvements are deemed to be necessary to realign the substandard highway. Scheme costs associated with these improvements were included within the overall LEB scheme costs within the 2009 Programme Entry MSBC. The existing alignment is along a "country lane" which negotiates successive right-left bends whilst passing through a significant dip which is liable to flooding several times per year. To reduce the DfT funding to be requested, LCC will explore alternative funding arrangements or the omission of Greetwell Road Improvement from the scope of works. Potential saving of up to £4.5million.

### **Street Lighting**

The removal / reduction of street lighting provision, has the potential to save up to £1,027,000 from the scheme costs. Complying with current design standards would result in the whole of the scheme being lit. LCC has a departure from standard to reduce provision, however substantial lengths of carriageway would remain lit. LCC will consider departing further from standard during the BaFO period.

### **Earthworks**

As part of the change in carriageway standards, during the BaFO period LCC will consider reducing the design speed of the scheme in order to introduce greater earthwork savings along to route.

## **2.2 Can you describe the likely impact of the scope changes described above on value for money and achievement of your stated objectives**

*Your answer to this question does not need to include a precise value for money calculation (unless one is already available) but it should provide a commentary on where there would be expected to be a material change to costs and benefits (both monetised and non-monetised), and in which direction. Please provide evidence if available.*

At this stage, a detailed Value for Money assessment which includes the changes in scope discussed within **Section 2.1** is not available. It is the aim of LCC to undertake a detailed appraisal of the proposed changes in scope as part of the ongoing scheme development process and the preparation of the BaFO (see **Section 5**).

It is considered that the proposed change in scope to a single carriageway scheme between the A15 and A158 Wragby Road in the north to the A15 Sleaford Road in the south would continue to deliver significant benefits in terms of the schemes core objectives and will deliver an improved BCR (see below):

**Objective 1:** To support the delivery of sustainable economic growth and the Growth Point agenda within the Lincoln Policy Area through the provision of reliable and efficient transport infrastructure.

**Objective 2:** To improve the attractiveness and liveability of central Lincoln for residents, workers and visitors by creating a safe, attractive and accessible environment through the removal of strategic through traffic (particularly HGVs).

**Objective 3:** To reduce carbon emissions, improve air and noise quality within the Lincoln Policy Area, especially in the Air Quality Management Area in central Lincoln, by the removal of strategic through traffic (particularly HGVs).

The changes in scope would continue to provide the 'point' to 'point' link which would support the delivery of the above objectives through the removal of strategic through traffic from the city centre and deliver the associated economic and environmental benefits. However, it is acknowledged that the proposed reduction in carriageway standards is likely to comparatively reduce the levels of through traffic that would be removed from the city centre and as such the associated benefits would not be as pronounced. As a result it is envisage that the journey time and vehicle operating cost benefits included within the BCR would be comparatively reduced.

In addition the change in carriageway standards will require the current levels of proposed development in the North East and South East Quadrant sustainable urban extensions to be revisited. Investigations during the BaFO period would be required

to determine if the current levels of development could be accommodate with the proposed scope changes in place (see **Section 5**).

However, it is anticipated that as the reduction in scheme costs associated with a single carriageway scheme (at the time of submission estimated to be in the region of 30%) would be delivered much earlier in the evaluation period, this will more than offset the potential reductions in scheme benefits referenced above. As such it is anticipated that BCR and associated Value for Money of the LEB will be improved.

To provide an indication of the above, the Lincoln Transport Model has been used to undertake a 'high level' assessment of the impact on traffic flows on the key routes within the Lincoln Policy Area. This has assumed a single carriageway scheme in place but due to time constraints the same junction arrangements have been included. This has been undertaken for the AM Peak Period using the fixed demand model (not the variable demand model used in the Programme Entry MSBC due to time constraints). This initial assessment has shown only marginal differences in results between the single and dual carriage way schemes for the Design Year Flows (2031) in the city centre, on key radial links within the Lincoln Policy Area and on the LEB itself.

However, the assessment shows that the single carriageway scheme would reach theoretical capacity in a shorter period of time than the currently promoted dual carriageway. As such the comparable economic benefits in the later stages of the 60 year appraisal period would be less significant. However, as the comparable reduction in benefits in the later years will be worth less due to discounting, LCC is confident that the savings in the Present Value Costs will more than offset the reductions in Present Value Benefits.

It is acknowledged that this is an initial assessment and more detailed investigations would be required during the BaFO period. However, as reported above it is anticipated that the reduction in scheme costs associated with a single carriageway scheme would offset the potential for any reductions in economic benefits and the scheme would continue to deliver High Value for Money.

In addition to the above, through continuous commitment to the development and appraisal of the scheme, LCC is already in a strong position to maximise the Value for Money offer that can be achieved through the delivery of the scheme. LCC will aim to drive down scheme costs through efficient and proactive risk management and ongoing Value Engineering during the BaFO period whilst increasing confidence in delivery through the development of a robust procurement strategy.

### **2.3 Can you describe the impact of the scope changes on your timescales for delivery at 1.3 above**

*For example if they would require restarting statutory processes, procurement etc.*

There will be no impact on the timescales for delivery as a result of the scope changes. LCC are confident that the programme can accommodate the changes as there is sufficient time from the commencement of the Development Pool period (February 2011) to the publication of Draft Orders in May 2012 to mitigate.

As reported in **Section 1.4**, LCC as the promoting authority has an excellent track record of the successful delivery of major transport schemes. As a consequence of the above the DfT can have confidence that LCC are experienced in the successful delivery of major schemes to cost and programme.

**2.4 In addition to any significant changes in scope, can you quantify the potential for savings in the overall cost of the scheme, for example through value engineering?**

*We do not necessarily expect firm costings at this stage but please give some indication of scale.*

LCC's ECI Framework Contractor, May Gurney, prepared a budget works cost estimate in 2009. During the preparation they identified a number of areas where considerable savings could be achieved through further scheme development and value engineering. These included:

- Alterations to side slopes to reduce imported material;
- Imported material could be sourced for a borrowpit adjacent to the works;
- Reduce the amount of unacceptable and topsoil material to be disposed off-site by treating / making acceptable or by use in bunds;
- Use of cement bound material based on locally occurring limestone aggregate, possibly site won;
- With further development there are opportunities for programme savings; and
- With further development there are opportunities for further value engineering savings.

May Gurney anticipate that total savings of 10% to 15% are achievable, as stated in **Appendix D**

**2.5 What is your latest assessment of the cost, feasibility or value for money of any alternatives to the proposed scheme.**

*This could include any lower cost alternatives to the scheme as appraised by you in previous business cases or those proposed by third parties. Please make reference to any material differences with the preferred scheme in costs or benefits such as carbon impact.*

**Next Best / Lower Cost Alternative**

As reported in **Section 2.1** the Next Best / Lower Cost Alternative promoted within the November 2009 Programme Entry MSBC, is a shorter dual carriageway route which links with the A15 and A158 Wragby Road in the north, but terminates at the B1188 Lincoln Road in the south, not the A15 Sleaford Road.

To inform the November 2009 Programme Entry MSBC the scheme was designed to an appropriate level and a Value for Money appraisal undertaken. The scheme is considered to be feasible and deliver High Value for Money. Outlined in **Table 4** are the results of the comparative economic assessment. The results demonstrate that the Next Best / Lower Cost Alternative provides marginally worse carbon benefits but has significantly lower accident benefits and a lower BCR.

As previously reported, although the scheme would cost less to construct, the overall scheme benefits much lower due to the lack of connection between the A15 not removing as much through traffic out of the city centre and potential delivery issues associated with the South East Quadrant sustainable urban extension.

**Table 4: Comparative Economic Assessment (TEMPRO) discounted to 2002 prices**

Cost / Benefit Category	Preferred Option	Next Best / Lower Cost Alternative
Consumer User Benefits	£105.062m	£34.259m
Business User Benefits	£364.019	£277.921m
Accident Benefits	£3.392m	£-34.019m
Maintenance	£3.141m	£3.141m
Carbon Benefits	£-1.077	£-1.084
<b>Present Value of Benefits (PVB)</b>	<b>£474.537</b>	<b>£280.218</b>
<b>Present Value of Costs (PVC)</b>	<b>£94.011</b>	<b>£81.729</b>
<b>Net Present Value (NPV)</b>	<b>£380.526</b>	<b>£198.489</b>
<b>Benefit to Cost Ratio (BCR)</b>	<b>5.05</b>	<b>3.43</b>

As shown in **Table 5** below the total scheme costs for the Next Best / Lower Cost Alternative are £122.454million. This compares with the £139.163million for the Dual Carriageway scheme (see **Table 2**).

**Table 5: Next Best / Lower Cost Alternative Funding Profile (£millions)**

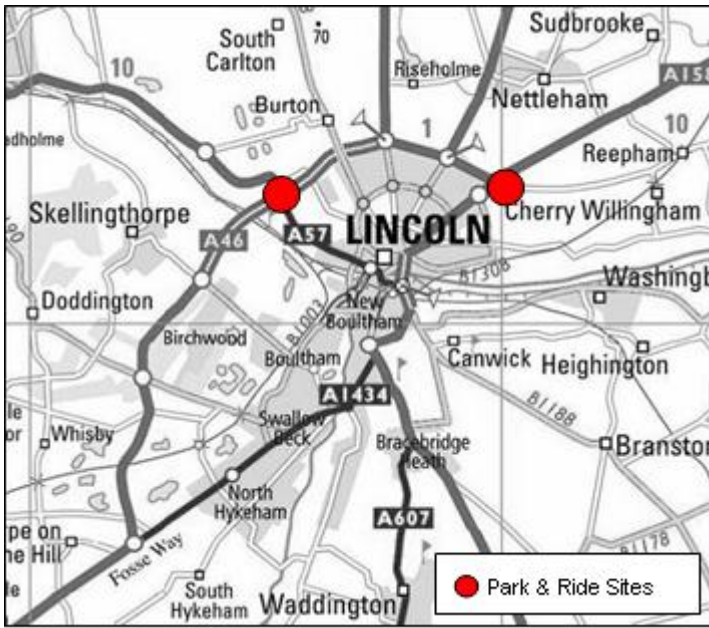
Truncated LEB	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	
Total Scheme Costs (QCE) (inc Inflation and Risk, exc Optimism Bias)	£0.000	£1.601	£24.243	£40.314	£39.330	£16.966	<b>£122.454</b>

### **Modal Alternatives**

Within Chapter 3 of the November 2009 MSBC, a range of alternative modes were considered to the LEB. This assessment considered the potential benefits of a public transport package including the introduction of four Quality Bus Corridors on key radials within the Lincoln Policy Area combined with two Park & Ride sites to the east and west of the city centre (see below).

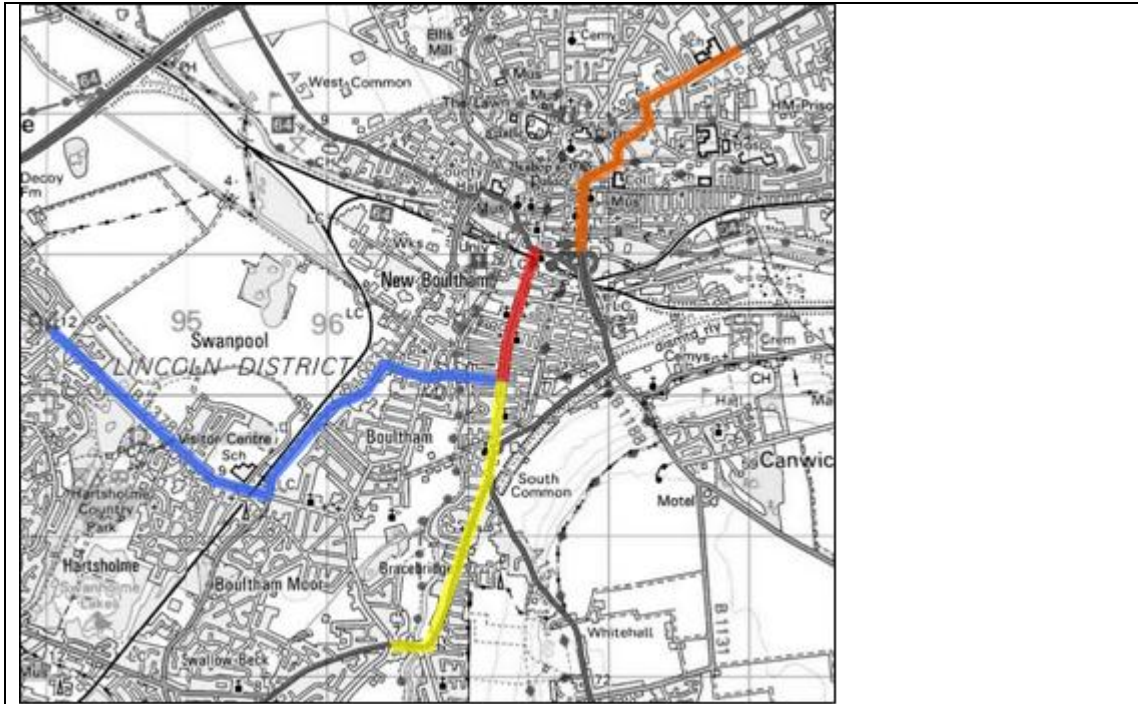
The results of these investigations revealed that this package of options had a limited impact on journey time savings and congestion relief within the Lincoln Policy Area making them a poor alternative to the LEB for the purposes of removing strategic through traffic from the city centre and stimulating economic growth. Analysis also revealed that this package of measures would work best in combination with the LEB as the removal of traffic from the city centre and key radials would provide significant operational benefits for public transport.

**Figure 6: Park & Ride Sites**



**Figure 7: Quality Bus Corridors**





**SECTION 3: FUNDING**  
*Please quote all amounts in £m to three decimal points (i.e. to the nearest £1000)*

**3.1 Taking into account the range of possible scope changes and cost savings described in Section 2, what is the extent of the potential reduction in the overall cost of the scheme from the figure provided in Section 1.5?**

As stated in **Section 2.1** above, LCC are now seeking funds sufficient for a single carriageway highway only and as such have estimated that this would reduce the Works Costs by 30%. This reduction has also been applied to other costs by virtue of the reduced scope of work.

On top of the scope change above, LCC believe the Value Engineering opportunities listed within **Section 2.4** remain viable and achievable for a single carriageway.

A summary of the potential savings are shown below:

**Table 6: Value Engineering Savings**

<b>Potential Cost Savings (Q3 2009 Prices)</b>	
Single Carriageway Option (-30%)	£25,832,400
Value Engineering (-15%)	£9,041,340
<b>Total potential Works Costs saving</b>	<b>£34,873,740</b>
Land part gifted	£2,700,000
Preparation (-30%)	£1,557,600
On-site Supervision (-30%)	£847,500
On-site Testing (1% of Works Costs)	£348,657
Risk (-30%)	£2,294,700
<b>Total Potential Saving</b>	<b>£42,622,197</b>

In total, LCC has reduced the scheme estimate by £42.622million (Q3 2009). This equates to an outturn saving of £51.115million.

The scheme estimate has been revised to reflect the potential saving and is broken down below.

**Table 7: Revised Scheme Estimate**

	<b>Q3 2009</b>
A - Works Costs	£51,234,260
B - Land Costs	£6,445,000
C - Ancillary / Advanced Works Costs	£2,227,000
D - Statutory Undertaker Costs	£1,519,000
E - Rail and Local Authority Costs	£586,000
F - Preparation Costs	£3,634,400
G - On-Site Supervision	£1,977,500
H - On-Site Testing	£512,343
I - Risk	£5,354,300
<b>Total</b>	<b>£73,489,803</b>

### **3.2 Third Party contributions**

*Please specify the third party contributions proposed so far and the extent of the further contributions that you think would be possible? Please state each potential third party organisations and their role or interest in the scheme. Please support this by attaching any funding commitments or letters of intent from individual funders wherever possible.*

As previously reported a key objective of the scheme is to facilitate development to the north east and south east of Lincoln. Through these and other development sites LCC considers it appropriate for reasonable private sector contributions to be sought towards the scheme.

LCC is engaged in early negotiations with landowners and developers and contributions from these parties will be confirmed as part of the planning approvals process for these sites. It is currently envisaged that the Third Party Contributions secured will be allocated to support the delivery of the LEB as well as other public infrastructure and services required to support the delivery of the sustainable expansion of Lincoln in line with the Growth Point agenda and the Lincoln Transport Strategy.

As specified above there are two significant development sites that the scheme would facilitate, namely:

- North East Quadrant. Landowner: Church Commissioners of England
- South East Quadrant. Landowner: Jesus College Oxford

Though the scale of the developments are yet to be confirmed, the North East Quadrant is expected to deliver in the order of 1,850 dwellings as well as 8 hectares of mixed use employment and retail development. The South East Quadrant is anticipated to deliver up to 10,000 new dwellings and 50 hectares of mixed use employment, retail development community facilities and open space.

As part of the development of the emerging Core Strategy, the Central Lincolnshire Joint Strategic Planning Committee is currently in the process of preparing a developer contributions policy using a 'roof tax' strategy for the Lincoln Policy Area. Based on initial investigations and national benchmarking it is envisaged that a 'roof tax' of between £4,200 and £5,200 per dwelling would be collected and used towards the cost of supporting infrastructure, education, health, etc within the Lincoln Policy Area. This equates to a potential developer contribution range of between

£49.770million and £61.620million. In addition, contributions may be sought from the developers of the non-residential developments and from other development sites within the Lincoln Policy Area in order to accommodate the cumulative impact on transport infrastructure.

At this time, no firm decisions have been made regarding how the Third Party Contributions will be used and hence how much would likely be channelled towards the construction of the scheme. However, for the purposes of this Expression of Interest LCC has estimated that a total Third Party Contribution of £25million is realistic and are prepared to underwrite this figure.

It should be noted that although negotiations are ongoing, at this time no Third Party Contributions have been secured. As identified within **Appendix C**, the landowners (Jesus College Oxford) and the developers (Barratt Developments PLC) have confirmed their legal interest in the land known as the South East Quadrant and have reaffirmed their support for the LEB and confirmed that land will be made available to LCC to ensure its successful implementation.

### **3.3 Local Authority funding**

*Please specify the scale of the funding contribution you would be prepared to consider providing from your own resources.*

LCC are prepared to contribute 20% towards the cost of the scheme after the Third Party Contributions have been deducted. LCC will also underwrite the Third Party Contributions and will recuperate the money through the developer contributions policy for the Lincoln Policy Area described in **Section 3.2** above.

### **3.4 DfT funding to be requested**

*Taking into account the extent of the potential for reductions in overall cost and additional third party funding what is the scale of reductions in the previously requested DfT contribution.*

As a result of aggressive value engineering during the preparation of this Expression of Interest, the contribution sought from the DfT has significantly reduced. Considering the current economic climate, LCC accept that affordability is the highest criteria and have altered their proposals accordingly.

The reduction of outturn DfT contribution has been estimated to be £66.638million. This would reduce the outturn DfT funding contribution from £116.588million to £49.950million.

A revised funding profile is shown below in **Table 8**. Figures are outturn amounts and are shown in millions.

**Table 8: Revised Funding Profile**

	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	
Total Scheme Costs (QCE) (inc Inflation and Risk, exc Optimism Bias)	£0.000	£1.293	£17.879	£29.022	£27.451	£12.403	£88.048
DfT Requested Contribution	£0.000	£1.034	£7.474	£16.388	£15.131	£9.922	£49.950
Local Authority Contribution	£0.000	£0.259	£1.869	£4.097	£3.783	£2.481	£12.488
Third Party Contribution	£0.000	£0.000	£8.537	£8.537	£8.537	£0.000	£25.610

**SECTION 4: ADDITIONAL INFORMATION**

*Please add any additional information that is relevant to your expression of interest that is not covered elsewhere in the form*

As reported in **Section 1.1**, LCC is working in partnership with a number of stakeholders who are committed to the successful delivery of the scheme. In October 2003 a Memorandum of Understanding was signed between the leaders of LCC, North Kesteven District Council, City of Lincoln Council, West Lindsey District Council and Lincolnshire Enterprise to work together to promote the delivery of the LEB. All parties remain fully supportive of the scheme and the LEB continues to be viewed as being essential to the delivery of national and local policy agendas identified for Lincoln up to 2026 and beyond.

**Public Support**

The scheme also has significant levels of public support. To inform the development of the Lincoln Transport Strategy an extensive consultation exercise was undertaken in January 2005. A questionnaire was issued to 10,000 households and a series of public exhibitions were held in and around the Lincoln Policy Area. In total over 1,000 members of the public attended these exhibitions. The results of the consultation revealed that the LEB was viewed by the public as the priority improvement identified in the strategy.

In February 2008, public and local residents were consulted upon specific proposals for the LEB. The consultation activities again involved questionnaires, leaflets, local media exposure, internet sources, and public exhibitions. The findings from this exercise showed that there was continue support for the scheme with the public identifying the following as key issues for consideration:

- Reducing congestion in the city centre;
- Improved and more reliable journey times; and
- Improvements in road safety.

**Stakeholder Support**

Stakeholders have been involved in the decision making process from an early stage and have offered support at a variety of stages during the scheme development process. Stakeholders include representatives from regional and local government,

the emergency services, the Highways Agency, statutory environmental consultees, transport providers, non-motorised user groups and environmental groups. Stakeholders have been involved in the selection of a preferred alignment for the LEB and were also consulted as part of the recent successful planning application.

Letters in support of the LEB have been received from a wide range of stakeholders. Copies of these are included within **Appendix C**.

Letters of Support
Environment Agency
North Kesteven District Council
West Lindsey District Council
City of Lincoln Council
Ministry of Defence
English Heritage
Lincoln Chamber of Commerce
Road Haulage Association
Jesus College, Oxford and Barratt Homes (South East Quadrant)

## SECTION 5: FURTHER WORK

*We will be providing you separate technical guidance on the information that we will require for schemes in the Development Pool in the first part of 2011, particularly on modelling and appraisal, prior to the submission of Best and Final Funding Bids. Based on the requirements of this guidance, please provide an indication of what further modelling and appraisal work you would need to undertake if selected for the Development Pool and an indication of the earliest that you would be able to submit a Best and Final Funding Bid.*

Based upon the information provided within this Expression of Interest, LCC has acknowledged the need to undertake further development and scheme appraisal work as part of the BaFO submission to ensure that the most robust business case can be submitted to the DfT. The key elements of further work to be undertaken during the BaFO period are summarised below under the following headings:

- Scheme Development
- Traffic & Economic Modelling
- Further Scheme Appraisal
- Developer Contributions
- Procurement

### **Scheme Development**

To reflect the proposed changes in scope to a single carriageway scheme, LCC would revisit the scheme design during the BaFO period. This will include a more detailed review of scheme costs, risks and the value engineering proposals outlined within **Section 1.7**.

Once notice is received that LEB is in the Development Pool, LCC will work together with

their Design Consultants and Framework Contractor to achieve a Best and Final Offer. During this period, LCC will progress in detail the revised scheme and identified Value Engineering opportunities.

As well as the identified Value Engineering opportunities, the Team's objective will be to identify and evaluate further opportunities which will result in the scheme being more affordable whilst still offering High Value for Money. Value Management and Value Engineering workshops will be held at the start of the period to enable opportunities for innovation and efficiencies to be identified and determine implementation plans. These workshops will also focus on opportunities to improve efficiency by considering alternative techniques etc.

The starting point for each workshop will be a library of value engineering solutions collected from relevant highway and civil engineering schemes, with any and all potential approaches taken into consideration.

We will identify opportunities for innovative design, with the objective of achieving better Value for Money. The aim is to develop solutions which weigh proven techniques against new products, and look for cross fertilisation from other disciplines. During the Development Pool period, LCC will lead workshops where we will critically appraise the scheme in the following areas:

- Efficient design and construction;
- Standards;
- Capital vs. whole life costs; and
- Programme.

In order to communicate potential changes, LCC will work with the Planning Authority and key Stakeholders so that all parties are informed.

### **Traffic & Economic Modelling**

Prior to the suspension of the DfT Major Schemes Funding Approvals process in June 2010, LCC were in the process responding to initial DfT queries received in April 2010 relating to the Programme Entry MSBC scheme appraisal. A number of these queries related specifically to the traffic modelling and Traffic Economic Efficiency element of the MSBC submission.

Where the information requests were clearly defined, LCC provided additional detailed responses to ensure that the Department were in receipt of the required evidence. However, a number of the information requests related specifically to detailed elements of the traffic modelling process. LCC therefore sought audience with the Department to discuss their detailed requirements to ensure that the information requirements were more clearly defined and the evidence provided was of the required level of detail.

Due to the Comprehensive Spending Review process, the Department was unable to liaise in any detail with LCC and as such further clarification on specific queries, and the additional information sought by the Department, was not possible.

As part of the Expression of Interest process, in November 2010 LCC received further correspondence from the DfT relating to the Modelling and Appraisal of the LEB. These are highlighted in the Table below. The following paragraphs provide a formal response to these DfT queries and also take into account the more detailed queries issued in April 2010. As the RAG indicator for the Base Model fit is 'green' no response has been

provided.

**Table 9: DfT Modelling and Appraisal Queries (November 2010)**

Concern	Area of Concern	RAG Indicator
Data	Data type and coverage.	Red
Base Model Fit	None.	Green
Supply and Demand Model	Base model demand development, including use of matrix estimation in base model; calibration process and results for demand model.	Red
Forecast Assumptions	Development assumptions; forecasting procedures; plausibility of outputs.	Red
Appraisal Assumptions	Plausibility of TUBA results given the warning messages produced; annualisation factors.	Red

#### *Data*

Our investigations into the amber and green queries received in April 2010 have shown that these issues can be resolved through provision of further information and supporting analyses. With regards to the red issues, these pertain to public transport data and accuracy of count sites used within our final calibration of the model.

With regards to public transport data, the existing base models are highway only and there is no public transport element in the model. We would advocate further discussion regarding the requirement of public transport for modelling.

With reference to the accuracy of count data, this element will be considered during the potential revisions that are likely to be required to the base model under new guidance. Details of this aspect can be firmed up through discussions with the Department.

The anticipated impact this will have on the overall modelling appraisal is likely to be low and therefore the impact this may have on the existing Value for Money Appraisal is considered to be low risk.

#### *Supply and Demand Model*

Our investigations into the amber and red queries received in April 2010 have shown that six of these issues can be resolved through provision of further information and supporting analyses. With regards to the remaining five, the issues are interlinked and require further discussion with the Department to establish the most appropriate way forward with regards to the base matrix.

The interlinked issues are in relation to the base model matrix and the method employed to develop prior matrices and subsequent estimated matrices. In addition, further details of the Demand Model operation are desired in order for the matrices to be fully accepted as being robust.

It is our understanding that these issues can be resolved through discussion and subsequent model refinements, do not anticipate significant changes to the current model and therefore the areas of concern highlighted by the DfT pose a low risk to the existing Value for Money Appraisal.



### *Forecast Assumptions*

Within the queries received in April 2010, the major areas of concern highlighted were with regards to the uncertainty log, fuel cost elasticity, and HGV growth assumptions.

With reference to the uncertainty log, a TEMPRO scenario and a series of sensitivity tests have been modelled to establish a Value for Money Appraisal for a number of permutations. This has established the margins of benefits associated with the LEB given the levels of development anticipated in Lincoln.

The development assumptions were agreed through liaison with the Local Planning Authorities of North Kesteven District Council, West Lindsey District Council and City of Lincoln Council and used the most accurate information at the time of submission. During the BaFO period updated development logs will be established and re-run through the model to provide the latest development projections and their associated impacts. In addition, national uncertainty will be taken into account with further sensitivity tests.

With regards to realism testing and reporting, explicit descriptions of the calculation steps can be provided and further refinements will be made to ensure outturned fuel elasticity is within the range required. For HGV forecasting, again latest guidance will be applied to update this element of the projections.

Although a number of concerns have been highlighted by the DfT regarding forecasting, the development assumptions provided by the Local Planning Authorities were accurate at the time of submission. The TEMPRO scenario forecast used TEMPRO datasets and subsequent housing and employment scenarios were agreed with the Local Planning Authorities. It is our intention that revised forecasts are established to take into account current development projections and also to take into account national variability. We will also endeavor to undertake additional realism testing to ensure robustness in the results.

Given that the Value for Money Appraisal was high for the TEMPRO scenario and even higher for the three variant scenarios (Core, Optimistic and Pessimistic) the anticipated impact upon the Value for Money Appraisal is considered to be low.

### *Appraisal Assumptions*

Within the queries received in April 2010, the major areas of concern highlighted were with regards to the annualisation of benefits used within the TUBA analysis and the outturn warning messages. Annualisation factors will be reviewed and updated to account for local flow profiles which will further add to the robustness of the results. In addition, reporting of benefits and explanation of serious warnings in TUBA will be provided for each of the analyses undertaken.

The current benefits presented in the business case demonstrate that the scheme represents High Value for Money. If the annualisation factors reduce from the current levels, it is anticipated that the scheme would continue to provide High Value for Money and therefore the areas of concern highlighted by the DfT are considered to pose a low risk to the existing Value for Money Appraisal.

### *Traffic & Economic Modelling Summary*

The scheme appraisal for the LEB is extremely well developed in line with contemporary DfT guidance available at the time of writing.

LCC acknowledge that as part of the development of a Best and Final Offer there is a

need to provide the Department with additional evidence in support of the scheme appraisal and that updates may be required due to the release of further guidance following the submission of the MSBC in November 2009.

LCC are confident that the scheme appraisal has been undertaken based upon sound principles and best practice and are confident that the potential risk associated with the Value for Money Appraisal is low.

### **Scheme Appraisal**

As part of the ongoing scheme development process, LCC will update the scheme appraisal in line with forthcoming DfT guidance relating to the development of the BaFO. This will reflect any changes to WebTAG guidance since the November 2009 Programme Entry MSBC. It is anticipated that all aspects of the Value for Money appraisal will be updated to reflect the change in scope to single carriageway. With regard to recent and anticipated changes in guidance key issues are highlighted below.

#### *Reliability and Wider Impacts*

As reported in **Section 1.7** of the Expression of Interest further investigations of the Reliability benefits and 'Wider Impacts' (such as agglomeration, labour supply, output change etc) associated within the LEB would be undertaken during the BaFO period. This will determine the extent of the additional benefits not currently reported within the BCR reported in **Section 1.6**. This will be undertaken in line with contemporary WebTAG guidance and be informed by ongoing liaison with the DfT.

#### *Social and Distribution*

To reflect recent changes in WebTAG guidance and the changes in scope the assessment of Social and Distribution impacts will be revisited.

#### *Modelling and Economic Appraisal*

To reflect anticipated changes in guidance relating to Accident Values, Carbon Values, Values of Time, Vehicle Operating Costs and updated version of NTEM / TEMPRO by April 2011, all aspects traffic forecasting and economic appraisal will be revisited.

### **Developer Contributions**

During the BaFO period LCC and partners will continue to work together to progress the North East and South East Quadrant sustainable urban extensions and investigate the appropriate mechanisms for securing reasonable Third Party Contributions. It is anticipated that the key policy mechanism for this process will be determined as part of the development of the emerging Local Development Core Strategy for Central Lincolnshire. These investigations will include an assessment of the potential impact of the change in scope to single carriageway on the level of development that can be accommodated within these locations.

### **Procurement**

To date LCC has procured the scheme using an existing Early Contractor Involvement (ECI) framework contract which expires in 2011. LCC intend to take advantage of the contract until 2011 whilst ensuring that a robust procurement strategy is in place well in advance of the termination of the existing ECI contract.

LCC understand the importance of seamless delivery and risk mitigation and are therefore already in the process of exploring the best procurement options currently available. To inform this process, recent major scheme experience from the successful delivery of the A16/A156 Coastal Access Improvement Scheme and the A1073 Spalding to Eye Improvement Scheme (which is currently under construction) will be drawn upon. The A16/A156 Coastal Access Improvements Scheme was sighted as a best practice example of successful procurement by the Office of Government Commerce.

The various procurement options under consideration will be considered in line with the recommendations from the Stage 1 Gateway Review undertaken by the 4P's on behalf of the Office for Government Commerce. As indicated within **Section 1.4** LCC will consider the most appropriate procurement options available to them in order to secure a robust delivery plan and maintain cost certainty. This will be identified once the scheme enters the Development Pool.

#### **Timescale for Best and Final Offer**

Assuming that confirmation that the LEB has secured a position in the Development Pool by the end of January 2011, LCC anticipate that they will be able to submit their Best and Final Offer during Autumn 2011.

#### **CONTACT DETAILS FOR FURTHER ENQUIRIES**

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