



Lincolnshire County Council

NORTH HYKEHAM RELIEF ROAD

Outline Business Case - Strategic Case -
Transport Investment Strategy Summary





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CONTENTS

1.	TRANSPORT INVESTMENT STRATEGY	1
1.1.	INTRODUCTION	1
1.2.	OVERVIEW & PURPOSE OF THIS REPORT	1
2.	CREATE A TRANSPORT NETWORK THAT WORKS FOR USERS	3
2.1.	CONTEXT	3
2.2.	HOW DOES THE PROJECT DELIVER FOR PEOPLE?	4
2.3.	WHAT IS BEING DONE TO MINIMISE DISRUPTION DURING CONSTRUCTION?	5
2.4.	ENGAGEMENT WITH USERS	6
3.	IMPROVE PRODUCTIVITY AND REBALANCE GROWTH ACROSS THE UK	10
3.1.	IMPROVING PRODUCTIVITY	10
3.2.	UK SKILLS BASE	14
4.	ENHANCE OUR GLOBAL COMPETITIVENESS	15
4.1.	IMPROVING TRADE FLOWS & INCREASING EXPORTS	15
4.2.	FOREIGN DIRECT INVESTMENT OR TOURISM	16
5.	SUPPORT THE CREATION OF NEW HOUSING	17
5.1.	OVERVIEW	17
5.2.	DEPENDENT DEVELOPMENT	18
5.3.	ENGAGEMENT & FUNDING	18
5.4.	DELIVERY OF NHRR & WIDER ECONOMIC BENEFITS	18
6.	SUMMARY	20

TABLES

Table 2-1 – Existing Transport Key Issues	4
Table 2 - Stakeholder Groups	7
Table 3-1 – Labour Productivity in 2016	10
Table 3-2 – GVA (£) per FTE employee by industry in 2016	11
Table 6-1 - Transport Investment Strategy Summary	21

FIGURES

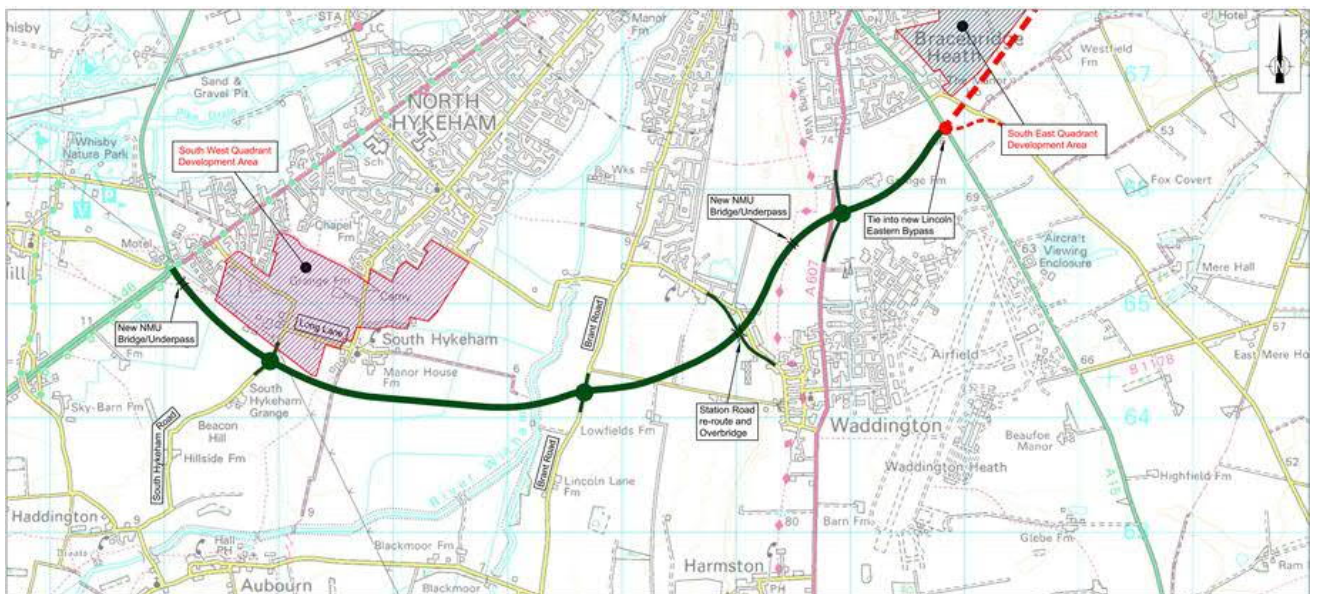
Figure 1-1 - NHRR alignment	1
Figure 3-1 - GVA per FTE 1998-2016	11
Figure 5-1 - Lincoln Strategy Area	17

1. TRANSPORT INVESTMENT STRATEGY

1.1. INTRODUCTION

The proposed North Hykeham Relief Road (NHRR) will provide a new road link to the south of the city of Lincoln and the suburb of North Hykeham. It will consist of a 70mph dual carriageway link between the A46 on the western side of Lincoln and the A15 / LEB Junction. The scheme will tie into the existing at-grade five arm roundabout at A46 Western Relief Road / A1434 Newark Road / A46 (T) / Middle Lane and join the A15 / LEB junction on the eastern side of Lincoln through an additional fourth arm. It will incorporate new Non-motorised User (NMU) linkages through the provision of shared pedestrian and cycle routes on the northern and southern sides of the scheme and new grade separated crossings over the carriageway.

Figure 1-1 - NHRR alignment



1.2. OVERVIEW & PURPOSE OF THIS REPORT

The **Transport Investment Strategy (2017)** builds on the Industrial Strategy and focuses solely on transport. It sets out the Government's continued investment in transport infrastructure and how it will address specific national challenges, these and the resulting objectives are summarised below:

Challenges

- Network connectivity and reliability - By 2040, it is estimated that congestion on the SRN could lead to 28 million lost working days, a £3.7 billion cost to the freight industry, and each household spending an average of 16 hours stuck in traffic a year;
- Productivity and rebalance - UK productivity has been falling behind other G7 countries;
- Global competitiveness - Around a quarter of businesses cite the quality of domestic connections to international gateways as a barrier to exporting; and
- Housing - Current build out rate of new homes is well below the estimated 225,000 to 275,000 homes per year needed to keep up with population growth and tackle years of under-supply.

Objectives

- Creating a more reliable, less congested and better-connected transport network that works for the users who rely on it;
- Building a stronger, more balanced economy by enhancing productivity and responding to local growth priorities; and
- Enhancing global competitiveness by making Britain a more attractive place to trade and invest; and
- Supporting the creation of new housing.

This document supports the Strategic Case for the NHRR and provides further information regarding how the scheme supports the four Transport Investment Strategy priorities:

- Create a transport network that works for users, wherever they live;
- Improve productivity and rebalance growth across the UK;
- Enhance our global competitiveness by making Britain a more attractive place to invest; and
- Support the creation of new housing.

The remainder of this document will be structured as follows:

- **Section 2** describes how the scheme supports the creation of a transport network that works for users;
- **Section 3** sets out how it will help improve productivity and rebalance growth across the UK;
- **Section 4** summarises how it will enhance our global competitiveness by making Britain a more attractive place to invest;
- **Section 5** sets out how it will support the creation of new housing; and
- **Section 6** provides a summary.

2. CREATE A TRANSPORT NETWORK THAT WORKS FOR USERS

2.1. CONTEXT

The delivery of the NHRR will impact on a number of different groups, communities and users. The proposed scheme is situated in the semi-rural south of Lincoln encompassing the south west section of the A46 Western Relief Road (WRR) and the key radial routes of the A1434 Newark Road, Brant Road, Grantham Road and the A15 Sleaford Road (as illustrated within Figure 1-1).

Within the immediate vicinity of NHRR is the southern extent of the Lincoln urban area including North Hykeham, South Hykeham and Bracebridge, and also the villages of Waddington and Bracebridge Heath. Lincoln is by far the largest settlement within central Lincolnshire, with a population of around 110,000 living within the main built-up area and North Hykeham.

Lincoln is the key service centre for a wide area and the surrounding villages look to Lincoln for most of their service and employment needs effectively extending the population served by the City to around 165,000.

The Ministry of Defence continues to have a strong presence and makes a major contribution to Central Lincolnshire's demographic and economy, of relevance to the NHRR is RAF Waddington which is located at the eastern end of the scheme. Outside of the urban areas and to the south of the NHRR the land use is predominantly agricultural and there a number of farms and agricultural business located along the line of the NHRR route.

There are a number of significant transport related problems and issues which affect both strategic and local traffic movements impacting on the regional and local economy and communities in the south of Lincoln (see Table 2-1).

The existing road network in Lincoln consists of a number of regionally important routes through and around the city, as well as major routes into the city centre and local roads. There is a limited route choice for traffic wishing to travel north-south and east-west, especially in the south of the Lincoln urban area where traffic is forced to use either the A46 or A1434 and A15 to pass by or through the city.

As a consequence, these routes experience high volumes of traffic and are operating either at capacity or would be expected to reach capacity in the short to medium term. The congestion results in poor average speeds, variable journey times and delay in both peak periods and to some extent also in off peak conditions.

On the local network, several routes in the North Hykeham area experience relatively high traffic volumes for their design standard, this again can be attributed to the lack of east-west and north-south connectivity and limited route choice.

There is also a poor level of network resilience and this is a key problem on the Strategic and Major Route Network. The lack of alternatives to the existing orbital ring road (A46) and major routes through the city mean that that traffic is diverted through urban and residential areas which are unsuited to the additional volumes of traffic.

As demonstrated in the Strategic Case these conditions are forecast to deteriorate and the pressures on the transport network are expected to increase.

Without any further intervention the high levels of congestion from local and strategic traffic movements, will continue to impact on the quality of life for local residents, act as a constraint on the economy and reduce the attractiveness of the city for visitors and investors.

Table 2-1 – Existing Transport Key Issues

Key Issue	Description	Impacts
Network Constraints	<p>Few major, strategic routes through and around Lincoln, with the majority of routes single carriageway.</p> <p>The network is further constrained by the River Witham and Fossey Navigation, which cut through the city in both north-south and east-west directions. In the south of the city, river crossings are limited to relatively minor routes unsuited to strategic traffic and HGVs. There are also limited opportunities to cross the rail lines that bisect the city, and the location and number of level crossings has a further constraining effect.</p>	<p>Traffic is forced to use either the A46 or A1434 and A15 to pass by or through the city, which operate at or close to capacity at peak times.</p> <p>East-west traffic in the south uses minor rural routes, causing issues for local residents in terms of accessibility, noise and air pollution and severance. Several routes in the Hykeham area carry circa 10,000 vehicles per day, including Moor Lane, Mill Lane and Station Road. In some parts, housing is immediately adjacent to the footway.</p>
Network Resilience	<p>Events and closures on strategic routes such as the A46 result in long diversion routes through urban and residential areas, which are unsuited to large volumes of traffic and large proportions of HGV movements.</p>	<p>Negative impacts on local communities located along diversion routes, including noise and air pollution, severance, and longer journey times to access employment and services.</p>
Network Capacity	<p>The A46, A15 and A1434 currently operate at or close to capacity during the AM and PM peaks and, to some extent, the Inter Peak.</p>	<p>Congestion results in low average speeds, unreliable journey times and delays for all road users, including bus users.</p>

2.2. HOW DOES THE PROJECT DELIVER FOR PEOPLE?

There is a clear need and requirement to progress the development of the NHRR and that failure to intervene would have serious implications for the viability of LCCs economic growth and housing targets set out in the Strategic Economic Plan and Central Lincolnshire Local Plan as well as local communities within Lincoln.

A robust set of objectives have been developed in response to the key challenges and issues identified and are as follows:

- To improve east west connectivity in the South of Lincoln for strategic and local traffic;
- To reduce traffic levels on local urban and rural roads in the South of Lincoln through the transfer of strategic traffic to appropriate routes;
- To reduce NMU severance in South Lincoln caused by high levels of traffic on the local road network and lack of east west connectivity;
- To support the delivery of the Sustainable Urban Extensions (SUEs) by improving access to the identified sites;

- To support the delivery of the South West quadrant through the provision of additional network capacity and non-motorised user infrastructure necessary for the delivery of new housing;
- To reduce traffic levels and congestion around Lincoln and on key routes through the city to support:
 - Improved access to central Lincoln;
 - The improvement of access to the Humber Ports and Airport; and
 - The improvement of access to the Lincolnshire Coast.
- To improve the resilience of the orbital and key route network through and around Lincoln and reduce the impact of major incidents.

Delivery of these objectives will also result in a clear set of outcomes that will benefit the communities to the south of Lincoln – in particular South Hykeham, North Hykeham and Waddington. Specifically result in the following

- **Complete the orbital route around the city of Lincoln, improving east west connectivity** in the south of Lincoln for strategic and local traffic;
- **It will reduce traffic levels on local urban and rural roads in the south of Lincoln** through the transfer of strategic traffic to appropriate routes;
- **Reduce severance and rat running** which will improve the quality of life for communities and residents in the south of Lincoln;
- **The scheme will support the delivery of housing.** It will support the delivery of the SUEs by improving access to the identified sites and providing the additional network capacity and non-motorised user infrastructure necessary for the delivery of the new housing; and
- **It will reduce traffic levels of the strategic and major route network in Lincoln.** This will improve access to central Lincoln, the Lincolnshire coast, the closest international gateways (Humber Ports and Airport). It will also improve the resilience of the orbital and key route network through and around Lincoln and reduce the impact of major incidents.

2.3. WHAT IS BEING DONE TO MINIMISE DISRUPTION DURING CONSTRUCTION?

The scheme is at an early stage of development and as it enters the more detailed design phases and planning approval stage it is expected that detailed plans will be produced covering the following:

- **Statement of Construction Practice:** The statement of construction practice will set out the phasing plan for the NHRR, provide details of the construction work hours and include the Construction Traffic Management Plan.
- **Construction Traffic Management Plan:** This will set out how each phase of construction will be accessed with the aim to minimise potential delays for road users on the local road network. It will also be expected to set out the location of site compound and construction workers parking, loading and unloading of all contractors' plant, equipment and materials and measures to control the emissions of dust and dirt during construction;
- **Construction Environmental Management Plan (CEMP):** This will set out a plan to minimise the impact of construction on the surrounding community, both for the construction on site and the transport arrangements for servicing NHRR. The CEMP will address how any

impacts associated with the proposed works will be mitigated and how the cumulative impacts of construction will be managed: The CEMP is expected to deal with the following:

- Identify stakeholder requirements through the construction phase;
- Set out Environmental Management System requirements;
- Ensure compliance with current legislations; and
- Minimize any potential adverse environmental effects during construction including how site-specific method statements will be developed to avoid, reduce and mitigate effects of construction on the environment.

The key areas at risk from disruption are set out below, the impact at these locations will need to be carefully managed during construction phase:

- **Operation of transport network:** This includes the terminal roundabouts with the A46 WRR at the western end of the scheme and the roundabout with the LEB at the eastern end. It also includes the intersections with the existing network at Wath Lane, Brant Road, Station Road and Grantham Road;
- **Non-motorised User Network:** Viking Way and the existing public rights of way network;
- **Businesses:** This includes the businesses located adjacent to Pennell’s Roundabout and the A46 WRR, along the A1434 Newark Road and in the villages of Thorpe-on-the-Hill, South Hykeham and Waddington. In addition, there is potential for some disruption to RAF Waddington and the existing agricultural businesses and farms along the route; and
- **Local communities:** There is a risk for disruption in South Hykeham and Waddington.

2.4. ENGAGEMENT WITH USERS

NHRR is likely to affect a significant number of people, groups and organisations, all of whom will need to have the opportunity to review and comment on the scheme throughout its development.

A large amount of work has already been undertaken in developing the proposals and engaging with stakeholders (including landowners, statutory bodies and interest groups – see Table 8) and the general public. The stakeholder and public engagement to date is summarised below with the earlier stages focussing on the need for the scheme, the route corridor alignment and the general principles.

- Option Assessment Report (2003);
- Stakeholder Workshop (June 2004);
- Public Engagement One (October 2005);
- Public Engagement Two (October 2006); and
- OAR engagement (Summer 2018).

The most recent engagement phase (June 2018) focussed on the more detailed design proposals including the highway standard as well as the scheme objectives and requirements – full details are provided in the Strategic and Management cases and summarised below.

Table 2 - Stakeholder Groups

Stakeholder Category	Likely members
Key Stakeholder Group	<p>The Key Stakeholder Group is likely to include:</p> <p>Officers and elected members of:</p> <ul style="list-style-type: none"> Lincolnshire County Council City of Lincoln Council North Kesteven District Council West Lindsey District Council Developers / Landowners Emergency Services Environment Agency Internal Drainage Board Canals & Rivers Trust Historic England Natural England Highways England Public Transport Operators Ministry of Defence Local Enterprise Partnership
Wider Stakeholder Group	<p>The Wider Stakeholder Group is likely to include:</p> <ul style="list-style-type: none"> Parish Councils Chamber of Commerce Lincoln BIG Cyclist Touring Club Sustrans Campaign for Better Transport British Horse Society Disability Groups Driver Interest Groups Freight Organisations Lincolnshire Wildlife Trust

2.4.1. June 2018 Engagement

The purpose of the engagement exercise was to provide an opportunity for interested parties external to the County Council to provide inputs into the early stages of the design process. The scope of the engagement exercise in terms of the key topics of information provision and discussion were:

- The existing situation without the scheme;
- The current land use planning proposals (e.g. the SUEs);
- Implications for the future situation without a scheme;
- Objectives of the scheme;
- Review of previous scheme development work and conclusions;
- Current progress in developing the scheme;
- Options under consideration;

- Implications of proposals (costs and benefits); and
- What happens next following the completion of the engagement.

The scope of the engagement also focussed on particular groups of interested parties, which included the following:

- **Land Owners:** including the owners, and their representatives, of land that may be directly affected by the alignment of the scheme i.e. land through which the route is likely to pass;
- **Key Stakeholders:** including those stakeholders who have a statutory interest in the scheme or will be key to its delivery;
- **Wider Stakeholders:** these are stakeholders who will have a non-statutory interest but will have important information and views relevant to the scheme;
- **General Public:** the wider general public including, but not limited to, those living, working and travelling within the vicinity of the scheme and the wider Lincoln area; and
- **Hard to reach groups:** members of the public who are from hidden or hard to reach communities, often those with disabilities or protected characteristics.

The exercise utilised five separate approaches for engaging with different groups of interested parties:

- **Face-to-face meetings** with key stakeholders and land owners;
- **Stakeholder workshops** – all key and wider stakeholders were invited to one of two workshops held on consecutive nights at the beginning of June 2018;
- **Public exhibition** – four events were held at various locations to provide stakeholders and the wider public with an opportunity to gain further information on the scheme;
- **Engagement with hard to reach groups** – LCC commissioned The People’s Partnership to undertake specific engagement activity; and
- **Questionnaires** – used for both the general public and key stakeholders both as hard copies for completion at the exhibitions and workshops, and electronically for completion via LCC’s website.

Key findings from the engagement exercise include:

- There is overwhelming support for the scheme (needs and objectives) showing 89% in support of the scheme (73% of them who strongly support it);
- Strong preference for A46 to A15/LEB scheme option to dual carriageway standard (75% of respondents); and
- There was some concern raised surrounding the scheme impact on existing Public Rights of Way. The inclusion of bridges and underpasses assisted in mitigating some concerns. There was support for walking & cycling provision along the length of the scheme, including lighting. Design should avoid severance of local routes e.g. used for cycling and tie in with strong provision of cycle facilities along radial routes.

Ongoing Engagement

The engagement process will be ongoing and stakeholders and the public will have an opportunity to comment on the scheme at each key stage of its development. The Management Case provides further details of the engagement strategy and the main stages are summarised below:

- **Pre-Planning Application Stage:** The Pre-Planning Application stage aims to gain a clear understanding of the level of support for NHRR and the key issues of concern, by consulting

with a wide range of interested parties. At this stage, communication with statutory consultees, local politicians, landowners, business groups, transport groups, and the general public will take place. Gaining an understanding of local issues of importance or areas of objection creates an opportunity to amend the proposed design;

- **Planning Application Engagement Stage:** Communication during the Planning Application stage will be focused on the discussion of the impacts of NHRR and any potential mitigation measures. All statutory consultees and stakeholders will have the opportunity to be involved in discussions;
- **Pre-Statutory Orders Stage:** At the Pre-Statutory Orders stage, the scheme design and land requirements will be the focus of the communication, involving the relevant landowners and statutory consultees. Details of the scheme design may be discussed, including negotiations on land acquisition; and
- **Pre-Construction Stage:** Pre-Construction, the communication with stakeholders and the general public will be focused on providing a clear understanding of the construction timescales and mitigation measures, such as alternative diversion routes that may be in force during works.

3. IMPROVE PRODUCTIVITY AND REBALANCE GROWTH ACROSS THE UK

3.1. IMPROVING PRODUCTIVITY

Since the 2008 recession Lincoln’s productivity suffered from a double-dip decline, resulting in a widening of the productivity gap between Lincoln and the economies of Lincolnshire and the East Midlands and a significant widening between productivity in those economies and that of England overall. Greater Lincolnshire remains in the bottom 10 Local Enterprise Partnership (LEP) areas against the GVA per filled job and GVA per hour measures¹. Table 3-1 below shows Lincolnshire’s productivity is significantly behind the UK productivity level.

The productivity gap between Lincoln and England is now equivalent to 1.5 days each week of lost productivity for full-time equivalent employees. In addition, Lincoln’s GVA per FTE employee in 2016 (see Figure 3-1) stood at c. £48,900, 30% lower than the level seen across England (c. £69,800). Lincolnshire is also significantly less productive than England, though to a lesser extent, with a GVA per FTE in 2016 of c. £56,300 - a gap of 19% when compared with England.

Table 3-1 – Labour Productivity in 2016

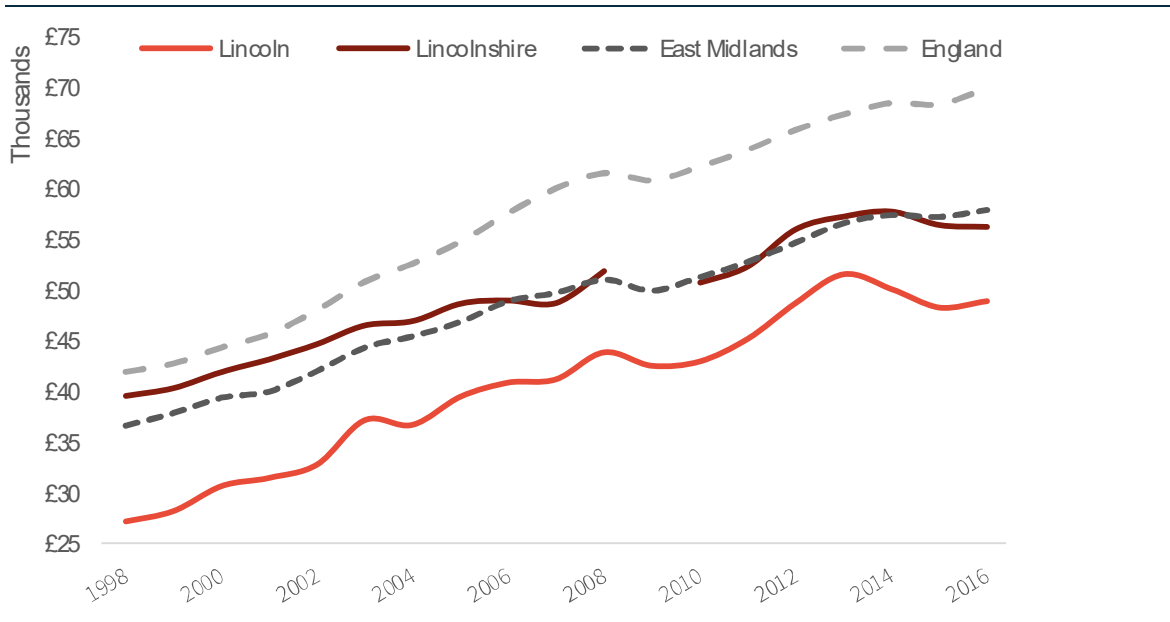
Geography	GVA per hour worked	GVA per filled job
Lincolnshire	£25.70	£41,588
Greater Lincolnshire	£27.00	£43,570
UK	£32.60	£52,626

ONS (2018) Subregional Productivity: Labour Productivity

Table 3-2 also shows that both Lincoln and Lincolnshire have lower productivity in all broad industries when compared to the national picture.

¹ ONS (2018) Subregional Productivity: Labour Productivity indices by Local Enterprise Partnership

Figure 3-1 - GVA per FTE 1998-2016



Source: ONS (2008-2017), Business Register & Employment Survey, ONS (1998 to 2008) Annual Business Inquiry, ONS (1998-2017) Regional gross value added (balanced) by local authority in the UK, and ONS (1998-2017) Regional gross value added (balanced). Note: Data is missing for Lincolnshire in 2009.

Table 3-2 – GVA (£) per FTE employee by industry in 2016

Broad industry	Lincoln	Lincolnshire	England
Manufacturing	51,391	51,153	73,541
Construction	55,940	81,633	82,949
Retail; food and beverage, accommodation; and transport and storage	41,482	41,535	49,594
Information and communications	56,800	49,662	91,618
Finance and Insurance	51,190	74,286	121,696
Professional, scientific, and technical; and business admin and support	30,124	32,526	48,609
Health, education, social care and public admin	39,514	45,504	48,425
Arts, entertainment and other services	51,765	64,512	72,098

Source: ONS (2017), Business Register & Employment Survey, ONS (2017) Regional gross value added (balanced) by local authority in the UK, and ONS (2017) Regional gross value added (balanced). Note, agriculture, mining and quarrying, and electric/water utilities are not included in this analysis due to poor data quality issues concerning employment in Agriculture at sub-regional geographies.

There are a number of reasons behind the low levels of productivity highlighted above, these are explained in Appendix C of the Strategic Case and summarised below:

▪ **Sluggish Population Growth**

- Over the last 26 years Lincoln has had a much lower level of population growth when compared to Lincolnshire as a whole and this has included periods of population growth stagnation; and
- By 2041 the dependency ratio in Lincolnshire will have risen to 0.85 dependents per every one working age person, compared to 0.72 nationally.

- **Slow employment growth**
 - Employment growth has been relatively modest in Lincoln since the recession, though there has been better growth in Lincolnshire overall;
 - Lincoln achieved only a 2% increase in employment over the decade from 2007 to 2017, compared to 10% and 12% for East Midlands and England respectively; and
 - Lincoln had an annual average growth rate from 2007 to 2017 of less than 0.2% which is significantly less than the 1.2% in England.
- **Historically, stronger sectoral performance in less productive sectors**
 - Prominent employment sectors in Lincoln are demonstrative of its role as a service centre for a large hinterland: health, wholesale & retail, education (including those employed at the University of Lincoln), accommodation & food, and public administration (being host to the City Council and Lincolnshire County Council);
 - Whilst these are important employment sectors to the Lincoln economy, they are not as productive as other sectors such as manufacturing, construction and professional, scientific and technical; and
 - Despite there being evidence of business growth in more productive sectors, such as transport & storage, construction and manufacturing it has not led into large level of employment in these sectors.
- **Below average skills levels and lower skilled occupations**
 - Around 33% of Lincolnshire's and Lincoln's working age population have an NVQ4+ qualification which is behind the national average of 38%
 - There are higher levels of elementary occupations in Lincoln, at around 20%. This compares to 13% in Lincolnshire and Greater Lincolnshire, and just 11% in England.
- **Low business births and poor business survival rates have led to slow overall business growth**
 - Overall business growth² rate for Lincoln (+2%) has been slower than the regional (+3%) and national averages (+4%) between 2010 and 2017.
- **Higher proportion of part time employment**
 - In 2017 Lincoln has 62% of workers in full time employment compared to 68% in England; and
 - A structural shift towards higher levels of part-time employment in Lincoln is likely to be indicative of a growing level of underemployment in the Lincoln economy.

The construction and delivery of NHRR will help address Lincoln's productivity challenge highlighted above by:

² ONS (2018) UK Business Counts

- **Supporting priority sectors:**
 - **Agri-food:** NHRR will improve the region's strategic road network resulting in improved productivity through getting goods to market quicker, which further strengthens Lincolnshire's position as a leading agri-food location;
 - **Advanced manufacturing and engineering:** Advanced manufacturing and engineering sector is highly dependent on access to a young and skilled workforce. NHRR will improve overall access to employment and education opportunities for local residents, whilst also improving transport links and travel time to Lincoln;
 - **Low carbon economy, with a particular focus on renewable energy:** To support the industry successfully and efficiently; the transporting of goods, skills and services across the region to wind farm locations is crucial. NHRR will play an important role in strengthening the strategic road network in the region, improving travel times and reducing congestion; and
 - **The visitor economy:** Limited transport infrastructure has been identified as a significant barrier to growth for the visitor economy. Building NHRR and thus improving Lincolnshire's strategic road network will not only improve access the region for visitors but also the workforce required to support the future growth of this sector.

- **Improving conditions for business growth:** Investment in NHRR will improve conditions for business growth by:
 - **Reducing congestion and improving travel time:** This will mean goods, services and labour can move more freely, reducing costs for businesses;
 - **Providing greater certainty to businesses** through improving access to skills, labour and markets;
 - **Unlocking employment land:** Future employment lands could be unlocked. Increasing the stock of employment land has the potential to attract new business to the area, as well as encouraging existing businesses to expand. Potential future employment land that will be directly supported by the NHRR includes the Leafbridge site (further details are provided in Section 5) which is a 44 acre commercial development located south west of Lincoln with the potential to add £35m to £65m in Gross Value Added (GVA) to the Lincolnshire economy; and
 - **Attracting foreign investment:** By delivering the NHRR and improving Lincoln's wider transport infrastructure, this will contribute towards increasing the area's competitive advantage as an investor location

- **Unlocking housing land which will have a number of benefits including:**
 - **Expanding the labour market:** The delivery of new dwellings which are dependent on the NHRR (see Section 5) will yield over 5,000 new residents, of which, a large proportion will be of working age and 3,000 economically active – helping address the ageing population;
 - **Growing the skilled workforce:** the new development could also attract in the region of 1,000 skilled workers to the area, helping improve skills levels and address barriers to skilled labour;
 - **Retaining young people:** new residential development will help increase the local housing stock, providing a range of tenure types including; affordable and intermediate housing, which are often sought by first-time buyers and younger people. Improving the dwelling stock in the area will help retain younger people within Lincoln and address the ageing population;

- **Increase local expenditure:** it is estimated that over £60m of household expenditure will be generated every year, by the new residential development. Whilst all household expenditure will not be spent locally, a large amount will be, supporting a range of new indirect jobs across a range sectors and services; and
- **Attract investment:** a young and skilled labour market, is an attractive proposition for investors, providing the workforce they need to operate and grow. As highlighted above, new housing helps attract and retain young skilled residents in an area. Conversely, a healthy stock of good quality housing is also attractive to employers, ensuring their employees can be accommodated near to their place of work and reducing commute times.
- **Relieving congestion and reducing travel times:** NHRR will significantly increase the capacity and resilience of the strategic road network resulting in reducing travel-time which benefits businesses by improving productivity and reducing operating costs. However, there are also travel time benefits for residents, who will spend less time commuting or travelling to their destination, which can have quality of life, as well as health and well-being benefits.

3.2. UK SKILLS BASE

It is expected that as a result of delivering the NHRR there will be opportunities to develop the construction sector skills base in Lincoln and Lincolnshire. The Commercial Case for the NHRR describes the preferred approach to procuring the necessary support to deliver the scheme. The delivery of the scheme will involve:

- Provision of services to support the preliminary and detailed design process;
- Provision of services to support the successful completion of all statutory procedures including planning and land acquisition;
- Construction of the scheme; and
- Monitoring & Evaluation

The procurement process for the NHRR will be run in accordance with Procurement Lincolnshire which is a partnership of Lincolnshire District Councils and LCC. The principles of the partnership are set out within the Procurement Lincolnshire Strategy and this includes a number of key values. An important part of this is the need to deliver social value and deliver benefits for the local area, in particular the procurement strategy includes the following principles connected to the local economy:

- Growing the local economy;
- Paying the living wage; and
- Increasing employment opportunities.

As part of the delivery of the scheme the procurement exercise will consider opportunities to use the local supply chain and promote employment opportunities connected to the development and construction of the NHRR.

4. ENHANCE OUR GLOBAL COMPETITIVENESS

4.1. IMPROVING TRADE FLOWS & INCREASING EXPORTS

The Greater Lincolnshire Local Enterprise Partnership (GLLEP) area contains some of the UK's most important international and regional gateways in the form of the ports on the Humber Estuary including Grimsby and Immingham and Humberside Airport. These ports handle 76.5m tonnes of freight per year accounting for 16% of all UK port freight tonnage and are a major gateway for exporting produce from the UK including Lincolnshire. Humberside Airport also acts as a key sub-regional international gateway with its primary role (72% of passengers in 2017) providing links to the inter-continental hub at Amsterdam.

Lincolnshire produces over 12% of the UK's food supply and as stated in the GLLEP Strategic Economic Plan, it is the nation's biggest arable and horticulture producer. This sector is heavily dependent on an efficient and reliable transport network to distribute produce across the country and to the major international gateways.

The key routes to the ports through Lincolnshire include the A46 WRR and the A15 which pass around Lincoln. The major agricultural areas within Lincolnshire are to the south of Lincoln and freight needs to travel past the city to access the Humber Ports. In addition, the A46 WRR and A15 is also key diversionary route for the A1/M180 route to the Humber Ports.

Any issues and problems on the network in Lincolnshire and Lincoln affects the transportation and distribution of goods and produce both nationally and internationally through access to the ports. As a result, it is vital that the key routes including the A46 and A15 operate efficiently and reliably.

The Strategic Case demonstrates that this corridor currently suffers from a number of problems and is congested at peak times, is unreliable and lacks resilience. Specifically, the major route network within Lincoln has several problems:

- North-south traffic has limited route choice, especially in the south of Lincoln, with traffic forced to use either the A46 or A15 to pass by the city;
- The existing network limitations result in significant volumes of traffic having to use a limited number of strategic and major routes;
- There is a lack of network resilience due to the limited availability of appropriate alternative routes around and through Lincoln;
- Several parts of the existing network are at or close to capacity including the A46, with congestion resulting in poor average speeds, variable journey times and delay in both peak periods and to some extent also in off peak conditions;
- Travel demands are forecast to increase substantially over the next 20 years within the Lincoln urban area. Increases of over 20% by 2041 are forecast; and
- The forecast traffic growth will result in a deterioration in conditions on key areas of the network particularly on the western side of Lincoln including the A46 WRR and sections of the A15.

These limitations have an impact on the access to the ports and without any further investment conditions will continue to deteriorate affecting access to the major national and international gateways. The provision of the NHRR will:

- **Complete the orbital route around the city of Lincoln**, improving east west connectivity in the south of Lincoln for strategic and local traffic;
- **Reduce traffic levels and congestion on the strategic and major route network in Lincoln**. This will improve journey times and access to the international gateways (Humber Ports and Airport) and key markets;
- **Improve the resilience of the strategic road network** reducing the impact of major incidents; and
- **Support the agri-food sector**. Improvements to the current road network, reducing congestion, improving access to the wider UK road network, UK ports will improve productivity by getting goods to market quicker, helping further strengthen Lincolnshire's position as a leading agri-food location.

4.2. FOREIGN DIRECT INVESTMENT OR TOURISM

The future growth aspirations for Lincoln and the wider Lincolnshire economy revolve around a number of priority sectors. The GLLEP has earmarked these sectors as the region's strongest, which offer the most competitive advantage, and which have the ability to drive economic growth. This includes the visitor economy which is worth almost £2bn to Lincolnshire and is expected to grow further, with investment identified across a number of locations across the region.

Lincoln is the primary focus of the visitor economy in the GLLEP area and the city attracted 4.22m visitors in 2017. Major attractions include the Lincoln Cathedral and Lincoln Castle, both of which are located in the centre of the city and the International Bomber Command Memorial which is remote from the key access points into the area from the Strategic Road Network.

The GLLEP Strategic Economic Plan identifies that in some parts of Greater Lincolnshire the transport infrastructure remains a significant barrier to the growth of the visitor economy. It identifies that investment in infrastructure is needed to satisfy growing demand for the movement of people and goods in Lincolnshire and increased stress on existing transport networks and to support growth in Lincolnshire's priority sectors including tourism.

The NHRR will support the visitor economy within Lincoln through:

- Improving Lincolnshire's strategic road network will which will improve access for visitors but also the workforce required to support the future growth of this sector;
- Reducing congestion and improving travel times along the major routes to and through Lincoln;
- Improving route choice to other areas of the city including to the International Bomber Command memorial and reducing the need for visitors to drive through the main urban area and city centre.

5. SUPPORT THE CREATION OF NEW HOUSING

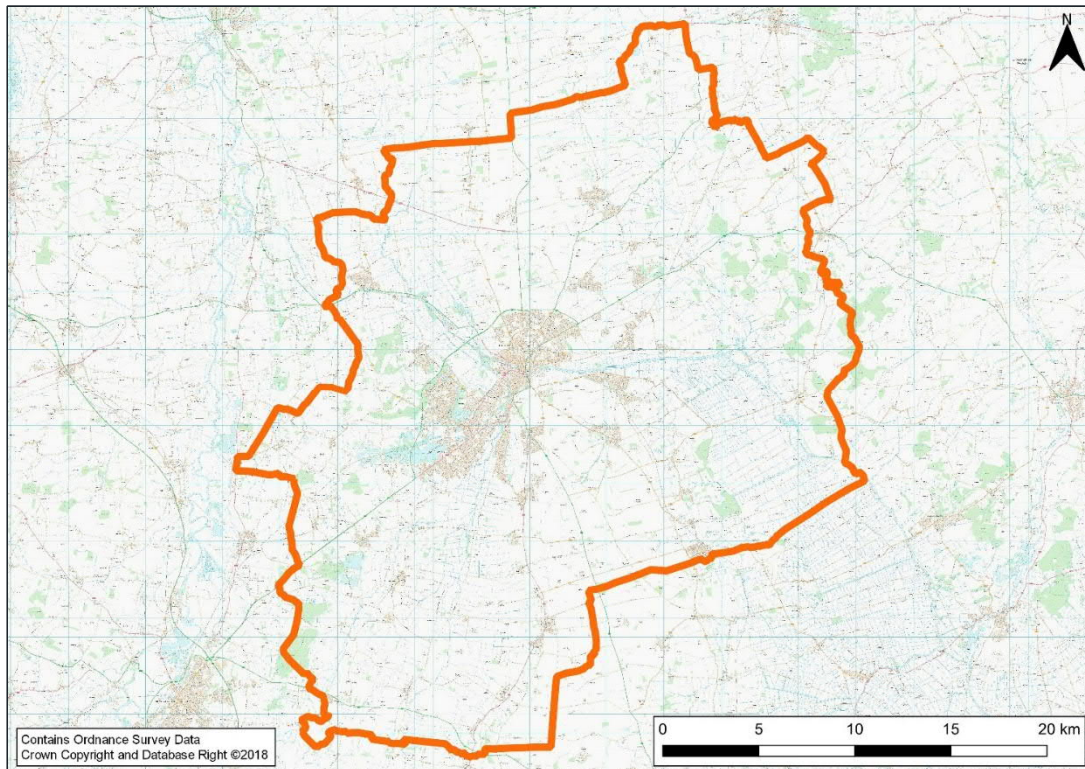
5.1. OVERVIEW

The Central Lincolnshire Local Plan (CLLP) 2012-2036 was adopted by the Central Lincolnshire Joint Planning Committee in April 2017 and covers the City of Lincoln, North Kesteven and West Lindsey.

The document provides a vision for Central Lincolnshire and identifies a need for an additional 36,960 dwellings and 11,894 jobs across the period 2012-2036, with growth to be concentrated in the Greater Lincoln area. An important part of this will be the Lincoln Strategy Area (Figure 5-1) which will accommodate around 64% (24,000) of this growth target in new homes and employment land. Approximately 40% (9,700) of the allocation for the Lincoln Strategy Area will be provided within the local plan period (2036). As a result, an additional 14,000 dwellings will be delivered within the Lincoln Strategy Area beyond 2036 to make up the total growth (24,000 dwellings) allocated to the area.

The Plan also sets out the location of several SUEs which will form an important part of delivering the CLLP strategy and achieving the growth identified within the Lincoln Strategy Area. These include the Western Growth Corridor (WGC), South East Quadrant (SEQ), North East Quadrant (NEQ) and South West Quadrant (SWQ). The NHRR is also identified on the CLLP Policies Map and is safeguarded, from any development proposal on or near the route which would prejudice the efficient and effective delivery of the scheme. The CLLP also highlights that the authorities in Lincoln see NHRR as a part solution to the city's growth and transportation challenges.

Figure 5-1 - Lincoln Strategy Area



5.2. DEPENDENT DEVELOPMENT

The NHRR scheme has the potential to unlock a significant amount of employment and housing land in the Hykeham area – particularly in relation to the SUEs. The SUEs will form an important part of delivering the CLLP strategy and achieving the growth identified within the Lincoln Strategy Area. Of particular relevance to the NHRR is the SWQ which has the potential to accommodate around 2,000 dwellings, up to 5ha of employment land and other supporting uses. It is located to the south west of Lincoln, predominantly in North Hykeham immediately adjacent to the proposed NHRR. Without the provision of additional transport infrastructure it will be difficult to deliver and accommodate the SUEs within the existing network. The CLLP states that the NHRR is required to enable the SWQ to come forward and facilitate the delivery of the housing and employment land.

The NHRR will also directly support the delivery of two other development sites in the Hykeham area:

- **Hambleton Avenue Site:** Located adjacent to the village of South Hykeham this will deliver 167 dwellings; and
- **Leafbridge Site:** Located within North Hykeham this will deliver 28,000m² of employment floorspace, split over B1 & B2 (14,000m²) and B8 (14,000m²) uses.

5.3. ENGAGEMENT & FUNDING

Discussions with the landowners and developers of the SWQ are ongoing and LCC, North Kesteven District Council and the developers currently meet on a quarterly basis. LCC has identified that third-party contributions to the construction of NHRR will total a minimum of £10m and will be sought through S106 contributions. This will include contributions from the SWQ development. As the NHRR scheme and SWQ development progress it is expected that the level and timing of the S106 contributions will be considered in more detail and agreed.

In addition, a number of other sites in the North Hykeham will contribute S106 funds to the delivery of the scheme, a number of which have already been secured. This includes the two developments listed in Section 5.2 which are expected to total £1m (these form part of the £10m identified above).

5.4. DELIVERY OF NHRR & WIDER ECONOMIC BENEFITS

The delivery of the dependent development will have a significant impact and the socio-economic benefit resulting from all development is expected to be as follows:

- **Helping meet Lincolnshire's Housing Need:** The proposed residential development, within the pipeline, could add in the region of 2,200 new dwellings to the local housing stock. This equates to over 5% of Lincolnshire's housing need target to 2036;
- **Enhancing the local labour market:** Combining all the socio-economic benefits together based on the sites detailed above, it is estimated that approximately 2,200 homes could be built, supporting a resident population of 5,200 people. This population could increase the working age population by 3,000 people, of which almost 2,700 could be economically active. Over 1,000 of these residents could be in higher skilled and higher value occupations, which could help address the productivity puzzle in Lincoln;
- **Supporting new employment opportunities:** The employment floorspace that is proposed as part of the SWQ SUE and at the Leafbridge site has the potential to support in the region

1,500 to 1,700 FTEs across a range of B class uses (B1/B2/B8) in the local area. This will provide a range of occupations, including higher skilled jobs alongside less skilled employment, ensuring there are opportunities for all residents;

- **Supporting the Lincolnshire economy:** Once developed and occupied, the proposed residential development could help generate up to £60m in household expenditure per annum, of which, a significant proportion will be spent on local goods and services, supporting local businesses and employment. In addition, the potential employment resulting from the proposed development could generate up to £100m in GVA and £50m in wages per annum. A proportion of this will be spent on local good and services, supporting jobs and businesses in Lincolnshire. The estimated number of indirect and induced jobs across the wider Lincolnshire area, supported through supply chains and other expenditure as a result of the proposed employment development, could be in the region of 200 FTEs;
- **Generating local fiscal impacts:** The new developments also have the potential to deliver fiscal benefits (revenues) for local authorities in the form of council tax and business rates. Based on average business rates for the local area, it is estimated that the proposed development could generate up to £1m in business rates per annum. Additionally, the 2,000 new dwellings that could be built have the potential to generate an estimated £3.7m in council tax revenues per annum. Therefore, the proposed developments could generate in the region of £4.7m annually in fiscal benefits (revenue), of which North Kesteven and Lincolnshire County Council will benefit; and
- **Wider Benefits:** Increasing the housing stock in the local area and creating new employment opportunities is vital to retaining young people, both existing residents and students who move to Lincoln for their degree courses, as well as working age families in the Lincoln and Lincolnshire economy. The completion of these new developments will also play an important role in raising awareness and changing perceptions of Lincoln, while also playing a role in catalysing other developments in the immediate and wider area. Taken together, these effects will contribute towards making Lincolnshire an increasingly attractive location for inward investors and for local businesses who are wanting to grow.

6. SUMMARY

The NHRR scheme has been developed and considered against the challenges and objectives described in the **Transport Investment Strategy (2017)**. This document and the NHRR Strategic Case demonstrates that the delivery of the NHRR will play an important role in supporting the four Transport Investment Strategy priorities:

- Create a transport network that works for users, wherever they live;
- Improve productivity and rebalance growth across the UK;
- Enhance our global competitiveness by making Britain a more attractive place to invest; and
- Support the creation of new housing.

The scheme is a vital part of Lincolnshire's plans to support the growth of its priority economic sectors, improve the efficiency of the strategic transport network within the central Lincolnshire area – and in turn the links to the major national and international gateways and support the creation of new housing. Table 6-1 below provides a further summary of how the scheme supports these priorities.

Table 6-1 - Transport Investment Strategy Summary

Area	Summary
<p>Context</p>	<ul style="list-style-type: none"> ▪ The proposed scheme is situated in the semi-rural south of Lincoln encompassing the south west section of the A46 WRR and the ▪ It is located to the southern extent of the Lincoln urban adjacent to North Hykeham, South Hykeham and Bracebridge and the ▪ Lincoln is by far the largest settlement within central Lincolnshire, with a population of around 110,000 living within the main built- ▪ Since the 2008 recession Lincoln’s productivity suffered from a double-dip decline, resulting in a widening of the productivity gap between Lincoln and the economies of Lincolnshire and the East Midlands and a significant widening between productivity in ▪ The productivity gap between Lincoln and England is now equivalent to 1.5 days each week of lost productivity for full-time ▪ Transport is key to supporting growth and without any further intervention the existing transport issues and barriers will continue to impact on the quality of life for local residents, act as a constraint on the economy and reduce the attractiveness of the city for
<p>Transport Barriers</p>	<ul style="list-style-type: none"> • The existing road network suffers from a number of issues and unless a suitable transport intervention is implemented they will remain an issue. These include: <ul style="list-style-type: none"> ○ Lack of route choice: resulting in congestion and rat-running on local roads, particularly to the south of Lincoln and on key orbital and radial routes, with the latter resulting in a high proportion of strategic traffic travelling through the historic centre of Lincoln.

Area	Summary
	<ul style="list-style-type: none"> ○ Congestion: congestion on the road network impacts on the ability to meet development and economic growth aspirations through slow journey times and issues of journey time reliability. It also impacts on bus users, who are subject to the same delays as other road users. It also makes walking and cycling less attractive. ○ HGVs: limited north-south and east-west connectivity in and around Lincoln results in significant proportion of HGVs using the A46 and inappropriate routes within the city centre and residential roads in North Hykeham. ○ Network resilience: when a serious incident occurs on the A46 or A15, diversion routes force a high volume of traffic through residential areas, which negatively impacts on local journey times and noise, air quality and severance. ● Without a suitable transport intervention, traffic conditions in the future will deteriorate and the road network will struggle to: <ul style="list-style-type: none"> ○ Accommodate the forecast growth in travel demand; ○ Support the delivery of the four SUEs; ○ Support the delivery of the Central Lincolnshire Local Plan; and ○ Support the development of the MRN.
Options & Strategic Alternatives	<ul style="list-style-type: none"> ● The NHRR has been developed over a long period of time and subject to a robust options assessment and selection process. ● The preferred route was initially developed in 2006 and the requirements for the scheme were further developed as part of the Lincoln Integrated Transport Strategy process. ● As part of the detailed assessment stage three primary options for a NHRR between the A46 (A46/A1434 Pennell's Roundabout) to the A15 (A15 Lincoln Eastern Bypass/Sleaford Road Roundabout) were considered: <ul style="list-style-type: none"> ○ A single carriageway; ○ A dual carriageway; and ○ A single carriageway with future-proofed junctions and structure which would allow for dualling of the scheme at a future date. ● In addition, further options for shorter schemes were also been considered: <ul style="list-style-type: none"> ○ A46 to South Hykeham Road – single carriageway; ○ A46 to South Hykeham Road – dual carriageway; ○ A46 to Brant Road – single carriageway; and

Area	Summary
	<ul style="list-style-type: none"> • The shorter options and A46 WRR improvements were discounted due to the limited ability to achieve the key objectives. <ul style="list-style-type: none"> ○ A dual carriageway will provide the greatest level of traffic relief through Southern Lincoln and North Hykeham and will ○ It will also provide the highest level of support for the SWQ and increase network capacity to accommodate the planned ○ It will also improve route choice for east-west movements to reduce traffic and congestion on the existing orbital network ○ The recent stakeholder and public engagement exercise has shown that the majority of respondents (75%) support the ○ The dual carriageway option is forecast to provide the highest level of traffic relief on the A46 when compared to the Do-
Impacts & Interventions	<ul style="list-style-type: none"> • The NHRR will result in significant transport user benefits that puts the scheme in the high value for money category. • In addition to the transport and traffic benefits it will also have several wider benefits: <p><i>Support the aim to enhance global competitiveness</i></p> <ul style="list-style-type: none"> ▪ Improving trade flows through: <ul style="list-style-type: none"> • Completing the orbital route around the city of Lincoln, improving east west connectivity in the south of Lincoln for strategic and local traffic; • Reducing traffic levels and congestion on the strategic and major route network in Lincoln improving journey times and access to the international gateways (Humber Ports and Airport) and key markets; • Improving the resilience of the strategic road network; and

Area	Summary
	<ul style="list-style-type: none"> • Supporting the agri-food sector through reducing congestion, improving access to the wider UK road network and UK ports which will improve productivity by getting goods to market quicker. ▪ Support the visitor economy and tourism within Lincoln through: <ul style="list-style-type: none"> • Improving the strategic road network and access for visitors and the workforce required to support growth in this sector; • Reducing congestion and improving travel times along the major routes to and through Lincoln; • Improving route choice to other areas of the city such as the International Bomber Command memorial and reducing the need for visitors to drive through the main urban area and city centre. <i>Improving Productivity & Rebalancing Growth</i> <ul style="list-style-type: none"> ▪ The construction and delivery of NHRR will support priority sectors: <ul style="list-style-type: none"> • Agri-food: Through improving the region's strategic road network resulting in improved productivity through getting goods to market quicker; • Advanced manufacturing and engineering: Advanced manufacturing and engineering sector is highly dependent on access to a young and skilled workforce. NHRR will improve overall access to employment and education opportunities for local residents; • Low carbon economy, with a particular focus on renewable energy: To support the industry successfully and efficiently; the transporting of goods, skills and services across the region to wind farm locations is crucial. NHRR will strengthen the strategic road network in the region, improving travel times and reducing congestion; and • The visitor economy: Limited transport infrastructure has been identified as a significant barrier to growth for the visitor economy. Building NHRR and thus improving Lincolnshire's strategic road network will not only improve access the region for visitors but also the workforce required to support the future growth of this sector. ▪ Improving conditions for business growth: <ul style="list-style-type: none"> • Reducing congestion and improving travel time: This will mean goods, services and labour can move more freely, reducing costs for businesses. • Providing greater certainty to businesses through improving access to skills, labour and markets • Unlocking employment land

Area	Summary
	<ul style="list-style-type: none"> • Attracting foreign investment: By delivering the NHRR and improving Lincoln’s wider transport infrastructure, this will contribute towards increasing the area’s competitive advantage as an investor location <p>Support the Creation of New Housing</p> <ul style="list-style-type: none"> ▪ Helping meet Lincolnshire’s Housing Need: Approximately 2,200 new dwellings are dependent on the NHRR. This equates to over 5% of Lincolnshire’s housing need target to 2036; ▪ Enhancing the local labour market: The delivery of 2,200 homes could support a resident population of 5,200 people. This population could increase the working age population by 3,000 people, of which almost 2,700 could be economically active; ▪ Supporting new employment opportunities: The employment floorspace that is proposed dependent developments has the potential to support in the region 1,500 to 1,700 FTEs across a range of B class uses (B1/B2/B8) in the local area; ▪ Supporting the Lincolnshire economy: Once developed and occupied, the proposed residential development could help generate up to £60m in household expenditure per annum, of which, a significant proportion will be spent on local goods and services, supporting local businesses and employment. In addition, the potential employment resulting from the proposed development could generate up to £100m in GVA and £50m in wages per annum. A proportion of this will be spent on local good and services, supporting jobs and businesses in Lincolnshire; and ▪ Generating local fiscal impacts: The proposed developments could generate in the region of £4.7m annually.
<p>Alignment with Local Plans & Objectives</p>	<p>Lincolnshire Local Transport Plan 4 (2013) and the Lincoln Integrated Transport Strategy both highlight the need to deliver the NHRR. The objectives of the NHRR align with many of the key issues highlighted within both policy documents including but not limited to:</p> <ul style="list-style-type: none"> ▪ Removing unnecessary traffic from the city centre; ▪ Supporting economic growth; and ▪ Improving access to services and employment opportunities. <p>NHRR will support the CLLP objectives by:</p> <ul style="list-style-type: none"> ▪ Providing the necessary infrastructure improvements to the strategic network to support the necessary planned growth; ▪ Reducing congestion on key parts of the network; and ▪ Supporting the delivery of the SWQ by providing direct access.

Area	Summary
	<ul style="list-style-type: none"> ▪ Completing the ring road and in doing so support priority sectors within Lincoln and the wider Lincolnshire economy including agri- <ul style="list-style-type: none"> • Improving conditions for business growth which will help to unlock employment land; attract foreign investment; and provide • Unlocking housing land which will expand the labour market; grow the skilled workforce; retain young people; increase local • Support priority sectors within Lincoln and the wider Lincolnshire economy including agri-food; advanced manufacturing and
Wider Evidence of Stakeholder Views	<ul style="list-style-type: none"> ▪ A large amount of work has already been undertaken in developing the proposals and engaging with stakeholders and the general public. ▪ The most recent engagement phase (June 2018) considered the scheme options, the scheme objectives, requirements. ▪ The scope of the engagement also focussed on particular groups of interested parties, which included the following Land Owners, Key Stakeholders, Wider Stakeholders, General Public and Hard to reach groups.

Area	Summary
	<ul style="list-style-type: none">▪ There is overwhelming support for the scheme (needs and objectives) showing 89% in support of the scheme (73% of them who strongly support it);▪ Strong preference for A46 to A15/LEB scheme option to dual carriageway standard (75% of respondents); and▪ There was some concern raised surrounding the scheme impact on existing Public Rights of Way. The inclusion of bridges and underpasses assisted in mitigating some concerns. There was support for walking & cycling provision along the length of the scheme, including lighting. Design should avoid severance of local routes e.g. used for cycling and tie in with strong provision of cycle facilities along radial routes.



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