

A Transport Strategy for the Lincoln Area

Progress Report 2013 – Supporting Document



March 2015

Document Control Sheet

Project Title A Transport Strategy for the Lincoln Area

Report Title Progress Report 2013 – Supporting Document

Revision 1049033/04/D

Status Final

Control Date 3 March 2015

Record of Issue

Issue	Status	Author	Date	Check	Date	Authorised	Date
A	Draft	PR	02/05/13	GB	02/05/13	GB	02/05/13
B	Draft	PR	29/05/13	GB	29/05/13	GB	29/05/13
C	Final	PR	14/08/13	GB	14/08/13	GB	14/08/13
D	Final – Minor Amendm ent	PR	03/03/15	GB	03/03/15	GB	03/03/15

Distribution

Organisation	Contact	Copies
Lincolnshire County Council	Lee Rowley	1 (Electronic)
Project Steering Group	Various	1 (Electronic)

This Report is presented to Lincolnshire County Council in respect of A Transport Strategy for the Lincoln Area – Progress Review and may not be used or relied on by any other person or by the client in relation to any other matters not covered specifically by the scope of this Report.

Notwithstanding anything to the contrary contained in the Report, Mouchel Limited working as Lincolnshire County Council Highways Alliance is obliged to exercise reasonable skill, care and diligence in the performance of the services required by Lincolnshire County Council and Mouchel Limited shall not be liable except to the extent that it has failed to exercise reasonable skill, care and diligence, and this report shall be read and construed accordingly.

This Lincolnshire County Council Highways Alliance Report has been prepared by Mouchel Limited. No individual is personally liable in connection with the preparation of this Report. By receiving this Report and acting on it, the client or any other person accepts that no individual is personally liable whether in contract, tort, for breach of statutory duty or otherwise.

Contents

1	Introduction	1
2	Lincoln Integrated Transport Strategy.....	3
3	Area of Change: National Policy	8
4	Area of Change: Regional Policy	16
5	Area of Change: Local Policy.....	19
6	Area of Change: Population and Economy	33
7	Areas of Change: Environment.....	44
8	Area of Change: Travel	54
9	Area of Change: Developments	85
10	Area of Change: Engagement and Consultation	86
11	Areas of Potential Change: Proposed Land Use Developments	93
12	Areas of Potential Change: Future Network Performance	101
13	Areas of Change: Summary and Conclusions.....	109
14	Validating the Strategy Objectives.....	116
15	Progress on Delivering the Benefits of the Strategy	119
16	Pathways to Delivery	134
17	Programme.....	179
18	Funding.....	180

Figures

Appendix A – 2011 Transport White Paper Key Themes Commentary

Appendix B – Strategy Objectives Update – Summary

Appendix C – Meeting Objectives

Appendix D – Meeting Outcomes

Appendix E – Overall Programme

Appendix F – Potential Funding Opportunities

1 Introduction

1.1 Progress Report 2013 – Supporting Document

Lincolnshire County Council's Highways Alliance was appointed to undertake a progress review of the Lincoln Integrated Transport Strategy (LITS). The main output of this review is a short, outward-facing Progress Report and Delivery Plan. That document presents a summary of the progress made in delivering LITS and provides a programme for the delivery of the remaining transport improvements.

This document presents supporting information for the main Progress Report. The document starts with a brief review of the 2008 version of LITS. The document then reviews what changes have occurred within the strategy area since 2008 and what potential changes may occur within the period covered by the emerging Central Lincolnshire Core Strategy.

The following Areas of Change are reviewed in this document:

- National, Regional and Local Policy
- Economy
- Environment
- Travel
- Developments
- Engagement and Consultation Outputs

The following Areas of Potential Change are reviewed:

- Proposed Land Use Developments
- Proposed Transport Schemes and Measures
- Future Network Performance

An overall summary is provided of the results from the above analysis.

While the purpose of this project has not been to undertake a fundamental review of LITS, rather it is an assessment of progress made; the work has involved a review of the objectives that guide LITS. This has been undertaken to ensure that the objectives reflect the changes that have occurred, particularly to guiding policy, since 2008.

The report provides a qualitative assessment of progress made in delivering the benefits and outcomes of LITS identified in both the original strategy and the 2008 revision.

The report goes on to provide 'Pathways to Delivery' for each of the established LITS transport improvements and new improvements identified during the course of this progress review. The Pathways present a standard set of information for each improvement giving details on a range of areas, amongst which are progress made to date, detailed schemes to be delivered, costs and funding, delivery partners and programme. The Pathways are followed by an overall programme for the delivery of the remaining LITS transport improvements and an indication of potential funding opportunities.

1.2 Structure of the Report

Following on from this introduction, this document is formed by the following sections:

- Section 2 briefly reviews the 2008 revision (Revision 1) of LITS
- Sections 3 to 10 review the Areas of Change
- Sections 11 to 12 review the Potential Areas of Change
- Section 13 presents a summary of the changes that have occurred since 2008
- Section 14 reviews and refreshes the LITS Objectives
- Section 15 reviews the progress made on delivering the LITS benefits and outcomes
- Section 16 presents the Pathways to Delivery for each transport improvement
- Section 17 presents the delivery programme for the remaining transport improvements and associated schemes
- Section 18 provides an assessment of potential funding opportunities for the transport improvements

2 Lincoln Integrated Transport Strategy

2.1 A Transport Strategy for the Lincoln Area (Revision 1), 2008

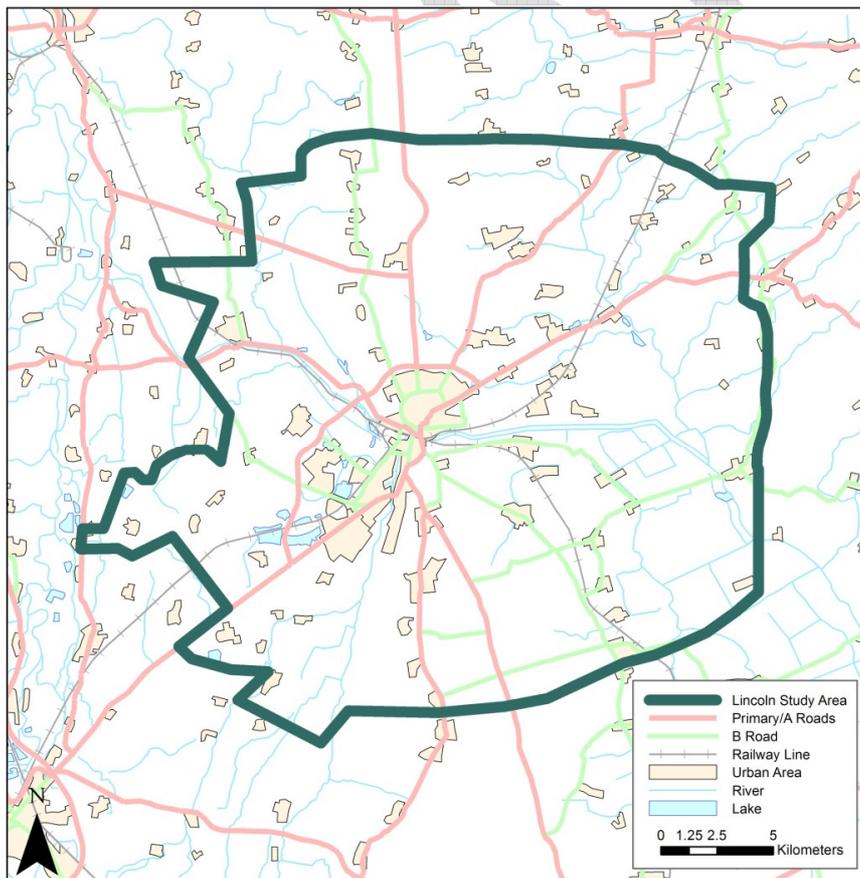
The original Lincoln Transport Strategy (LITS) was published in January 2006 and endorsed by members of the four partner authorities, which were Lincolnshire County Council (LCC), City of Lincoln Council (CoLC), West Lindsey District Council (WLDC) and North Kesteven District Council (NKDC).

Following changes occurring from developments in the area, the emerging Local Development Frameworks and the Lincoln Eastern Bypass alignment, this original document was revised in 2008.

This 2012/2013 Study aims to provide a progress review of Lincoln's Transport Strategy to date, taking into account any areas of change since 2008. These areas include, amongst others, changes to policy, the economy, public transport patronage, traffic accident levels and travel patterns.

The strategy area is identified as the city of Lincoln and its surroundings shown on the original mapping in the figure below.

Figure 2-1 – Strategy Area



Contains Ordnance Survey Data. Crown Copyright & Database Right © 2013

The strategy acknowledges the importance of the city of Lincoln as a cultural hub, tourist destination, centre of learning and focus for growth in the county. It recognises the important role that transport continues to play in the economic, social and cultural growth of the area.

The 2008 study reviewed the aims of the original study which were:

- To improve the management of traffic, to protect the environment and promote efficient and convenient movement by various modes of transport
- To reduce the negative impacts of through traffic, particularly heavy goods vehicles, in the centre of Lincoln
- To develop transport infrastructure schemes which enhance sustainable economic development, safety and local amenity
- To encourage and develop movement by public transport, cycling and walking as part of an overall strategy designed to increase transport choice
- To increase accessibility for all sections of the community
- To develop transport infrastructure that enables sustainable economic development and addresses priority areas for economic regeneration in the Lincoln Area

As part of 2008 review the following objectives were produced, which build on the objectives set in the original study.

Table 2-1 – LITS Objectives

Ref:	Objectives
SO1	To assist the sustainable economic growth of Lincolnshire through infrastructure improvements to the following: <ul style="list-style-type: none"> • The Strategic Road Network & Non-Strategic Road Network
SO2	To remove strategic road-based freight from Lincoln and other adversely affected communities through: <ul style="list-style-type: none"> • Encouraging the use of alternative modes • Improving links to the Primary/Trans-European Road Network
SO3	To ensure that the transport infrastructure meets the needs of existing and proposed developments especially: <ul style="list-style-type: none"> • In the regeneration priorities in the Lincoln Policy Area • Including minimising congestion through the promotion of walking, cycling and public transport • Managing parking
SO4	To reduce the number and severity of road traffic accidents by reducing the potential for conflict between different modes and improving the facilities for convenient and safe alternatives.
SO5	To maximise accessibility and reduce peripherality by improving the range of travel options especially for those without access to the private car.

Ref:	Objectives
SO6	To increase Public Transport usage by improving: <ul style="list-style-type: none"> Reliability, frequency and journey time of bus services.
SO7	To improve overall air and noise quality within the study area, especially in the Air Quality Management Area in Lincoln by the removal of unnecessary traffic by: <ul style="list-style-type: none"> Removing through traffic Reducing local journeys in Community Travel Zones Other traffic management measures
SO8	Protect and enhance the built environment by reducing the adverse impacts from traffic, through improvements to the transport infrastructure.
SO9	Improve the attractiveness and liveability of central Lincoln for residents, workers and visitors by creating a safe, attractive and accessible environment for pedestrians.
SO10	To support the effective implementation and delivery of both the emerging Sub-Regional Strategy and the new Growth Point agenda of the Lincoln Policy Area.

LITS identified many short and long term improvement measures in order to support the promotion of sustainable growth in the area and these are listed in the following table.

Table 2-2 – LITS Transport Improvement Schemes and Measures

Transport Improvement – Scheme or Measure	Short-term (2008-2016)	Longer Term (2016-2026+)
Small -scale walking/cycling/public transport schemes	x	x
Quality Bus Corridors	x	x
Real Time Passenger Information	x	
Public Transport Interchange	x	
Park and Ride	x	x
Parking Strategy	x	x
Rail Service Improvements	x	x
Lincoln Eastern Bypass	x	
Traffic Management Measures	x	x
City Centre Pedestrian Improvements	x	x
East-West Link	x	x
Swanpool Link	x	
Lincoln Southern Bypass		x
Relief Road Improvements		x

The Strategy goes on to explain the expected outcomes of these improvement measures, which are as follows:

Table 2-3 – LITS Outcomes

Outcome	Description
1	A reduction of 'through trips' within the urban area, particularly: <ul style="list-style-type: none"> • Trips passing through the city centre • HGV trips
2	A reduction in the modal share for the private car for: <ul style="list-style-type: none"> • Trips into Lincoln city centre • Trips on the 'school run'
3	A reduction in the impact of car trips resulting from development
4	An improvement in air quality within the urban area (particularly the AQMA within central Lincoln)
5	A reduction in casualties, particularly: <ul style="list-style-type: none"> • Involving vulnerable road users • At sites with known accident issues
6	An increase in public transport trips into and through the city centre
7	The provision of appropriate parking options for all users of the city centre
8	Sufficient freedom of movement for all modes to and within the Lincoln Area
9	An increase in levels of walking and cycling within the Lincoln Area, particularly: <ul style="list-style-type: none"> • Parents and children travelling to and from school • Short trips of less than two miles • Trips into the city centre
10	An improvement in the liveability quality of life within the Lincoln area
11	A reduction in noise levels caused by traffic (particularly for sensitive receptors such as schools and hospitals)
12	An increase in the vitality of Lincoln as a sub-regional centre by encouraging trips for tourism, leisure, business and shopping.
13	A city that operates effectively for trade and service vehicles
14	The provision of appropriate access to development sites with minimised impact of increased traffic on the local area
15	The protection of the historic environment from traffic impacts
16	The sub-regional strategy delivered by 2016

These outcomes are summarised into five key areas:

- City centre benefits brought through the reallocation of road space following the removal of unnecessary traffic
- Accessibility benefits for all transport users associated with providing more options to travel throughout the Lincoln area
- Environmental benefits for the Lincoln area

- Safety benefits associated with the Revised Strategy
- Economic and regeneration benefits for Lincoln, the County and the East Midlands

The improvement measures identified are to be monitored along with any outcomes these improvements provide.

DRAFT

3 Area of Change: National Policy

3.1 Introduction

A number of changes in national policy have come into force since 2008 with the Coalition Government's commitment to radical reform of the planning agenda. Several initiatives have been put into place to underpin the localism agenda.

This chapter explores the main policy changes with an emphasis on the changes made to transport policy.

3.2 National Planning Policy Framework

The National Planning Policy Framework (NPPF) sets out planning policies for England and how the Government expects these to be applied. It gives responsibility back to local people by providing a framework within which local people and their accountable councils can produce their own plans to reflect the needs and priorities of their communities. *'At the heart of the National Planning Policy Framework is a presumption in favour of **sustainable development**, which should be seen as a golden thread running through both plan-making and decision-taking'*¹

The NPPF sets out a list of core aims and to achieve these aims it recognises the three dimensions of sustainable development set out above.

Aims

- Simplification of the planning system
- Making the planning process quicker and easier
- Encourage sustainable development
- Promote sustainable growth
- Protect the environment
- Empower local communities

¹ NPPF paragraph 14

Dimensions

Economic role – contributing to building a strong, responsive and competitive economy, by ensuring that sufficient land of the right type is available in the right places and at the right time to support growth and innovation; and by identifying and coordinating development requirements, including the provision of infrastructure;

Social role – supporting strong, vibrant and healthy communities, by providing the supply of housing required to meet the needs of present and future generations; and by creating a high quality built environment, with accessible local services that reflect the community's needs and support its health, social and cultural well-being;

Environmental role – contributing to protecting and enhancing our natural, built and historic environment; and, as part of this, helping to improve biodiversity, use natural resources prudently, minimise waste and pollution, and mitigate and adapt to climate change including moving to a low carbon economy. (NPPF page

The presumption towards sustainable development for plan-making means that:

- local planning authorities should positively seek opportunities to meet the development needs of their area;
- Local Plans should meet objectively assessed needs, with sufficient flexibility to adapt to rapid change, unless any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole; or – specific policies in this Framework indicate development should be restricted.

For decision-taking this means:

- approving development proposals that accord with the development plan without delay; and
- where the development plan is absent, silent or relevant policies are out-of-date, granting permission unless: any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole; or specific policies in this Framework indicate development should be restricted.

Chapter 4 of NPPF looks specifically at the **Promotion of Sustainable Transport**. It sets out the need for transport systems to be balanced in favour of sustainable transport and that smarter use of technologies can reduce the need to travel. Local authorities should work with neighbouring authorities and transport providers to develop strategies to provide infrastructure to support sustainable development (such as rail freight interchanges).

NPPF recognises the importance of Travel Plans and all developments that generate significant amounts of movement should provide one.

Local authorities should seek to improve the quality of parking in town centres so that it is convenient, safe and secure. They should set appropriate parking charges that do not undermine the vitality of town centres. Parking enforcement should be proportionate.

3.3 Transport White Paper: Growth, Cutting Carbon – Making Sustainable Local Transport Happen (January 2011)

Vision

“Our vision is for a transport system that is an engine for economic growth, but one that is also greener and safer and improves quality of life in our communities.”

In line with the shift towards Localism the White Paper acknowledges that two-thirds of all journeys are 5 miles or under, trips which can be made by means other than the private car. Their research shows that a substantial proportion of drivers are willing to travel less by car and therefore the White Paper aims to offer:

“...people choices that will deliver that shift in behaviour, in many more local journeys, particularly drawing on what has been tried and tested.”

As highlighted in the 2011 Transport White Paper, the Government’s priority for local transport is to:

Encourage sustainable local travel and economic growth by making public transport and cycling and walking more attractive and effective, promoting lower carbon transport and tackling local road congestion.

The White Paper also has a number of key themes including the two primary themes of:

- Creating economic growth
- Cutting carbon emissions

In addition, the other key themes include:

- The health impacts of transport including physical activity, related to obesity; road safety; air quality; and noise.
- Accessibility to public transport
- Decentralisation of power, including Local Enterprise Partnerships, and planning
- Simplified transport funding
- Enabling local transport choices
- Encouraging active travel including walking, cycling, school travel, Bikeability and Bike & Rail
- Making public transport more attractive including focussing on the 'end to end journey'; smart and integrated ticketing; buses (partnerships, low emission vehicles, concessionary fares), rail; rural transport; and accessibility to services
- Managing traffic including low carbon technology; car sharing and car clubs; and the design and management of local roads (intelligent transport systems, parking, pedestrians and public realm, decluttering and traffic signs, street lighting, low emission zones, co-operation on strategic infrastructure and road safety)
- Local transport in society including community bus and taxi services, taxis and community rail

It is considered that the biggest opportunity for encouraging sustainable travel lie in short local journeys.

It acknowledges that smaller-scale transport schemes can deliver high value for money, encourage growth and reduce local carbon emissions.

The White Paper develops the concept of **enabling choice** by providing better information and education to promote sustainable travel.

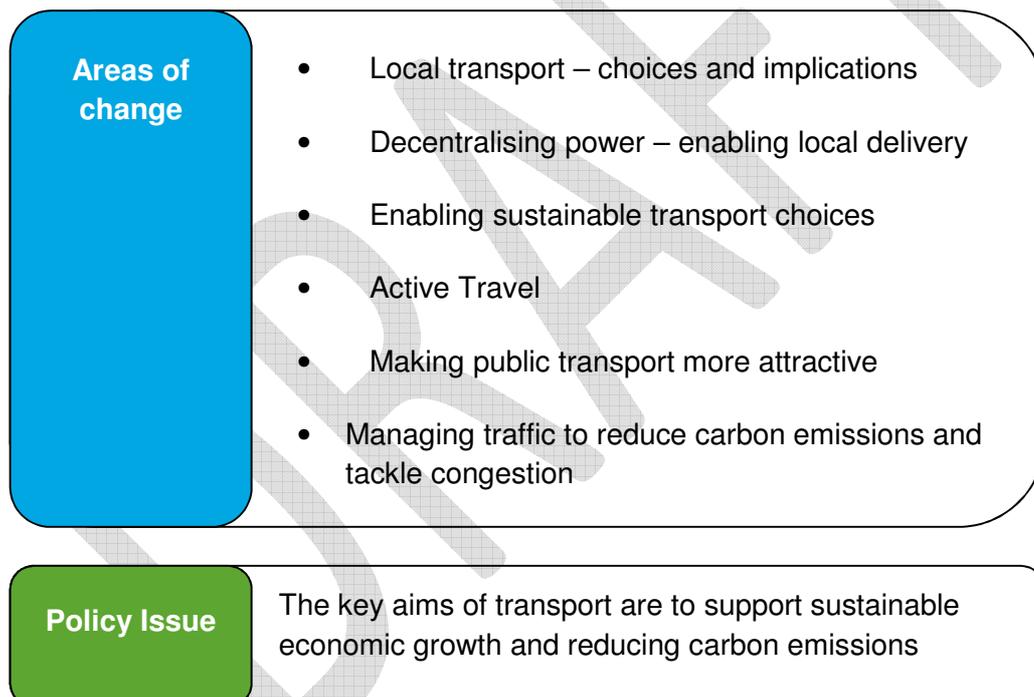
Chapter 9 of the Paper sets out each of the Government's commitments on local transport.

It recognises the Government's commitment to ending top-down decision making and the steps taken to hand back responsibility for developing local solution to the local level.

The White Paper sets out a new approach to local transport funding which aims to simplify funding streams in four main areas:

- a major schemes (capital) programme of over £1.5 billion for schemes costing more than £5 million;
- more than £3 billion (capital) for local highways maintenance over four years;
- over £1.3 billion (capital) for the integrated transport block; and
- the Local Sustainable Transport Fund, which has made £560 million capital and revenue funding available over four years, enabling local authorities to deliver solutions that build strong local economies and address at a local level the urgent challenge of climate change, delivering cleaner environments, improved safety and increased levels of physical activity. Bids from local transport authorities which demonstrated support from, and the involvement of, voluntary and community organisations and the private sector were particularly welcome.²

The White Paper discusses the following areas of change:



² Transport White Paper: Paragraph 14

3.4 Localism Act

Aim

The Localism Act aims to give power to Local people, through devolving powers to local level (abolishing regional strategies) and introducing Neighbourhood Plans.

The Act provides for a new set of powers for neighbourhood groups to make Neighbourhood Development Plans (NDPs), Neighbourhood Development Orders (NDOs) and Community Right to Build Orders. These powers are exercisable at a more local level than that of local authorities and require planning authorities to designate "neighbourhood areas".

- devolving planning powers down to the local level;
- allowing new "neighbourhoods" to produce plans which become part of the statutory development system;
- reintroducing Ministerial control of major infrastructure decisions; and
- further streamlining of the planning system.

The Act allows the Secretary of State to abolish the Regional Strategies (except the London Plan) by means of an order, although he will not be in a position to do so until the strategic environmental assessment (SEA) that is currently being consulted on, as a consequence of the first Cala Homes decision, in 2010, has been completed.

The Act delivers on the Coalition's plan to abolish the Infrastructure Planning Commission Set up under the Planning Act 2008 for the purpose of taking fast-track decisions on the nationally significant infrastructure projects). The Coalition objected to the IPC as there was a lack of democratic accountability. Decisions were made on major infrastructure schemes without referring to the Secretary of State. A new unit will be set up, the Major Infrastructure Planning Unit, which will process and examine schemes and make recommendations to the Secretary of State.

Policy Issue

The policy of localism has been implemented since the last version of LITS was published, aiming to devolve more decision-making to local areas and communities

3.5 Community Infrastructure Levy, Planning Act 2008 (came into force April 2010)

Aim

CIL is a tax on development which will be spent at a local level to pay for infrastructure necessary to support the development. It will replace Section 106 Agreements, which will then become site specific only.

The Community Infrastructure Levy (CIL) was introduced by the Planning Act 2008 and the CIL Regulations came into force in April 2010.

- Tax on local development – replace S106 Agreements
- Overcome actual and perceived shortcomings of planning obligations

Any local authority can decide whether or not they want to impose CIL.

CIL will be charged in pounds per square metre, the amount to be decided by each local authority, charging schedules will be subject to public scrutiny and they must be consulted upon.

The key test will be that the rate of CIL must strike an appropriate balance between:

- a) the desirability of funding infrastructure from CIL
- b) the potential effects it would have on the economic viability of development in that area.

Once a charging schedule has been adopted, any development for which planning permission is required will be a chargeable development on which CIL must be paid.

CIL is considered to be a fairer way of raising money for infrastructure than s106. The money will be 'pooled' and used for more general schemes in the area and therefore s106 will constitute a reason for granting planning permission if:

- necessary to make the development acceptable;
- directly related to the development; and
- fairly and reasonably related in scale and kind to the development.

These are already applied as a matter of policy but will now be as a matter of law.

Policy Issue

The Central Lincolnshire authorities are currently developing separate but aligned CIL charging schedules.

3.6 Health and Social Care Act 2012

Aim

The Health and Social Care Act aims to follow the Localism Agenda by enabling decisions to be made at a local level.

The Act sets out the key legislative changes which include a new focus for public health and greater accountability locally. As part of this greater accountability **Health and Wellbeing** boards and Local **HealthWatch** organisations are to be introduced. Local Authorities will be under duty to ensure that these organisations are effective and efficient.

The White Paper *Healthy Lives, Healthy People* sets out a higher priority for public health and dedicate resources. As part of this Local Authorities will have a new role in improving the health and wellbeing of their population as part of the new Localism agenda. Transport is seen to be a major influence in the promotion of health and wellbeing at a local level.

3.6.1 Health and Wellbeing Boards

These will introduce local democratic legitimacy by bringing together locally elected and accountable councillors, directors of adult social services, children's services and public health, CCGs and patients' views through local Healthwatch.

3.6.2 HealthWatch

These will provide advice and information about access to local care services and choices available to patients and a stronger voice for patients, with a seat on the local health and wellbeing board. HealthWatch organisations will feed their views on standards of providers' services to HealthWatch England.

Lincolnshire County Council carried out Community Engagement in the Spring/Summer of 2012. This exercise included consultation with residents and stakeholders in Lincolnshire regarding HealthWatch.

These boards are currently acting in shadow form and will officially take over their duties in April 2013; therefore giving the opportunity for close links between public health and local services such as transport provision within Local Authorities.

Policy Issue

Local authorities are taking on responsibility for local public health matters, which may lead to greater policy and practice links between health and transport

4 Area of Change: Regional Policy

4.1 Introduction

The role of a Regional Plan is to provide a broad development strategy for the area it covers. The East Midlands Regional Plan was published in March 2009 by the Secretary of State for Communities and Local Government. The Government has announced its intention to revoke Regional Plans however this is subject to Strategic Environmental Assessment for each plan; consultation has recently finished for the East Midlands Regional Plan Assessment.

4.2 East Midlands Plan (March 2009)

Role

The main role of the Regional Plan is to provide a strategy within which local authorities can be prepared.

Regional Plan provides a broad development strategy for the East Midlands up to 2026. It identifies the scale and distribution of provision for new housing and priorities for the environment, transport, infrastructure, economic development, agriculture, energy, minerals and waste treatment and disposal.

The Regional Plan provides a strategy in which the region's local authorities can prepare spatial and Local Transport Plans. It identifies the provision of new housing and establishes priorities for environment, transport, infrastructure, economic development, agriculture, energy, minerals and waste treatment/disposal.

The Regional Plan was developed as part of the overall vision set by the East Midlands Regional Assembly's Integrated Regional Strategy (IRS). The IRS sets out the following as its objectives:

Objectives

- To ensure that the location of development makes efficient use of existing physical infrastructure and helps to reduce the need to travel;
- To promote and ensure high standards of sustainable design and construction, optimising the use of previously developed land and buildings;
- To minimise waste and to increase the re-use and recycling of waste materials; and
- To improve accessibility to jobs and services by increasing the use of public transport, cycling and walking, and reducing traffic growth and congestion.¹

It is the first and last of these aims that are of particular relevance to this study. The Regional Plan goes on to identify climate change as the most significant issue for the future of the region and sets out policies to adapt or mitigate in some way. Transport is seen as a major way to enable change and therefore many policies are dedicated to this subject.

The plan recognises that the city of Lincoln contains by far the largest concentration of jobs, housing and services in the Eastern Sub-area as well as the importance of its cultural, tourism and educational roles in the county.

4.2.1 *Housing Priorities*

Over the period of the Plan (2006-2026) it is estimated that 25,170 dwellings should be provided in the Lincoln Policy Area which equates to around 34% of the Eastern sub-area total.

4.2.2 *Employment Priorities*

Lincoln is expected to strengthen its role as a Principle Urban Area by balancing new residential with employment related development. The Lincolnshire Economic Strategy and Action Plan has identified Lincoln as the main driver for economic growth in the sub-area.

4.2.3 *Transport Priorities*

The plan recognises the importance of the Transport Strategy for the Lincoln Area and its consistent implementation of proposals over a twenty year period. This strategy should be reviewed regularly and should ensure that new proposals such as sustainable urban extensions are taken fully into account.

4.2.4 Policy Lincoln Area SRS 11

Successive Local Transport Plans, Local Development Frameworks, economic, community and other strategies should consistently seek to:

- improve the management of traffic, protect the environment and promote efficient and convenient movement by various modes of transport;
- reduce the negative impacts of through traffic, particularly heavy goods vehicles, in the centre of Lincoln;
- develop transport infrastructure schemes, including eastern and southern bypasses, parts of which will provide access to new urban extensions and would enhance safety and local amenity;
- encourage and develop movement by public transport, cycling and walking as part of an overall strategy designed to increase sustainability and widen transport choice;
- increase accessibility for all sections of the community; minimise additional travel requirements; create a safer, healthier and more attractive environment; and
- manage vehicular parking (including potential park and ride) in a way that recognises differing urban and rural need whilst facilitating more sustainable patterns of movement.

Policy Issue

While the East Midlands Regional Plan will soon be defunct, until then it does continue to provide some policy direction for transport in Lincoln including identifying the need to manage traffic to improve the environment, reduce through traffic, reduce impacts from HGVs, develop the Eastern and Southern Bypasses, encourage sustainable modes of travel, increase accessibility and manage parking

5 Area of Change: Local Policy

5.1 Introduction

This chapter summarises the changes in local policy in Lincolnshire and Lincoln itself since 2008.

5.2 Local Transport Plan 4

Vision

- There is a well managed and safe road network to maximise the reliability of journeys and reduce the impact of traffic on communities
- There is good access by a choice of modes to services, jobs and for leisure within Lincolnshire.
- There is good inter- and intra-regional access to support a growing economy
- Our sensitive rural areas are managed in ways that retain, and where possible, enhance the value of the natural environment.
- Our streets in built-up areas are seen primarily as places where people can carry on their activities in a pleasant environment.

Lincolnshire's Local Transport Plan 4 (LTP4) was published in April 2013. LTP4 recognises the changes that have come forward since the previous LTP (LTP3) and that a lot of the uncertainty regarding transport policy has been resolved. LTP4 covers the ten year period of 2013/2014 to 2022/2023.

LTP4 examines the county as a whole and establishes the city of Lincoln as the most densely populated area in the county with 26.08 people per hectare; this is compared to the county-wide density of 1.21 people per hectare.

A key objective of the plan is to support economic growth in line with the latest Transport White Paper, 'Creating Growth, Cutting Carbon'. The plan recognises the leading industries in the county as being tourism, public administration, education and health.

Objectives

- Assist the sustainable economic growth of Lincolnshire, and the wider region, through improvements to the transport network
- Improve access to employment and key services by widening travel choices, especially for those without access to a car
- Make travel for all modes safer and, in particular, reduce the number and severity of road casualties
- Maintain the transport system to standards which allow safe and efficient movement of people and goods to protect and enhance the built and natural environment of the county by reducing the adverse impacts of traffic, including HGVs
- Improve the quality of public spaces for residents, workers and visitors by creating a safe, attractive and accessible environment to improve the quality of life and health of

Lincoln already has Growth Point Status which marks the area out for major growth and the Draft Core Strategy allocates developments in Lincoln and sets out transport policies that seek to ensure that access to this development is sustainable.

5.3 Draft Central Lincolnshire Core Strategy

Aims

The Core Strategy for Central Lincolnshire is a local development document that sets out the overall approach to development and growth in Central Lincolnshire for the next 20 years.

The Central Lincolnshire Local Plan will cover the combined areas of the City of Lincoln, North Kesteven and West Lindsey. These three councils have formed a new formal partnership within Lincolnshire to prepare this joint plan for the area.

The Core Strategy for Central Lincolnshire recognises the challenges over the next two decades and beyond to achieve growth while ensuring quality of life and environmental conservation.

The Core Strategy is a local development document that sets out the overall approach to development and growth in Central Lincolnshire for the next 20 years. It sets out objectives and policies for delivering a 2031 Vision for Central Lincolnshire to cover the following:

- How sustainable development will be achieved to improve the quality of life, wellbeing and resilience of Central Lincolnshire's communities
- How Central Lincolnshire will contribute to a low carbon future by helping to reduce carbon emissions
- The overall amount of growth proposed and how this should be distributed around Central Lincolnshire to maximise sustainability, including major locations for new development for Lincoln, Gainsborough and Sleaford
- The provision of new and improved services and infrastructure (schools, transport facilities, open space, etc) needed as part of growth and how they will be delivered
- How Central Lincolnshire's environment will be conserved and improved, including its ecology, landscapes, built heritage and natural resources, as part of an approach to maintaining the area's local character and diversity.³

The Strategy asks, **How Sustainable is Central Lincolnshire?** It sets about answering this question by first of all assessing nearly 100 sustainability indicators in the area which was condensed into nine sustainability 'Domains'.

³ Core Strategy for Central Lincolnshire, page 1



From these Domains the Strategy identifies key issues and challenges facing Central Lincolnshire. The Connections Domain focuses on transport issues in the area and identifies the following issues:

- Public transport journey times are good across most of Central Lincolnshire, but scheduling and frequency of services is generally poor
- Car dependency and use is very high in the rural area, with commuting and access to shops and services being key drivers
- Access to services is poor in some parts of the rural area, due to low settlement density. West Lindsey in particular has many areas where food stores are more than 5km from most housing
- Traffic congestion hotspots are focused on main roads surrounding Lincoln and Sleaford⁴

Higher carbon emissions from road transport in North Kesteven and West Lindsey than in Lincoln is attributed to greater reliance on the private car for travel.

From the issues raised, the following challenges have been identified and the Strategy sets out ways that these challenges can be met:

⁴ Core Strategy for Central Lincolnshire, page 29

Strategies

- Reducing carbon emissions from transport, the built environment and lifestyles as part of the shift to low carbon living
- Ensuring that Central Lincolnshire and its communities are resilient to future change, including adaptation to climate change
- Providing sufficient new housing, jobs and services to meet the area's needs and increase the sustainability of its communities
- Ensuring that the infrastructure needs associated with growth are met
- Increasing the quality of life across Central Lincolnshire, including improvements to health, wellbeing, services and facilities
- Tackling social and economic disadvantage and regeneration needs, including areas of severe deprivation
- Promoting greater use of local resources to enhance the self-sufficiency, resilience and overall sustainability of communities
- Protecting and enhancing the natural and built environment of Central Lincolnshire, including key natural, historic and cultural assets, biodiversity, landscapes and natural resources
- Protecting local identity and diversity in the context of growth and change

Policy Issue

There is a need to reduce carbon emissions, increase resilience of communities to future change, increase the sustainability of communities through providing appropriate infrastructure, increase quality of life and tackle disadvantage, use local resources and protect the environment and local identity

5.4 Lincolnshire County Council Business Plan

The Lincolnshire County Council Business Plan 2012 to 2015 sets out the Council's strategic view on how it will deliver its priorities. The Vision and Purpose of the Council are as follows:

Vision	<ul style="list-style-type: none">• Building on our strengths• Protecting your lifestyle• Ambitious for the future
---------------	--

Purpose:

- Investing in infrastructure and the provision of services
- Commissioning for outcomes based on our communities' needs
- Promoting community wellbeing and resilience
- Influencing, coordinating and supporting other organisations that contribute to the life of Lincolnshire
- Making the best use of all of our resources

In terms of Highways and Transportation, the Business Plan, sets out the following purposes:

- We maintain the county's road network and aim to maintain quality with reduced budgets through use of innovative partnerships.
- We have prioritised resources for winter gritting at a time when other budgets are reducing.
- We maximise capital investment in our highways by successfully bidding for external funds in partnership with district councils and Local Enterprise Partnerships.
- We are progressing four major road schemes. This year we expect to: obtain planning permission for the Lincoln East West Link road; publish a preferred route for Spalding Western Relief Road; and work with South Kesteven District Council to develop the master plan and identify the route for the Grantham Southern Relief Road. Significant progress has recently been made in securing government funding towards constructing the Lincoln Eastern Bypass and we intend to make progress on the legal and design processes necessary to deliver that scheme.

- We work within the Lincolnshire Road Safety Partnership to make peoples lives safer.

Table 5-1 – Highways Indicators

Indicator	Targets		
	2012-13	2013-14	2014-15
Principal Roads that require maintenance	4%	4%	4%
Non Principal Roads that require maintenance	8%	8%	8%
Unclassified Roads that require maintenance	25%	25%	25%
Footways that require maintenance	10%	10%	10%
% Network treated in advance of ice and frost forming	34%	34%	34%

Table 5-2 – Safety Indicators

Indicator	Targets		
	2012-13	2013-14	2014-15
People killed or seriously injured in road traffic accidents	411	385	360
Children killed or seriously injured in road traffic accidents	29	27	25

5.5 Lincoln City Centre Masterplan

Vision

The revised document will reflect on strategic influences, emerging concepts and existing masterplans, providing a combined approach to the city's growth and investment

5.5.1 Overview

The Lincoln City Centre Masterplan has been reviewed after being in place since 2007 and a new version was published in Spring 2013. The last five years have seen a significant amount of change in the economic climate and it has therefore been recognized as important to update the Lincoln City Centre Masterplan to ensure that the content remains valid so that it may effectively continue to guide new development across the city centre and adjacent areas.

5.5.2 Strategy for Lincoln City Centre

The goal of the Masterplan is to introduce better connectivity and cohesion to the city centre, enabling growth and development of key parts of Lincoln and supporting the city in its role as a regional centre of the East Midlands.

The plan aims to capture the level of change the city has undergone in the last five years and highlight aspirations for the future, both in terms of economic potential and sustainable development.

A key requirement in developing the revised Masterplan was to continue to reflect the principles originally identified in 2005. The key objectives of the Masterplan are

to recognise these principles and demonstrate how they will inform future development in the City thus creating:

Objectives

- A strong and vibrant city centre
- A well connected city centre
- A well-managed city centre
- A mixed use city centre

The document states that *“For a city centre to function effectively it must consider how vehicles, cycles and people move through it and the connectivity of the place with its surrounding neighbourhoods.”*⁵

*“By distributing movement into several areas to disperse traffic, redefining street frontages, introducing traffic calming measures, improving public transport, restructuring certain street networks and strengthening legibility the city can begin to respond more effectively to its wider context.”*⁶

The document outlines the vision for Lincoln as a dynamic and contemporary university and cathedral city and its place as an economic driver for Lincolnshire. It also outlines the wider strategic context and that the Masterplan has been influenced by a number of local and national strategies, including the National Planning Policy framework (NPPF), introduced by the government in March 2012.

Lincoln’s relationship with its rural hinterland is vitally important in terms of employment and supply chain and its role as primary urban centre for Lincolnshire is essential. The Masterplan supports the role of the climate change strategy in ensuring that new developments do not excessively impact on air quality, biodiversity or emerging consumption, thereby embracing sustainability.

The document recognises that Lincoln suffers from transport related problems, crucially that *“The city centre remains poorly connected to the rest of the urban fabric with inadequate east-west links that do not obey natural desire lines. Physical and pedestrian links to the north and south are somewhat ambiguous and these are*

⁵ Draft LCCM – page 28

⁶ Draft LCCM – page 5

further exacerbated by the intervention of the railway line, which effectively severs the city at the southern tip of the pedestrian High Street.”⁷

Issue

The city centre suffers from poor connectivity, poorly defined pedestrian routes and severance

The City Centre Masterplan identifies potential areas for development which will help unlock opportunities for regeneration and economic development in the city, particularly within underdeveloped areas. The document states that *“By using this approach the public realm will become a safer environment with enhanced street scenes, appropriate street proportions and increased pedestrian access. Taking reference from the Lincoln Townscape Assessment and building an understanding of local context, the Masterplan hopes to successfully draw together new development proposals with existing buildings without compromising the substantial heritage value of the City.”⁸*

5.5.3 Delivery of Lincoln's Transport Schemes

The document reviews each of the major proposed transport improvement schemes for the Lincoln area in detail. In addition to the schemes contained in LITS, the Masterplan also identifies that:

“An analysis of pedestrian movements will be carried out in the 2013 to build an understanding of how core city centre areas connect from a user's perspective and to identify what enhancements might be necessary in certain locations to improve the visitor experience.

The City Centre Masterplan has begun to identify some potential cycling provision and routes, but much more remains to be done. The University cycle hire scheme will hopefully be expanded and improvements to the rail level crossings will greatly improve cycle access for commuters, students and visitors.

City of Lincoln Council in partnership with Lincolnshire County Council has commissioned Mouchel to help developing a Car Parking Strategy for the City of Lincoln, identifying current and future parking requirements. The Strategy will review relevant policy, explore future needs identifying solutions and will benchmark against other similar areas. It is hoped that the Strategy will be completed by spring 2013

⁷ Draft LCCM – page 19

⁸ Draft LCCM – page 38

and that it will inform future car park provision within many of the core sites identified within the City Centre Masterplan area.”⁹

Opportunity

Pedestrian movement analysis to be undertaken in 2013

Opportunity

LCCM to identify potential cycle provision and routes for the city centre

Additional transport related proposals within the LCCM include the Destination Management Plan, designed to enhance Lincoln’s position as a major visitor destination and tourist attraction. *“Owned by private and public sector partners and stakeholders of the City of Lincoln the DMP will demonstrate the opportunities and challenges facing the City and how Lincoln might realise its true potential as a key visitor destination by providing a common vision and identifying aspirations for growth.*

An essential element of the DMP is to work with stakeholders to improve access to and movement of pedestrian and vehicular traffic around the city, including identifying key routes and gateways for visitors and managing the visitor experience. Investment in the City’s infrastructure such as the dualing of the A46 has greatly reduced the drive time to Nottingham and beyond, helping to break down perceptions about Lincoln’s inaccessibility.

Visitor movement within the City however remains hindered, not only by the mile long High Street with limited east-west connectivity, but also the lack of quality signage in to the City, particularly in relation to car parking locations and coach parking. The level crossings, though being addressed as mentioned above, remain a physical barrier to movement and current train service options are limited.”¹⁰

Opportunity

Destination Management Plan to be developed for the city

⁹ Draft LCCM – pages 29 - 32

¹⁰ Draft LCCM – page 34

Opportunity

Visitor movement is hindered by poor signage for car parks and coach parking

In addition to the Transport Strategy, the document sets out the strategy for retail and leisure opportunities, focusing on the city centre built structure and the retail strategy and action plan. It outlines the potential for growth and diversity of Lincoln's markets, heritage and cultural offering; focusing on particular areas of cultural interest for development and investment.

The final part of the document individually analyses the design principles of each site recognised for 'intervention' within the city. It focuses on the areas for improvement, key observations and specific measures targeted to facilitate the identified improvements. It also identifies any potential constraints to the implementation of targeted measures. A phasing and delivery programme is provided as a guide for timescales for the implementation of the targeted measures.

5.6 Low Carbon Lincoln Plan

Vision

To establish a Low Carbon Lincoln Partnership (LCLP) working together to prepare a Low Carbon Lincoln plan to reduce Lincoln's carbon footprint

In 2008, the Government passed the Climate Change Act and became the first government to commit to legally binding CO₂ reduction targets. In order to contribute to reaching these targets the Low Carbon Lincoln Partnership (PCLP) was formed.

Low Carbon Lincoln aims to establish a Low Carbon Lincoln Partnership which will involve all sectors of the community to work together to prepare a Low Carbon Plan to reduce Lincoln's carbon footprint.

The Plan captures the ideas, projects and initiatives discussed at the first of Lincoln's Low Carbon Conferences in March 2012.

The Plan sets out the following targets (the aspirational targets are yet to be confirmed):

Aspirational

To reduce Lincoln's CO₂ emissions by 25% by 2020 based on a 2005 baseline.

Long Term

To reduce Lincoln's CO₂ emissions by 80% by 2050 based on a 2005 baseline.

Issue

The Low Carbon Lincoln Plan aims to reduce CO₂ emissions by 25% by 2020 and 80% by 2050 (from the 2005 baseline)

In order to achieve these targets it suggests some actions and it sets out the following Transport Actions:

- Improvements in vehicle efficiency
- Increase in electric vehicles and biofuels,
- Increase in public transport,
- Increase in the numbers of people walking and cycling

The LCLP includes a variety of public, private, community groups and third sector organisations. Their aims and objectives are as follows:

Aims

- Reducing our carbon footprint across all of our sites and operations in Lincoln.
- Creating a low carbon, sustainable economy in Lincoln which will be an example to cities across the country.
- Creating more green jobs, increasing prosperity and opportunity for all.
- Supporting a programme of best practice and sustainable innovations
- Reporting each year on the progress we are making

Objectives

- We are committed to working together to create a low-carbon, sustainable Lincoln
- We will work together to build a prosperous city for high technology, smart services and the other elements of a sustainable local economy in which all can share
- We will make Lincoln a leading city for reducing carbon emissions and tackling climate change
- We will champion local people who are trying to reduce their carbon footprint

Some achievements have been made to date with a reduction of 17% in CO₂ emissions in Lincoln between 2005-2009, 5% of this reduction was attributed to Transport. The report states that this 5% reduction can be attributed to increased efficiency of vehicles and to a reduction in vehicle use as the number of kilometres driven has decreased annually

The following table sets out potential projects to achieve these expected reductions.

Table 5-3 – Low Carbon Lincoln Projects

Aspirational Goal	Aspirational Goal	Delivery	Estimated Annual CO ₂ Increase/Saving (Tonnes)
Increase membership and activities in Lincoln of Sustain Lincolnshire	Sustain Lincs promotes energy saving in Small and Medium sized Enterprises (SMEs) in Lincoln.	Sustain Lincolnshire, CoLC Economic Development Team, chamber of commerce,	2,780 (based on 1% of ind/com baseline)
Improvements in vehicle efficiency	Although private journeys continue to increase, efficiency improvements is anticipated to reduce emissions from vehicles by 13% by 2020 compared to 2005.	Department of Transport, car manufacturers	8,500 (based on 13% of transport baseline)
Promoting the use of low carbon vehicles	Discount on car parking and residential parking permits for low emission vehicles using city council car parks	CoLC	Already accounted for above
Promotion of travel plans for businesses and organisations in Lincoln.	Travel plans encourage more people to use public transport and alternatives to the car. Awareness raising events for bike to work week etc	LCC, CoLC, individual organisations/companies, LCC, Sustrans, CoLC	650 (based on 1% of transport baseline)

Aspirational Goal	Aspirational Goal	Delivery	Estimated Annual CO ₂ Increase/Saving (Tonnes)
Proportion of road transport fuels replaced by increase in electric vehicle use.	Includes the establishment of electric car charging points in Lincoln	CoLC, LCC, Department for Transport, car manufacturers	1,950 (Based on a national study into electric vehicle potential, the percentage of fuel displaced by electric vehicles is assumed to be 3%)
Smarter and greener driving	Promoted through employers and the Energy Saving Trust. Potential for a 5% improvement in driver efficiency.	LCC, CoLC, Lincoln Employers	3250 (based on 5% of transport baseline)
Traditional road transport fuels replaced with biofuels	Based on EU biofuels policy, it is estimated that 10% of fuel used in 2020 will come from biofuels. Biobuses emit up to 40% less CO ₂	Government/Department for Transport	Already accounted for
Increase in public transport use	Promotion of Big Bus deal (employee reduced cost travel scheme) for businesses in the Lincoln BIG area. Improvements to Bus station as part of the city centre master plan	Stagecoach, Lincoln BIG, individual organisations	Already accounted for
Improvement to cycle lanes and safe storage	Improvements to cycle access planned as part of the LN6 sustainable transport bid Improved cycle facilities and storage in city centre as part of the city centre master plan Review facilities for cyclists in CoLC car parking strategy 2012/13	LCC, CoLC, Sustrans CoLC, Lincoln BIG	Already accounted for
Total Estimated Savings			14,350 tCO ₂

Opportunity Low Carbon Lincoln promotes car parking discounts for low emission vehicles

Opportunity Low Carbon Lincoln promotes the provision of electric vehicle charging points

6 Area of Change: Population and Economy

6.1 Introduction

National, Regional and Local Policy since 2008 have all made the link between the need for good quality transport infrastructure and economic growth. This Chapter explores various Economic statistics in the study area in comparison to the wider county and England.

6.2 Population

Data has been sourced from the Office of National Statistics (ONS) relating to population numbers in Lincoln, the East Midlands and England. The general trend is that population numbers have risen, with Lincoln experiencing a greater rise than the East Midlands and England particularly in the 16-64 age group.

Table 6-1 – Age Group – 0-15 Years ('000s)

Year	Geographic Area			
	City of Lincoln	Lincolnshire	East Midlands	England
2008	15.0	121.8	815.8	10219.3
2009	15.1	121.5	815.8	10254.6
2010	15.1	121.7	817.8	10314.3
2011	15.4	121.9	838.5	10579.1
% Change 2008-2011	2.6%	0.1%	2.8%	3.5%

In the 0-15 age group population has grown in Lincoln between 2008 and 2011, however, this rate of growth is lower than the East Midlands and England.

Table 6-2 – Age Group – 16-64 Years ('000s)

Year	Geographic Area			
	City of Lincoln	Lincolnshire	East Midlands	England
2008	59.8	434.2	2881.5	35407.7
2009	60.2	433.3	2886.3	35571.7
2010	61.1	434.1	2895.1	35761.7
2011	64.9	443.9	2921.8	36273.7
% Change 2008-2011	8.5%	2.2%	1.4%	2.4%

Issue

The working age population has grown significantly since 2008 and at a much higher rate than the region and country as a whole

The number of adults aged between 16 and 64 (working age) has grown sharply in the Lincoln area, and this increase has been much higher than in the East Midlands and England.

Table 6-3 – Age Group – 65+ Years ('000s)

Year	Geographic Area			
	City of Lincoln	Lincolnshire	East Midlands	England
2008	13.2	139.6	732.1	8827.7
2009	13.3	143.1	749.2	8982.8
2010	13.5	147.2	768.5	9164.4
2011	13.3	147.9	772.9	9223.1
% Change 2008-2011	0.8%	5.9%	5.6%	4.5%

The number of adults of retirement age has grown in Lincoln however this rate (1.1%) is much lower than that of the East Midlands (5.6%) and England (4.5%).

Table 6-4 – Age Group – All Years ('000s)

Year	Geographic Area			
	City of Lincoln	Lincolnshire	East Midlands	England
2008	88.0	695.6	4429.4	54454.7
2009	88.5	697.9	4451.2	54809.7
2010	89.7	703.0	4481.4	55240.4
2011	93.5	713.7	4533.2	56075.9
% Change 2008-2011	6.3%	2.6%	2.3%	3.0%

Total population numbers have grown over the four year period in Lincoln, the East Midlands and England, with Lincoln experiencing the largest change.

Issue

The population of Lincoln has grown significantly since 2008, by 6.3%, a significantly higher rate than both the region and England as a whole

6.2.1 *Summary*

The population data gathered shows that the number of people living in Lincoln has increased significantly between 2008 and 2012 with the most notable increase being in the numbers of those of working age (16-64).

6.3 Businesses

6.3.1 *Local Business Units by Employment Size Band*

Data has been sourced from the ONS dataset Local Units by Employment Size Band: Urban/Rural. As with the above dataset, the data are an expansion of the local unit and enterprise data produced and disseminated via the ONS publication

UK Business: Activity, Size and Location. This is compiled from the Inter-Departmental Business Register (IDBR), which contains information on VAT traders and PAYE employers. This is produced from a snapshot of the IDBR taken on 28th March each year. Local units are also defined as above.

To provide an insight into various business characteristics relative to local, regional and national areas data have been sourced for Lincoln, Lincolnshire, East Midlands and Great Britain. To allow a fair comparison urban only data have been used for all geographic areas. To provide an insight into change in business characteristic over time data have been sourced yearly from 2008 to 2011.

6.3.2 Local business units with 19 or less employees

The following table shows that the number of businesses with 19 employees or less have reduced between 2008 and 2011 by nearly 9%. This is much higher than the rest of Lincolnshire and almost double the rate of reduction in England and Wales.

Table 6-5 – Local Business Units with 19 or Less Employees

Geographic Area	City of Lincoln	Lincolnshire	East Midlands	England and Wales
Mar-08	3,030	12,760	101,585	1,562,865
Mar-09	3,060	12,825	100,965	1,558,370
Mar-10	2,890	12,345	97,230	1,515,350
Mar-11	2,765	12,100	94,980	1,497,515
% Change 2008-2011	-8.7%	-5.2%	-6.5%	-4.2%

6.3.3 Local business units with 20 or more employees

The number of businesses with 20 employees or over in the Lincoln area has largely remained the same between 2008 and 2012. This is compared to a reduction in Lincolnshire, the East Midlands and England/Wales.

Table 6-6 – Local Business Units with 20 or More Employees

Geographic Area	City of Lincoln	Lincolnshire	East Midlands	England and Wales
Mar-08	475	1,655	13,000	170,945
Mar-09	480	1,665	12,965	171,465
Mar-10	480	1,610	12,680	168,675
Mar-11	475	1,600	12,350	165,950
% Change 2008-2011	0.0%	-3.3%	-5.0%	-2.9%

Issue

Overall the number of business units has decreased in Lincoln since 2008

6.3.4 Local Businesses by Industry Type

Data has been sourced from the ONS dataset Local Units by Broad Industry Group: Urban/Rural. The data are an expansion of the local unit and enterprise data produced and disseminated via the ONS publication UK Business: Activity, Size and Location. This is compiled from the Inter-Departmental Business Register (IDBR), which contains information on VAT traders and PAYE employers. This is produced from a snapshot of the IDBR taken on 28th March each year.

The values for the data are presented in local units defined by the ONS as follows:

“This is a statistical unit in an enterprise, defined as the individual site (shop, factory, etc) situated in a geographically identified place. At a local unit, economic activity is carried out by one or more persons (even if only part-time) working for one and the same enterprise. Some businesses return their own local organisational units. These are local units at a single address, reflecting different activities of the business.”¹¹

Business categories are based on broad industry group from the Standard Industrial Classification (UK SIC 2007). The classifications are generally self explanatory, but further details are available in the UK Standard Industrial Classification 2007 Document. A selection of the industry groups are reviewed below

6.3.5 Urban Production

Of the 55 manufacturing units no longer operating in the production industry in Lincoln between 2009 and 2011 in Lincolnshire, 25 were in Lincoln. The percentage decrease in this type of business in Lincoln is much higher than England and Wales.

Table 6-7 – Local Business Units – Urban Production

Geographic Area	City of Lincoln	Lincolnshire	East Midlands	England and Wales
Mar-09	175	835	9,585	104,005
Mar-10	155	785	9,155	98,710
Mar-11	150	780	8,895	94,775
% Change 2009-2011	-14.3%	-6.6%	-7.2%	-8.9%

6.3.6 Urban Construction

The construction industry as a whole has declined in the previous five years and the following table shows that this decline was sharp in Lincoln. 65 businesses no longer operated in Lincoln compared with 215 in Lincolnshire and 1,575 in the East Midlands Region. The percentage decrease in these businesses was significantly higher in Lincoln than the other areas.

¹¹ ONS accompanying information to general details to Local Units by Broad Industry Group dataset

Table 6-8 – Local Business Units – Urban Construction

Geographic Area	City of Lincoln	Lincolnshire	East Midlands	England and Wales
Mar-09	375	1,665	13,100	187,825
Mar-10	350	1,535	12,185	177,670
Mar-11	310	1,450	11,525	169,815
% Change 2009-2011	-17.3%	-12.9%	-12.0%	-9.6%

Issue

The number of manufacturing and construction businesses has decreased in Lincoln which would lead to a reduction in HGC movements

6.3.7 Urban Retail

It has been widely reported that the retail industry has declined in the UK over the previous five years. This trend is reflected in Lincoln with 25 units no longer operating in the area between 2009 and 2011; this is broadly in line with reduction rate seen in, Lincolnshire, the East Midlands and England and Wales.

Table 6-9 – Local Business Units – Urban Retail

Geographic Area	City of Lincoln	Lincolnshire	East Midlands	England and Wales
Mar-09	610	2,325	15,185	214,380
Mar-10	605	2,280	14,765	208,680
Mar-11	585	2,215	14,505	206,975
% Change 2009-2011	-4.1%	-4.7%	-4.5%	-3.5%

Issue

The reduction in retail business in Lincoln may have resulted in fewer retail related journeys by both employees and shoppers

6.3.8 Urban Accommodation and Food Services

The Accommodation and Food Services industry has seen a decline regionally, nationally and county wide each year between 2009 and 2011 however Lincoln has not followed this trend.

Table 6-10 – Local Business Units – Urban Accommodation and Food Services

Geographic Area	City of Lincoln	Lincolnshire	East Midlands	England and Wales
Mar-09	265	1,210	7,680	118,880
Mar-10	275	1,175	7,300	114,950
Mar-11	260	1,125	6,885	108,815
% Change 2009-2011	-1.9%	-7.0%	-10.4%	-8.5%

6.3.9 Urban Professional, Scientific and Technical

Lincoln has seen a reduction in the Professional, Scientific and Technical industry in the three year period with 25 units no longer operating. This is against the trend in England and Wales which showed a slight rise of 1.7% over the period.

Table 6-11 – Local Business Units – Urban Professional, Scientific and Technical

Geographic Area	City of Lincoln	Lincolnshire	East Midlands	England and Wales
Mar-09	320	1,260	11,540	237,700
Mar-10	305	1,250	11,525	238,135
Mar-11	295	1,210	11,470	241,810
% Change 2009-2011	-7.8%	-4.0%	-0.6%	1.7%

6.3.10 Urban Business Administration and Support Services

There has been a general reduction in Business Administration and Support Services units and the rate of reduction is particularly evident in Lincoln with a 22.9% drop (55 units).

Table 6-12 – Local Business Units – Urban Business Admin and Support Services

Geographic Area	City of Lincoln	Lincolnshire	East Midlands	England and Wales
Mar-09	240	980	7,870	136,140
Mar-10	205	890	7,075	126,200
Mar-11	185	840	6,835	120,910
% Change 2009-2011	-22.9%	-14.3%	-13.2%	-11.2%

6.3.11 Public Administration and Defence

This industry has grown in England and Wales, Lincolnshire and most particularly in Lincoln which goes against the reduction in the East Midlands as a whole. Of the 20 new units in Lincolnshire 10 are in Lincoln.

Table 6-13 – Local Business Units – Urban Public Administration and Defence

Geographic Area	City of Lincoln	Lincolnshire	East Midlands	England and Wales
Mar-09	75	285	2,285	17,280
Mar-10	80	275	2,080	17,635
Mar-11	85	295	1,900	17,890
% Change 2009-2011	13.3%	3.5%	-16.8%	3.5%

6.3.12 Health

There has been an increase in the number of units in the Health Industry in Lincolnshire, the East Midlands and England but Lincoln has experienced a reduction of 2.9% (10 units).

Table 6-14 – Local Business Units – Urban Health

Geographic Area	City of Lincoln	Lincolnshire	East Midlands	England and Wales
Mar-09	350	1,140	7,375	99,880
Mar-10	335	1,135	7,490	102,665
Mar-11	340	1,190	7,705	106,410
% Change 2009-2011	-2.9%	4.4%	4.5%	6.5%

6.3.13 Entertainment, Recreation and Other Services

Entertainment, recreation and other services constitute around 7% of local units in Lincoln. The reduction of 6.3% in Lincoln is broadly in line with the County wide, regional and national trend.

Table 6-15 – Local Business Units – Urban Entertainment, Recreation and Other

Geographic Area	City of Lincoln	Lincolnshire	East Midlands	England and Wales
Mar-09	240	1,030	7,775	129,975
Mar-10	230	990	7,470	126,320
Mar-11	225	990	7,195	123,185
% Change 2009-2011	-6.3%	-3.9%	-7.5%	-5.2%

Issue

The reduction in accommodation & food services, and entertainment & recreation services in Lincoln may have resulted in decrease leisure travel or indeed may be a result of such a decrease in travel for leisure and tourism

6.3.14 Total Business Units

In terms of the total number of business units in Lincoln, there has been an 8% decrease between 2009 and 2011. This is decrease if double that of the national average and also significantly higher than Lincolnshire and East Midlands as a whole.

Table 6-16 – Total Business Unit

Geographic Area	City of Lincoln	Lincolnshire	East Midlands	England and Wales
Mar-09	3,540	14,490	113,935	1,729,835
Mar-10	3,370	13,960	109,910	1,684,025
Mar-11	3,245	13,700	107,330	1,663,465
% Change 2009-2011	-8%	-5%	-6%	-4%

Issue

Overall the number of business has decreased in Lincoln since 2008, at a significantly higher rate than nationally and regionally

6.4 Employment

6.4.1 Employment in Lincoln by Occupation

Data has been sourced from the ONS annual population survey to provide an insight into various employment characteristics over time. Data has been sourced for Lincoln and is provided alongside the average figures for the East Midlands and Great Britain in order to assess Lincoln’s relative progression. The following subsections illustrate the proportion of all persons in employment who work within various defined major employment groups.

6.4.2 Major Employment Group 1-3

This employment group consists of the following occupations:

- Managers, directors, senior officials
- Professional occupations
- Associate professional and technical

The table below shows that that the number of higher paid occupations rose between 2007/2008 and 2010/2011 by 3,800 then fell sharply in 2011/12 to 13,700. This resulted in a net 300 reduction over the five year period.

Table 6-17 – Employment – Major Group 1-3

Major Group 1-3	City of Lincoln (No.)	City of Lincoln (%)	East Midlands (%)	Great Britain (%)
Jul 07-Jun 08	14,000	32.7	37.2	41.3
Jul 08-Jun 09	15,500	38.2	38.4	42.1
Jul 09-Jun 10	16,400	36.1	39.6	42.6
Jul 10-Jun 11	17,800	38.3	39.1	43.2
Jul 11-Jun 12	13,700	34.8	39.1	43.5
Change 2007-2012	-300			

6.4.3 Major Employment Group 4-5

This group is represented by the following key occupations:

- Administrative and secretarial
- Skilled trades occupations

This group of workers has fluctuated in the five year period, with a net reduction of 4,200 from 2007/2008 and 2011/2012.

Table 6-18 – Employment – Major Group 4-5

Major Group 4-5	City of Lincoln (No.)	City of Lincoln (%)	East Midlands (%)	Great Britain (%)
Jul 07-Jun 08	10,900	25.6	23.8	23.6
Jul 08-Jun 09	7,900	19.5	23.1	23.1
Jul 09-Jun 10	7,500	16.6	22.5	22.7
Jul 10-Jun 11	9,900	21.3	22.6	22
Jul 11-Jun 12	6,700	17	23	21.9
Change 2007-2012	-4,200			

6.4.4 Major Employment Group 6-7

Major employment group 6 and 7 is composed of the following principal professions:

- Caring, leisure and other service occupations
- Sales and customer service occupations

Again, this group of workers has fluctuated in the five year period peaking in 2009/2010 with a net increase of 800 from 2007/2008 to 2011/2012.

Table 6-19 – Employment – Major Group 6-7

Major Group 6-7	City of Lincoln (No.)	City of Lincoln (%)	East Midlands (%)	Great Britain (%)
Jul 07-Jun 08	9,100	21.3	17.1	16.7
Jul 08-Jun 09	9,100	22.5	17.3	16.8
Jul 09-Jun 10	11,500	25.4	17	17.2
Jul 10-Jun 11	8,800	19	17.1	17.3
Jul 11-Jun 12	9,900	25.1	17.1	17.3
Change 2007-2012	+800			

6.4.5 Major Employment Group 8-9

Major employment group 8 and 9 incorporates the following principle occupations:

- Process plant and machine operatives
- Elementary occupations

The number of people employed in these employment groups rose from 8,700 to 10,000 between 2007/2008 and 2010/2011 then reduced again in 2011/2012. There was, however, a net increase over the five year period of 400.

Table 6-20 – Employment – Major Group 8-9

Major Group 8-9	City of Lincoln (No.)	City of Lincoln (%)	East Midlands (%)	Great Britain (%)
Jul 07-Jun 08	8,700	20.4	21.9	18.4
Jul 08-Jun 09	8,000	19.8	21.2	17.9
Jul 09-Jun 10	10,000	21.9	21	17.5
Jul 10-Jun 11	10,000	21.4	21.2	17.5
Jul 11-Jun 12	9,100	23.1	20.8	17.4
Change 2007-2012	+400			

6.4.6 All Groups

The table below combines total numbers for those employed in the categories discussed above. This shows an upwards trend between 2007/2008 and 2010/2011 from 42,700 to 46,500, this number then fell to 39,400 in 2011/2012 resulting in a net reduction of 3,300 between 2007/2008 and 2011/2012.

Table 6-21 – Employment – All Groups

City of Lincoln (No.)	
Jul 07-Jun 08	42,700
Jul 08-Jun 09	40,500
Jul 09-Jun 10	45,400
Jul 10-Jun 11	46,500
Jul 11-Jun 12	39,400
Change 2007-2012	-3,300

Lincoln has experienced an overall decrease in employment in the five year period. The number in high salary occupations has reduced and conversely the numbers in what are thought of as the lower paid occupations have increased but not sufficiently to make up the difference.

Issue

The reduction in employment in Lincoln will have resulted in a decrease in travel in the area.

Issue

The change in balance of employment towards lower paid and lower skilled jobs may result in altered commuting travel trends with less car use and higher public transport use, cycling and walking

6.5 Summary

Lincoln, like most other areas, has been significantly affected by the national and global economic downturn over the past few years, which has largely occurred since the 2008 publication of the revised LITS. While the population of the area has grown considerably, particularly for the working age group, and at a rate significantly above the regional and national average rates of growth, the economy has not expanded to support this change.

Overall, of the major sectors of employment, only the public sector and defence have seen increases 'business units' and the numbers of people in employment have fallen by 7.7%. This will have resulted in a reduced need to travel, both in terms of people and also in terms of the transport of goods, either made in the area or required by local businesses.

The number of retail, accommodation and leisure-related businesses has also decreased over the period, which will also be connected to lower levels of travel demand.

DRAFT

7 Areas of Change: Environment

7.1 Introduction

This section of the report presents information related to environmental issues in terms of carbon emissions, air quality and noise. This section seeks to demonstrate the changes that have occurred to the environment in the study area since 2008. It will provide details on carbon emissions levels and how Lincolnshire County Council has monitored Air Quality in the study area and investigations into noise levels by the Department of Environment Food and Rural Affairs (DEFRA).

The LITS 2008 report contained the following outcomes related to the environment:

LITS Outcome	O4	An improvement in air quality within the urban area (particularly the AQMA within central Lincoln)
LITS Outcome	O11	A reduction in noise levels caused by traffic (particularly for sensitive receptors such as schools and hospitals)

7.2 Carbon Emissions

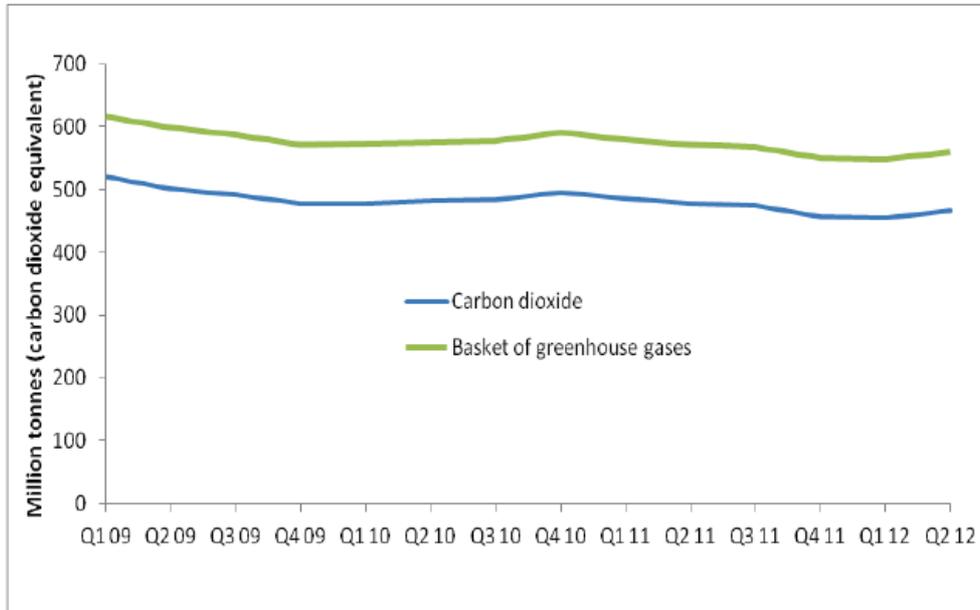
The following datasets, sourced from the Department of Energy and Climate Change summarise the recent trends within Lincoln and compares the data to trends recorded in the UK as a whole.

Where provided, 2011 and 2012 Data for the UK is provisional and is unavailable for local datasets.

7.3 UK Greenhouse Gas Emissions

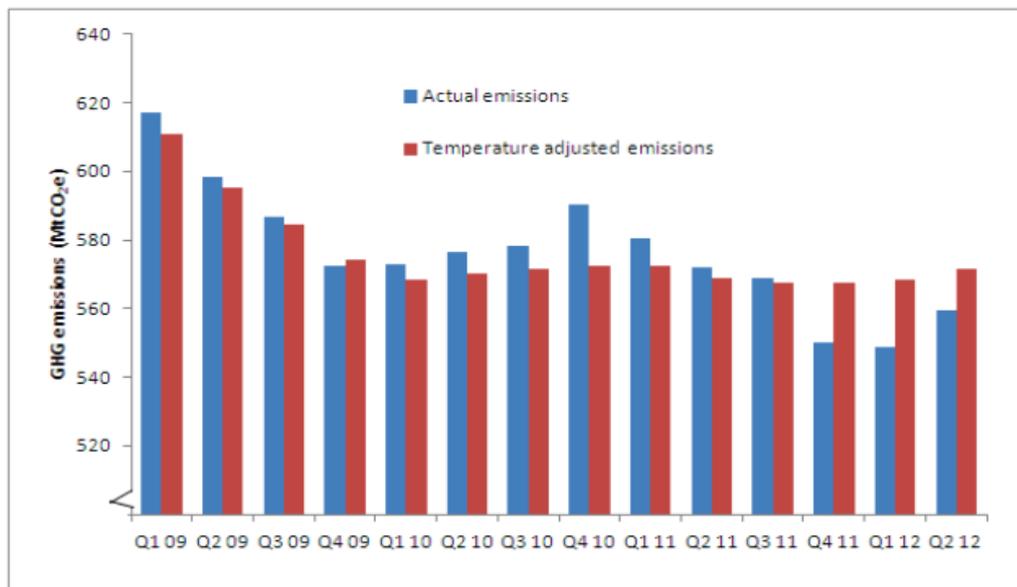
Figure 7-1 and Figure 7-2 show that UK Greenhouse Gas emissions (CO₂ equivalent) have been steadily falling from 2009 – 2012 (2008 not available in this dataset). This trend is reflected in Figure 7-3, which shows that a slight reduction in emissions in the UK as a consequence of transport (all types of transport) sources.

Figure 7-1 – Actual Emissions of All Green House Gases and Carbon Dioxide, as Moving Annual Total – Q1 2009 – Q2 2012 (Provisional)



Source: UK Greenhouse Gas Emissions – Quarterly Statistics: 2nd Quarter 2012 Provisional Figures - Department of Energy and Climate Change – October 2012

Figure 7-2 – Actual and Temperature Adjusted GHG Emissions, Expressed as Moving Annual Total; Q1 – Q2 2012 (Provisional)



Source: UK Greenhouse Gas Emissions – Quarterly Statistics: 2nd Quarter 2012 Provisional Figures - Department of Energy and Climate Change – October 2012

Figure 7-3 – UK Greenhouse Gas Emissions Weighted by Global Warming Potential (Million Tonnes CO₂ Equivalent) Expressed as Moving Annual Total 2009-2012

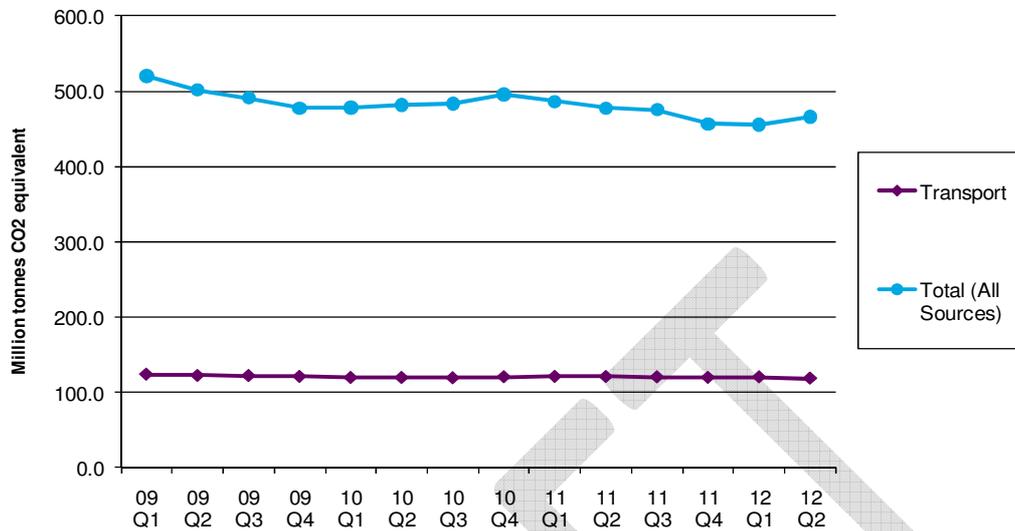


Figure 7-4 and Figure 7-5 show that CO₂ emissions specifically as a consequence of road transport in Lincoln have decreased between 2008 and 2010, although the total emissions from all sources have increased between 2009 and 2010. These trends are reflected in the total UK emissions shown in Figures 7-6 and 7-7, which have decreased for road transport (excluding motorways to provide a reliable comparison – there are no motorways in Lincoln) but have risen for all sources from 2009 and 2010.

Figure 7-4 – CO₂ Emissions in Lincoln (Road Transport)

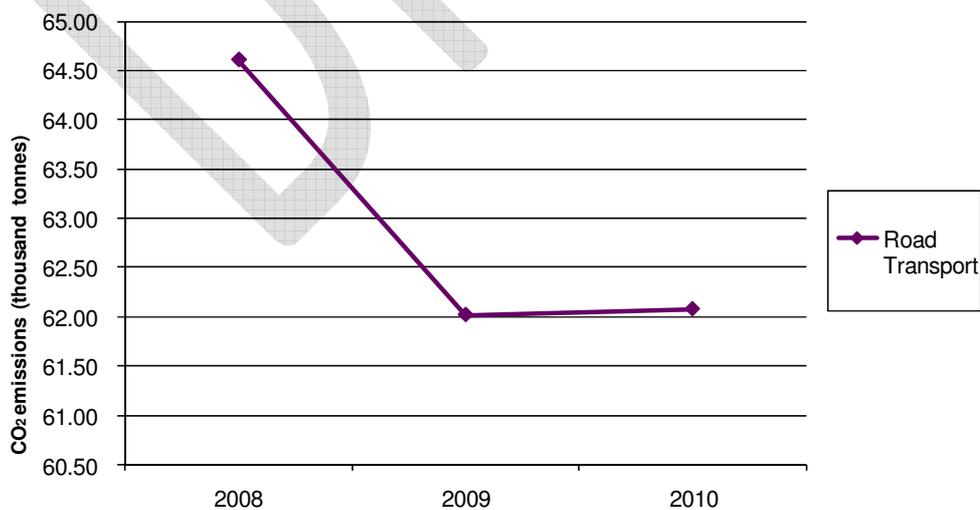


Figure 7-5 – CO₂ Emissions in Lincoln (All Sources)

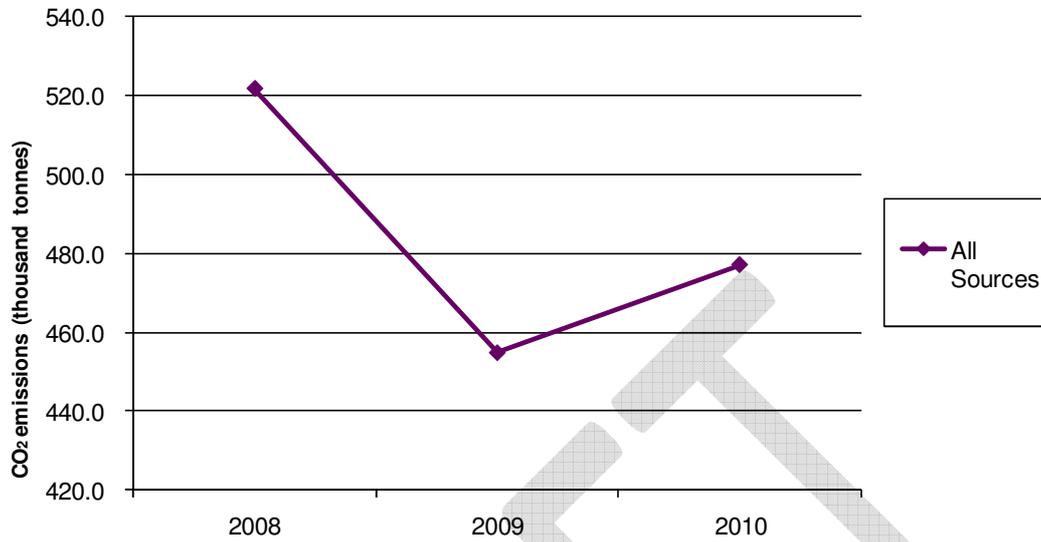


Figure 7-6 – CO₂ Emissions in the UK

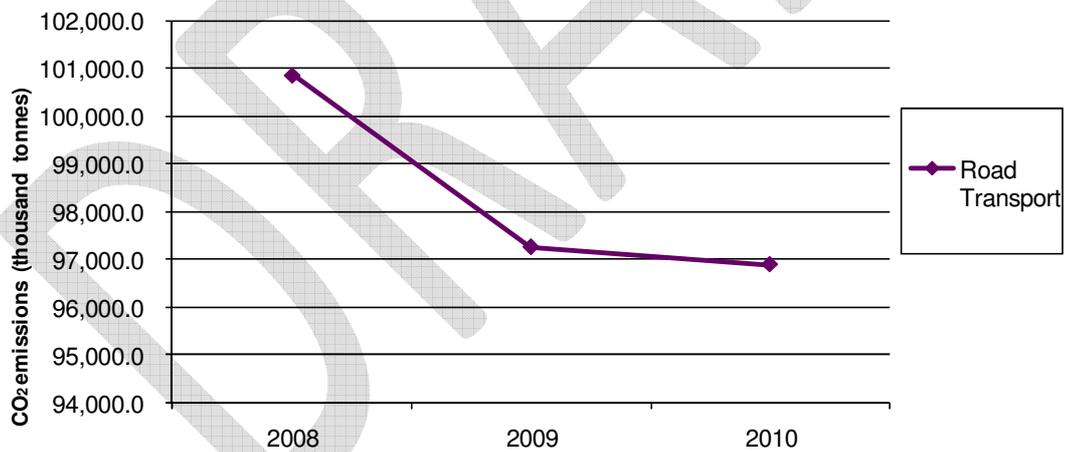
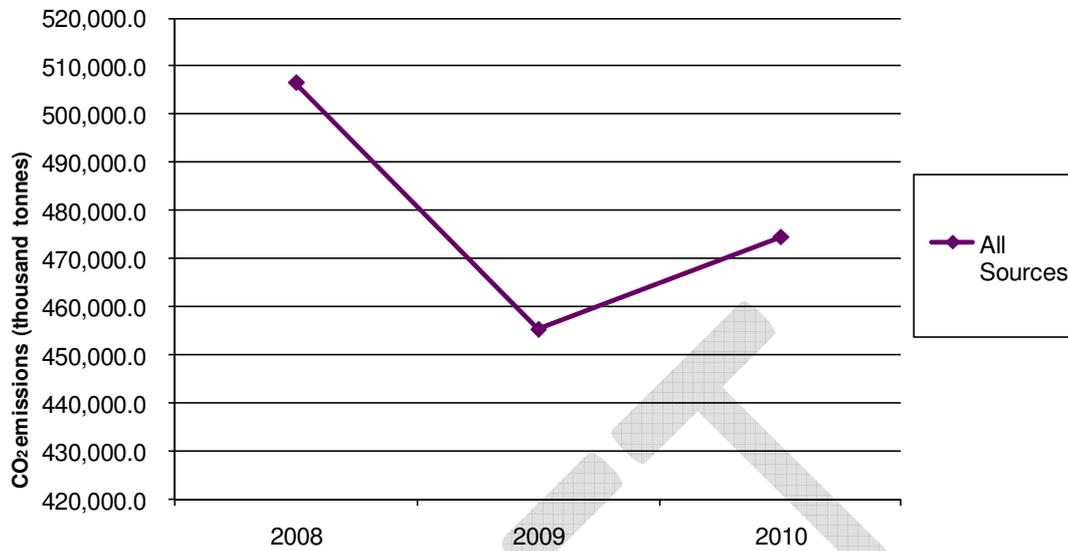


Figure 7-7 – CO₂ Emissions in the UK



Figures 7-8 and 7-9 indicate that the proportion of total CO₂ emissions between 2008 and 2010 which can be attributed to road transport (excluding motorways) is significant in both Lincoln and the UK at an average of 13% and 20.6% respectively. The figures show that transport emissions as a proportion of the total increased between 2008 and 2009, but decreased between 2009 and 2010. It is also apparent that the proportion of total CO₂ emissions sourced from road transport is significantly lower in Lincoln in comparison with the UK as a whole between 2008 and 2010.

Figure 7-8 – CO₂ Emissions Sourced from Road Transport – City of Lincoln 2008-2010

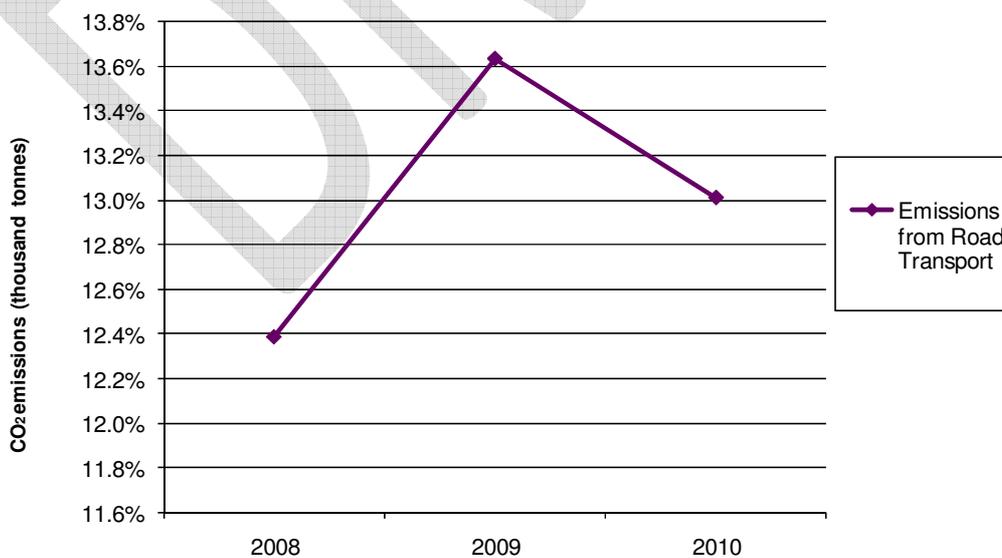
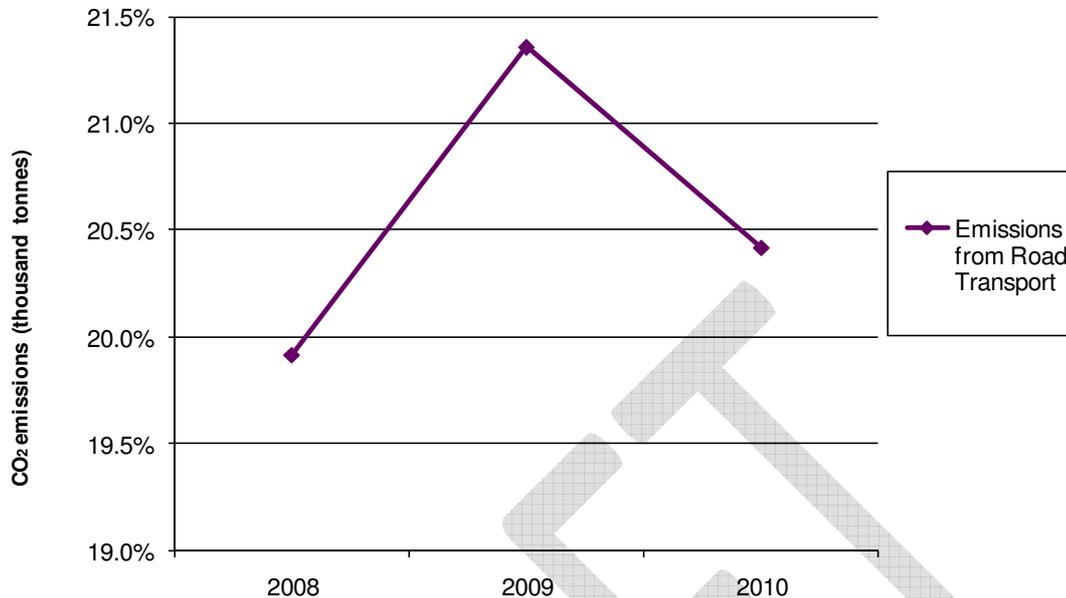


Figure 7-9 – CO₂ Emissions Sourced from Road Transport - UK



7.3.1 Summary

It is clear that road transport represents a significant source of CO₂ emissions in both Lincoln and the UK. CO₂ emissions trends between 2008 and 2012 (2010) in Lincoln generally reflect those recorded for the UK as a whole and show an overall reduction in emissions by road transport and total emissions from all sources, as shown in the summary table below.

Table 7-1 – Carbon Dioxide Emissions Per Year – 2008 to 2010 (Million Tonnes)

	2008	2009	2010	% Change
Lincoln – Road Transport	65	62	62	-4%
Lincoln – All Sources	522	455	477	-9%
UK – Road Transport	100,858	97,243	96,873	-4%
UK – All sources	506,473	455,308	474,470	-6%

Department of Energy and Climate Change

However, the proportion of total emissions which can be attributed to road transport has increased slightly between 2008 and 2010 in Lincoln and the UK. In order to fully assess the CO₂ emissions recorded in Lincoln during the study period of 2008–2012, local data will be required for 2011 and 2012. City of Lincoln Council have identified reducing Lincoln’s carbon footprint as a strategic priority. Therefore, further future data will be required to assess the impact of proposed transport infrastructure improvements in Lincoln implemented as part of the outcome of the overall strategic review.

Issue

Transport-related carbon emissions in Lincoln have reduced since 2008

7.4 Air Quality

7.4.1 *City of Lincoln Air Quality Action Plan*

The National Air Quality Strategy includes policies for the assessment and management of UK air quality and implementation of European Union and International agreements. It sets out a way forward for air quality issues, setting out the air quality standards and objectives to be achieved and introducing a new policy framework.

An Air Quality Management Area (AQMA) was declared in Lincoln in 2001, where levels of nitrogen dioxide (NO₂) levels were predicted to exceed the thresholds set down in the National Air Quality Strategy.

City of Lincoln Council produced an Air Quality Action Plan (AQAP) in 2006 detailing suggested measures to realistically attempt to reduce the pollutant concentrations in the AQMA down to, or below, the relevant air quality objective. The purpose of an AQAP is to provide a framework for improving the air quality within Lincoln City centre, and more specifically within the AQMA. Lincoln suffers from significant congestion, especially on major routes through the city centre notably due to heavy goods vehicles travelling throughout Lincolnshire.

The list of actions within the AQAP is based upon the following factors:

- potential of the measure to improve air quality
- cost of the measure
- other risks or disadvantages
- additional benefits'

Recent progress is reviewed in the Draft 4th Local Transport Plan (see Section 1.3). The benefits of these actions are not restricted to improving air quality; but are identified in the AQAP as actions which are likely to have a positive effect.

A city wide second AQMA was declared in Lincoln in February 2008 following assessment of fine particulates (PM₁₀) at key junctions across the city.

7.4.2 *City of Lincoln LAQM Updating and Screening Assessment*

An Updating and Screening Assessment (USA) of the AQMAs was undertaken in 2012. The assessment and review process prior to the 2012 USA is summarised in the table below.

Table 7-2 – City of Lincoln Updating and Screening Assessment (2012) Ref 1.4

Title	Date	Outcome
2006 USA	Jun-06	The 2006 USA concluded that a Detailed Assessment was required for particulates (PM ₁₀) due to predicted exceedences of the AQMA objectives at 13 junctions in the City
Detailed Assessment	Nov-07	The report confirmed that PM ₁₀ levels were likely to exceed the AQMA objectives at all 13 junctions of concern. An Air Quality Management Area (AQMA) was therefore declared in February 2008 covering the whole of the district
Further Assessment	Jun-09	A subsequent Further Assessment undertaken to gain a better understanding of PM ₁₀ levels and distribution, identified that only one of the junction was likely to breach the daily mean air quality objective for PM ₁₀ (Broadgate/Monks Road junction. No breach of the annual mean was identified.
2009 USA	May-09	The report concluded that the only likely exceedences of AQS objectives were in locations within the existing AQMAs. As such, no Detailed Assessment was required within the City.
2010 Progress Report	May-10	The report did not identify any new areas or pollutants of concern that required Detailed Assessment.
Detailed Assessment	Jun-10	The review and assessment process over recent years identified a downward trend in NO ₂ levels at many location within the City. As such, the City of Lincoln Council, in partnership with LCC carried out a Detailed Assessment of NO ₂ to assess whether the AQMA for that pollutant should be revised. The findings of the assessment demonstrated that there continues to be likely exceedences of the annual mean NO ₂ objective within the existing AQMA and there is still a need for an NO ₂ AQMA. However, the modelled results showed a significant reduction in the original exceedence area. The Council is therefore considered among their AQMA boundary to reflect the detailed assessment.
2011 Progress Report	Jun-11	The report identified two local road developments, the Lincoln Eastern By-pass (LEB) and the East-West Link, which may impact air quality and need to be given consideration in the USA 2012. Monitoring data indicated the concentrations on NO ₂ and PM ₁₀ were below the objectives and no further Detailed Assessments were required. The extent of the existing AQMAs would be considered and revised in conjunction with the revision and review of the Air Quality Action Plan.

7.4.3 NO₂ 2012 Summary

Some problems occurred during testing in 2011 and due to this the results for NO₂ should be treated with caution as they may be unreliable. Levels will therefore be

reviewed when a full year of monitoring data for 2012 (in the new laboratory) are available.

7.4.4 *PM₁₀ 2012 Summary*

Assessments concluded that one of Lincoln's PM₁₀ monitoring area's objectives had been exceeded and therefore the existing AQMA for PM₁₀ should remain. This will continue to be monitored.

Lincoln City Council has confirmed that as of February 2013 AQMAs examining both NO₂ and PM₁₀ are still in place in Lincoln. Levels are continuing to be monitored and an updated Action Plan is due to be released in April 2013.

7.4.5 *Impact of Major Highway Schemes in the Area*

With reference to the proposed major highway schemes, *'The Air Quality Impact Assessment supplied as part of the Environmental Statement of the LEB concluded that the scheme would lead to improvements in air quality within the City and, in particular, significant improvements within the AQMA hotspots for both NO₂ and PM₁₀, leading to compliance with the AQS objectives for these pollutants.'*

A planning application has been submitted in January 2012 for the proposed Lincoln East-West Link road, designed to improve the flow of traffic across the City, especially by reducing queuing along High Street. The Air Quality Impact Assessment submitted as part of the Environmental Statement concluded that construction phase of the scheme is likely to give rise to dust, whilst the operational impacts will be negligible as congestion will be greatly reduced.'

*'City of Lincoln Council reviewed the air quality impact assessments submitted as part of the planning applications for the proposed LEB and the Lincoln East-West Link road. Both schemes are expected to lead to improvements in air quality, and no further assessment is required.'*¹²

7.4.6 *Draft 4th Lincolnshire Local Transport Plan*

The LTP reflects the results of the 2012 USA. 'A further assessment of PM₁₀ levels carried out in 2009 using the monitoring results from the permanent particulate monitor installed on Broadgate suggested that the daily mean objective was only likely to be exceeded at one road junction (Broadgate/Monk Road/Clasketgate/Lindum Hill traffic signals). Again, consideration was being given to reducing the extent of the original district wide PM₁₀ AQMA to just the area around the affected junction. Unfortunately, changes to the monitoring of PM₁₀ during 2011

¹² City of Lincoln Updating and Screening Assessment (2012), ref 3.5

have meant that this has not been possible. The position is to be reviewed again once the 2012 results are available.'

Issue

Lincoln is covered by an Air Quality Management Area

7.5 Noise

The Department for Environment Food and Rural Affairs (DEFRA) have carried out noise mapping exercises in order to meet with the Environmental Noise (England) Regulations 2006. These maps are intended to inform Local Authorities if there is a need to produce noise action plans.

An area along Lincoln Road, to the south of Lincoln has been identified by DEFRA as an area to be assessed. Lincolnshire County Council has appointed Mouchel to carry out noise mapping of this area to confirm DEFRA's assumptions. The outcomes of this study will be reviewed by Lincolnshire and if appropriate migration measures will be investigated.

Issue

A noise mapping exercise is currently underway in the Lincoln area

7.6 Summary

This section has reviewed the situation in Lincoln with regard to environmental conditions, specifically related to carbon emissions, air quality and noise. Significant work, including monitoring, is ongoing in relation to these matters. Over the period since the last review of LITS was published, carbon emissions have fallen, including those connected to transport. The proportion of Lincoln's carbon emissions related to transport is also lower than the national average.

There are air quality issues in some areas of Lincoln, however, proposed LITS schemes, including the Eastern Bypass and East-West Link should help to resolve some of these issues to a significant extent.

8 Area of Change: Travel

8.1 Introduction

This section of the report presents information on trends in travel and transport use since 2008. The section focuses on a range of issues including traffic, parking, freight, public transport, cycling and road safety.

The 2008 LITS report identified the following outcomes directly relevant to this section of the report:

LITS Outcome	O1	A reduction of 'through trips' within the urban area, particularly: <ul style="list-style-type: none">• Trips passing through the city centre• HGV trips
LITS Outcome	O2	A reduction in the modal share for the private car for: <ul style="list-style-type: none">• Trips into Lincoln city centre• Trips on the 'school run'
LITS Outcome	O5	A reduction in casualties, particularly: <ul style="list-style-type: none">• Involving vulnerable road users• In locations significantly used by children• At sites with known accident issues
LITS Outcome	O6	An increase in public transport trips into and through the city centre
LITS Outcome	O7	The provision of appropriate parking options for all users of the city centre
LITS Outcome	O8	Sufficient freedom of movement for all modes to and within the Lincoln Area

LITS Outcome
09

An increase in levels of walking and cycling within the Lincoln Area, particularly:

- Parents and children travelling to and from school
- Short trips of less than two miles
- Trips into the city centre

8.2 Traffic

8.2.1 Car Ownership

The following table presents the 2011 Census data for car ownership and a comparison to the same dataset for 2001. It can be seen that over the period there has been a significant, 20%, increase in overall car ownership.

There has been significant increase in the number of households with two or more cars but only a small decrease in the number of no car households; this is likely to reflect increases in car ownership in households already with cars i.e. one car households becoming two car households, etc.

Table 8-1 – Car Ownership in City of Lincoln in 2001 and 2011

Year	All categories: Car or van availability	No cars or vans in household	1 car or van in household	2 cars or vans in household	3 cars or vans in household	4 or more cars or vans in household	All cars or vans in the area
2001	36,642	12,046	17,409	6,041	911	235	33,261
2011	39,825	11,771	18,626	7,684	1,364	380	39,800
% Change	9%	-2%	7%	27%	50%	62%	20%

Source: 2011 Census

Lincoln and Lincolnshire show marginally higher rates of growth in the total number of cars/vans in the area than the region as a whole and a significantly higher rate of growth than England and Wales. Lincoln also shows a decrease in the number of households without a car/van while Lincolnshire, and England and Wales show an increase.

Table 8-2 – Car Ownership in England & Wales between 2001 and 2011

Year	No cars or vans in household	1 car or van in household	2 cars or vans in household	3 cars or vans in household	4 or more cars or vans in household	All cars or vans in the area
England and Wales	3%	4%	13%	31%	51%	14%
East Midlands	0%	5%	19%	40%	60%	18%
Lincolnshire	2%	6%	24%	45%	68%	22%
City of Lincoln	-2%	7%	27%	50%	62%	20%

Source: 2001 Census and 2011 Census

Issue

Car ownership in Lincoln has increased by 20% since 2001, a higher rate than both regionally and nationally

The following table shows the number of vehicles licensed nationally, for the East Midlands and Lincolnshire as a whole (unfortunately the data is not available for Lincoln itself). The data broadly shows that between 2008 and 2011, car ownership remained flat, nationally, regionally and at the county level. This is despite there being a 6% increase in the population in Lincolnshire. Combined with car ownership data described above, superficially at least, it appears that growth in car ownership has stabilised since 2008. However, the vehicles licensed figures will exclude vehicles registered abroad, therefore, the actual number of vehicles ‘resident’ in Lincoln may be higher.

Table 8-3 – Vehicles Licensed ('000s)

Area	2008	2009	2010	2011	Change 2008-2011
Lincolnshire	454	455	452	455.6	0.4%
East Midlands	2,654	2,655	2,645	2,663	0.3%
England	29,114	29,081	28,939	29,069	-0.2%

Source: Transport Monitoring Report 2011 (March 2012), Lincolnshire County Council

Issue

The number of licensed vehicles has remained flat in Lincolnshire since 2008 despite a 6% growth in local population.

8.2.2 *Traffic Flows*

The following table shows the sums of AADT flows on a number major routes through Lincolnshire between 2008 and 2011. The strategic traffic through the county shows a small increase in car traffic on the network while traffic in total has shown no significant increase between 2008 and 2011.

Table 8-4 – Combined AADT Flows on Major Routes in Lincolnshire

Mode	2008	2009	2010	2011	Change 2008-2011
Cars/Taxis	1,683,548	1,709,317	1,709,911	1,720,796	2.2%
All Traffic	2,233,936	2,237,931	2,228,362	2,242,380	0.4%

Source: Department for Transport

Traffic flows have been analysed for the years 2008 to 2012 using two sets of data:

- AM Peak Period Traffic Flows inbound through a 20 survey site cordon to the city centre.

- AADT (Annual Average Daily Traffic) flows across a five survey site north-south screenline through the city centre and on the A46.

The AM peak period flows have been analysed for both the 08:00 to 09:00 peak hour and the 07:00 to 10:00 peak period. The following table shows the change in traffic flows, between 2008 and 2012, crossing over the cordon into the city centre during the AM peak hour. The total number of vehicles crossing the cordon during the peak hour has dropped from 9,410 in 2008 to 8,830 in 2012, a decrease of 6% over the period. The vast majority of those vehicles are cars, 7,819 in 2008 and 7,300 in 2012, with the flow of these vehicles having dropped by 7% over the period.

Of the other vehicles entering the city centre in the AM peak hour, the number of motorcycles increased significantly over the period; a rise of 17% from 111 to 131.

Table 8-5 – AM Peak Hour (08:00-09:00) Inbound City Centre Cordon – All Vehicles

Mode	2008	2009	2010	2011	2012	Change 2008-2012
Motorcycles	111	126	122	133	131	18%
Cars	7,819	7,584	7,490	7,279	7,300	-7%
Total Vehicles (Excl P/C and M/C)	9,143	8,793	8,702	8,523	8,494	-7%
All Vehicles	9,410	9,065	8,963	8,825	8,830	-6%

The data in this table started to be collected in 2006 and the general downward trend in flow has continued since 2007.

Issue	Traffic entering the city centre in the AM peak hour dropped by 6% between 2008 and 2012
--------------	--

Issue	Motorcycle usage appears to have increased significantly between 2008 and 2012
--------------	--

The following table shows the inbound traffic flows across the cordon during the three-hour AM peak period. Total vehicle flows show a lower rate of decrease than for the peak hour, with a drop of 3% compared with the 6% for the peak hour. Over the three hour period, motorcycles increase by 9%.

Table 8-6 – AM Peak Period (07:00-10:00) Inbound City Centre Cordon – All Vehicles

Mode	2008	2009	2010	2011	2012	Change 2008-2012
Motorcycles	305	327	295	330	328	8%
Cars	19,100	19,310	18,913	18,322	18,358	-4%
Total Vehicles (Excl P/C and M/C)	22,985	22,892	22,633	22,044	21,984	-4%
All Vehicles	23,655	23,589	23,176	22,774	22,846	-3%

The difference between the decreases in traffic flows for the peak hour and peak period may be the result of a number of factors including travellers altering their journey times or peak hour commuters reducing, due to lower employment or different types of employment requiring different working patterns, while the travel patterns of other journey purposes (e.g. education, shopping, etc) remaining the same across the longer three-hour peak period.

The following table presents the AADT traffic flows across the city centre screenline. These data also show a significant decrease in traffic, with the 3.3% decrease being similar to the 3.4% decrease in the AM peak period cordon flows. However, in an opposite trend to the cordon data, AADT motorcycle flows have decreased.

Table 8-7 – AADT Traffic Flows City Centre North-South Screenline – All Vehicles

Mode	2008	2009	2010	2011	2012	Change 2008-2012
Motorcycles	1,301	1,116	1,241	1,057	1,203	-7.5%
Cars	78,564	78,326	79,040	76,200	76,875	-2.1%
Total Vehicles (Excl P/C and M/C)	96,526	96,211	96,983	94,401	94,006	-2.6%
Total Vehicles (All)	99,466	98,657	99,693	96,717	96,151	-3.3%

In addition to comparing flows from 2008 to 2012 above, the following tables show the change in traffic flows recorded in the cordon and screenline surveys between 2001 and 2011. The increase in total vehicles is substantially below the rate of increase in car ownership discussed in Section 8.2.1 of this report.

Table 8-8 – AM Peak Hour (08:00-09:00) Inbound City Centre Cordon – 2001 to 2011

Mode	2001	2011	Change 2001-2011
Motorcycles	109	133	22%
Cars	6,734	7,279	8%
Total Vehicles (Excl P/C and M/C)	7,891	8,523	8%
All Vehicles	8,116	8,825	9%

Table 8-9 – AADT Traffic Flows City Centre Screenline – 2001 to 2011

Mode	2001	2011	Change 2001-2011
Motorcycles	1,242	1,057	-15%
Cars	71,150	76,200	7%
Total Vehicles (Excl P/C and M/C)	87,620	94,401	7%
Total Vehicles (All)	90,728	96,717	7%

Issue

While car ownership in Lincoln increased by 20% between 2001 and 2011, data indicates that traffic flows increased at less than half that rate (7%) over the same period.

8.3 Parking

A new Parking Strategy was developed for the Lincoln city centre as part of the original Lincoln Transport Strategy published in August 2005. The Parking Strategy identified a number of Strategy Outcomes, including the following:

- Signing – introduction of a Variable Message Sign System
- Pricing – introduction of a zoned pricing structure
- Safety and security – improvements to car parks and routes to the city centre
- City centre supply – maintain appropriate city centre parking stock
- Tourist link – Long-stay car parks to historic area
- Demand management – encourage travel plans and walking and cycling improvements
- Information – dissemination of information to the public
- Remote Park & Ride and 'locking-in' remote Park & Ride benefits through pricing

Of these 'outcomes', a number have been implemented over the past few years. The city centre now has a zoned pricing structure with council operated car parks designated for commuters, shoppers or visitors. The commuter car parks are located around the edge of the city centre, while those for shoppers are located within the main shopping areas and the visitor car parks are located in the uphill area of the city centre. The pricing structure is simplified with the uniform pricing within each of the three parking types.

Outcome 7 in the 2008 LITS report identified the need for the 'provision of appropriate parking options for all users of the city centre'. In terms of maintaining an appropriate city centre parking stock, due to the time that has elapsed since the Parking Strategy was developed, and changing pressures on parking supply, a review needs to be undertaken of the appropriateness of the current parking provision, taking account of proposals for additional parking supply. At present, there are over 4,300 publicly available parking spaces in the city centre located in 29 car parks. Of these spaces, 2,444 are provided by the Council (316 are only publicly available on Saturdays), 814 by private operator NCP, 905 by St. Mark's Retail Park and 140 by the Railway Station.

Table 8-10 – City Centre Car Parks and Capacities

Operator	Car Park	Designation	Capacity
Council	Chaplin Street	Commuter	60
	King Street	Commuter	31
	Broadgate	Commuter	422
	Rosemary Lane	Commuter	47
	St Pauls	Shopper	35
	Motherby Lane	Shopper	38
	Flaxengate 4	Shopper	28
	Tentercroft Street	Shopper	396
	Lucy Tower Street	Shopper	430
	Thornbridge	Shopper	238
	Beaumont Fee	Shopper	70
	Langworthgate	Visitor	57
	Castle Hill	Visitor	26
	Westgate 1	Visitor	106
	Westgate 2	Visitor	30
	Westgate 3	Visitor	14
	The Lawn	Visitor	100
	Orchard Street (City Hall)	(Saturday)	132
	County Offices	(Saturday)	132
	Sessions House	(Saturday)	52
	Total Commuter		560
	Total Shopper		1,235
	Total Visitor		333
Total		2,444	
NCP	Brayford Street	-	77
	Brayford Street (MS)	-	204
	Free School Lane	-	68
	St. Rumbold Street	-	200
	Hungate	-	44

Operator	Car Park	Designation	Capacity
	LSG Site (St. Mary's Street)	-	190
	Grantham Street	-	31
	Total		814
Other	Railway Station	-	140
	St. Marks Retail Park	-	905
	Total		1,045
Total			4,303

The following tables present summaries of car park occupancy data provided by City of Lincoln Council. The tables show average daily maximum car park occupancy for each year from 2008 to 2012. The source occupancy data was collected for one weekday (Tuesday) and one Saturday per month during those years; the data is therefore limited and should be treated with some caution. The first two tables present the detailed data for weekdays and Saturdays and show that car park use fluctuates both for individual car parks and between different car parks. From these tables it is difficult to discern any significant patterns and a comparison of the average over the five year period shows that some car parks now operate significantly below that average, while others operate at that level or slightly above.

Table 8-11 – Average Maximum Car Park Occupancy 2008-2012 – Weekdays

Car Park	Zone	Year					Average
		2008	2009	2010	2011	2012	
Chaplin Street	Commuter	83%	97%	98%	94%	84%	91%
King Street	Commuter	73%	74%	69%	58%	69%	69%
Broadgate	Commuter	68%	64%	57%	75%	66%	66%
Rosemary Lane	Commuter	78%	77%	83%	89%	79%	81%
St Pauls	Shopper	82%	87%	76%	76%	72%	79%
Motherby Lane	Shopper	87%	95%	99%	100%	100%	96%
Flaxengate 4	Shopper	41%	73%	76%	78%	86%	71%
Tentercroft Street	Shopper	74%	75%	65%	68%	68%	70%
Lucy Tower Street	Shopper	90%	91%	82%	88%	83%	87%
Thornbridge	Shopper	95%	97%	96%	93%	98%	96%
Beaumont Fee	Shopper	90%	84%	98%	100%	99%	94%
Langworthgate	Visitor	65%	87%	74%	69%	68%	72%
Castle Hill	Visitor	88%	84%	94%	74%	79%	84%
Westgate 1	Visitor	91%	93%	85%	81%	84%	87%
Westgate 2	Visitor	69%	95%	80%	63%	72%	76%
Westgate 3	Visitor	74%	89%	89%	65%	90%	82%
The Lawn	Visitor	73%	93%	86%	68%	64%	77%
Orchard Street (City Hall) - Sat	(Saturday)	-	-	-	-	-	-

Car Park	Zone	Year					Average
		2008	2009	2010	2011	2012	
County Offices - Sat	(Saturday)	-	-	-	-	-	-
Sessions House - Sat	(Saturday)	-	-	-	-	-	-
Brayford Street	NCP	64%	73%	81%	79%	82%	76%
Brayford Street (MS)	NCP	76%	77%	75%	69%	70%	73%
Free School Lane	NCP	82%	80%	86%	76%	76%	80%
St. Rumbold Street	NCP	50%	58%	66%	64%	76%	63%
Hungate	NCP	84%	73%	76%	84%	81%	79%
LSG Site (St. Mary's Street)	NCP	68%	66%	85%	58%	86%	72%
Grantham Street	NCP	81%	82%	87%	87%	72%	82%
Railway Station	Other	63%	48%	47%	57%	57%	54%
St. Marks Retail Park	Other	52%	61%	56%	53%	55%	55%
Average		72%	77%	78%	70%	74%	74%

Source: City of Lincoln Council

Table 8-12 – Average Maximum Car Park Occupancy 2008-2012 – Saturdays

Car Park	Zone	Year					Average
		2008	2009	2010	2011	2012	
Chaplin Street	Commuter	87%	80%	84%	80%	67%	80%
King Street	Commuter	81%	58%	68%	59%	35%	60%
Broadgate	Commuter	61%	79%	77%	88%	75%	76%
Rosemary Lane	Commuter	48%	53%	48%	61%	59%	54%
St Pauls	Shopper	87%	95%	96%	96%	84%	92%
Motherby Lane	Shopper	94%	97%	93%	94%	86%	93%
Flaxengate 4	Shopper	69%	86%	88%	91%	88%	84%
Tentercroft Street	Shopper	95%	92%	87%	83%	73%	86%
Lucy Tower Street	Shopper	74%	84%	76%	84%	72%	78%
Thornbridge	Shopper	85%	100%	100%	100%	82%	93%
Beaumont Fee	Shopper	92%	95%	88%	90%	83%	90%
Langworthgate	Visitor	87%	86%	90%	96%	85%	89%
Castle Hill	Visitor	85%	87%	97%	91%	76%	87%
Westgate 1	Visitor	97%	97%	98%	99%	82%	95%
Westgate 2	Visitor	96%	92%	95%	94%	81%	92%
Westgate 3	Visitor	98%	93%	96%	96%	82%	93%
The Lawn	Visitor	77%	70%	75%	72%	60%	71%
Orchard Street (City Hall) - Sat	(Saturday)	78%	70%	67%	65%	72%	70%
County Offices - Sat	(Saturday)	34%	40%	48%	51%	61%	47%
Sessions House - Sat	(Saturday)	71%	80%	86%	83%	78%	80%

Car Park	Zone	Year					Average
		2008	2009	2010	2011	2012	
Brayford Street	NCP	87%	83%	75%	56%	42%	68%
Brayford Street (MS)	NCP	61%	57%	57%	52%	22%	50%
Free School Lane	NCP	85%	86%	81%	71%	44%	74%
St. Rumbold Street	NCP	61%	55%	51%	42%	29%	47%
Hungate	NCP	77%	66%	63%	53%	35%	59%
LSG Site (St. Mary's Street)	NCP	98%	91%	93%	63%	55%	80%
Grantham Street	NCP	90%	93%	86%	85%	56%	82%
Railway Station	Other	52%	44%	54%	63%	51%	53%
St. Marks Retail Park	Other	92%	83%	86%	86%	57%	81%
Average		79%	76%	78%	73%	59%	73%

Source: City of Lincoln Council

The following two tables provide average daily maximum car park occupancy for each car park zone. The trends in these tables are clearer with weekday commuter, and visitor occupancies having dropped from their maxima while those for shopper and NCP car parks remaining steady, after initially increasing from 2008.

For the Saturday occupancies, all car park types have dropped from their maxima, significantly in some cases.

Table 8-13 – Average Maximum Car Park Occupancy by Zone 2008-12 – Weekdays

Zone	2008	2009	2010	2011	2012
Commuter Average	75%	78%	77%	79%	75%
Shopper Average	80%	86%	85%	86%	87%
Visitor Average	77%	90%	85%	70%	76%
NCP Average	72%	73%	79%	74%	78%

Source: City of Lincoln Council

Table 8-14 – Average Maximum Car Park Occupancy by Zone 2008-12 – Saturdays

Zone	2008	2009	2010	2011	2012
Commuter Average	69%	67%	69%	72%	59%
Shopper Average	85%	93%	90%	91%	81%
Visitor Average	90%	87%	92%	91%	78%
NCP Average	80%	76%	72%	60%	40%

Source: City of Lincoln Council

Issue

City centre car park usage has generally decreased from the maximum usage since 2008

Further analysis has been undertaken of the occupancy data and an 85th percentile maximum occupancy has been identified for the data for each car park for each year. The 85th percentile analysis provides a reasonable proxy for peak usage of car parks while avoiding the risk related to using the maximum occupancy, which, due to the limitations of the data available, could be significantly skewed by one-off events.

This analysis provides a somewhat different perspective of current parking demand. Chartered Institution of Highways & Transportation guidance¹³ states that a car park with an 85% occupancy is operating at its theoretical capacity (this should not be confused with the 85th percentile approach used to generate the data in the tables). The two tables below show that during periods of peak demand, during both weekdays and Saturdays, the vast majority of Council operated car parks operate at or above their theoretical capacity. This is also the case for many of the NCP car parks.

Using the 85th percentile, the data would indicate that for at least 15 of every 100 weekdays or Saturdays, the vast majority of car parks operate at or close to their capacities at some point during those days. As these tables are based on data from a maximum of 12 weekdays and 12 Saturdays each year, the true extent to which the car parks operate close to capacity may very well be hidden.

The 85th percentile data for some car parks also shows that usage has decreased in recent years but not sufficiently to reduce capacity issues.

Table 8-15 – 85th Percentile Car Park Occupancy 2008-2012 – Weekdays

Car Park	Zone	Year				
		2008	2009	2010	2011	2012
Chaplin Street	Commuter	100%	100%	100%	100%	96%
King Street	Commuter	97%	93%	84%	80%	100%
Broadgate	Commuter	76%	72%	64%	88%	77%
Rosemary Lane	Commuter	100%	100%	100%	100%	100%
St Pauls	Shopper	100%	98%	92%	96%	92%
Motherby Lane	Shopper	100%	100%	100%	100%	100%
Flaxengate 4	Shopper	77%	82%	93%	95%	96%
Tentercroft Street	Shopper	80%	82%	72%	83%	78%
Lucy Tower Street	Shopper	100%	100%	97%	100%	89%
Thornbridge	Shopper	100%	100%	100%	100%	100%
Beaumont Fee	Shopper	100%	100%	100%	100%	100%
Langworthgate	Visitor	84%	97%	89%	90%	93%
Castle Hill	Visitor	100%	100%	100%	93%	100%

¹³ Guidance on Parking Strategies & Management (2005), Chartered Institute of Highways & Transportation

Car Park	Zone	Year				
		2008	2009	2010	2011	2012
Westgate 1	Visitor	98%	100%	98%	96%	98%
Westgate 2	Visitor	85%	100%	94%	87%	98%
Westgate 3	Visitor	89%	100%	100%	87%	100%
The Lawn	Visitor	87%	100%	100%	79%	76%
Orchard Street (City Hall) – Sat	(Saturday)	-	-	-	-	-
County Offices – Sat	(Saturday)	-	-	-	-	-
Sessions House – Sat	(Saturday)	-	-	-	-	-
Brayford Street	NCP	75%	90%	95%	92%	93%
Brayford Street (MS)	NCP	97%	96%	90%	95%	78%
Free School Lane	NCP	97%	96%	94%	87%	82%
St. Rumbold Street	NCP	53%	62%	90%	76%	87%
Hungate	NCP	94%	87%	87%	94%	86%
LSG Site (St. Mary's Street)	NCP	81%	87%	99%	85%	91%
Grantham Street	NCP	94%	100%	98%	97%	99%
Railway Station	Other	71%	53%	48%	64%	62%
St. Marks Retail Park	Other	56%	74%	68%	62%	60%
Average		80%	83%	85%	84%	82%

Source: City of Lincoln Council

Table 8-16 – 85th Percentile Car Park Occupancy 2008-2012 – Saturdays

Car Park	Zone	Year				
		2008	2009	2010	2011	2012
Chaplin Street	Commuter	100%	89%	99%	96%	87%
King Street	Commuter	100%	82%	100%	82%	79%
Broadgate	Commuter	76%	89%	95%	96%	100%
Rosemary Lane	Commuter	60%	68%	69%	81%	93%
St Pauls	Shopper	100%	100%	100%	100%	100%
Motherby Lane	Shopper	100%	100%	100%	100%	100%
Flaxengate 4	Shopper	87%	93%	100%	100%	100%
Tentercroft Street	Shopper	100%	100%	100%	95%	89%
Lucy Tower Street	Shopper	97%	94%	90%	100%	88%
Thornbridge	Shopper	100%	100%	100%	100%	100%
Beaumont Fee	Shopper	100%	100%	100%	100%	100%
Langworthgate	Visitor	99%	100%	100%	100%	100%
Castle Hill	Visitor	96%	100%	100%	100%	100%
Westgate 1	Visitor	100%	100%	100%	100%	100%
Westgate 2	Visitor	100%	100%	100%	100%	100%
Westgate 3	Visitor	100%	100%	100%	100%	100%

Car Park	Zone	Year				
		2008	2009	2010	2011	2012
The Lawn	Visitor	92%	92%	99%	100%	84%
Orchard Street (City Hall) – Sat	(Saturday)	93%	86%	87%	81%	93%
County Offices – Sat	(Saturday)	62%	61%	70%	66%	84%
Sessions House – Sat	(Saturday)	86%	90%	100%	97%	100%
Brayford Street	NCP	92%	87%	83%	67%	71%
Brayford Street (MS)	NCP	84%	70%	73%	64%	34%
Free School Lane	NCP	95%	94%	92%	84%	76%
St. Rumbold Street	NCP	69%	63%	61%	47%	46%
Hungate	NCP	92%	81%	78%	72%	59%
LSG Site (St. Mary's Street)	NCP	100%	99%	100%	70%	90%
Grantham Street	NCP	97%	100%	100%	95%	97%
Railway Station	Other	73%	47%	63%	72%	83%
St. Marks Retail Park	Other	97%	91%	96%	97%	87%
Average		91%	89%	92%	88%	88%

Source: City of Lincoln Council

Issue

During peak periods of operation, the majority of city centre car parks operate at or above their theoretical capacities

Issue

Capacity issues related to peaks in parking demand have not reduced significantly since 2008

A study to develop a new Parking Strategy has recently been jointly commissioned by City of Lincoln Council and Lincolnshire County Council.

Opportunity

City of Lincoln Council has commissioned a new Parking Strategy for the city centre

8.4 Freight

The movement of freight on the strategic road network has seen a significant increase according to DfT AADT data for Lincolnshire. The table below shows a 4.9% increase in HGV movements on the major highway network in the county between 2008 and 2011.

Table 8-17 – Combined AADT Flows on Major Routes in Lincolnshire – HGVs

	2008	2009	2010	2011	Change 2008-2011
HGVs	61,105	55,197	55,239	64,097	4.9%

Source: Department for Transport

The cordon and screenline data presented in Section 8.22 has also been analysed in terms of HGV movements. The following table shows the change in HGV flows across the city centre cordon in the AM peak hour between 2008 and 2012. Overall, HGV flows have decreased by 16% over the period, a significantly higher drop than for the total vehicle flow. Traffic flows of smaller HGVs in particular have decreased, dropping by 22% between 2008 and 2012.

Table 8-18 – AM Peak Hour (08:00-09:00) Inbound City Centre Cordon – HGVs

Mode	2008	2009	2010	2011	2012	Change 2008-2012
HGVs 2 Axles	433	353	343	340	338	-21.9%
HGVs 3 Axles	124	126	120	126	115	-7.3%
HGVs 4+ Axles	298	259	280	294	266	-10.7%
Total	855	738	743	760	719	-15.9%

The following table shows the change in HGV flows over the three hour AM peak period and the overall decrease is consistent with the AM peak hour, showing a drop of 15.2% since 2008.

Table 8-19 – AM Peak Period (07:00-10:00) Inbound City Centre Cordon – HGVs

Mode	2008	2009	2010	2011	2012	Change 2008-2012
HGVs 2 Axles	1,292	1,108	1,068	978	977	-24.4%
HGVs 3 Axles	424	366	365	411	418	-1.4%
HGVs 4+ Axles	923	881	873	859	842	-8.8%
Total	2,639	2,355	2,306	2,248	2,237	-15.2%

The screenline AADT data shows a similar trend with HGV flows decreasing by over 16% over the five year period to 2012.

Table 8-20 – AADT Traffic Flows City Centre North-South Screenline – HGVs

Mode	2001	2008	2009	2010	2011	2012	Change 2008-2012
HGVs	5,622	5,585	5,397	5,176	5,105	4,676	-16.3%

Opportunity

HGV flows into and through the city centre have decreased significantly since 2008.

8.5 Public Transport

8.5.1 Bus

Table 8-21 shows that there are a large number of bus services currently serving Lincoln and the surrounding study area from a wide variety of settlements. There are a number of frequent services to the south west of the city centre which serve the larger residential areas of Birchwood, Hykewood and Waddington. The north east of the city is also relatively well served, reflecting the large residential areas north east of the city centre. Additionally, there are several frequent circular services within the city centre itself, which serve popular locations such as the tourist attractions and the hospital.

Broadly speaking, the variety of routes, frequency and the number of the peripheral towns and villages served by buses are reasonably good. An overview of the scheduling suggests that the peak times are well served. The towns and villages in rural areas surrounding Lincoln, however, are poorly served on Sundays, with the majority of services not operating at all.

Table 8-21 – Lincoln Strategy Area Bus Service Summary Table

Lincoln Study Area Bus Services						
Route	Direction from Lincoln	No. of Services*	Monday to Saturday		Sunday	
			Frequency	Schedule	Frequency	Schedule
A15/B1398/Scunthorpe	North	2	Max 2 hourly	0700 - 1800	No services	N/A
A46/Market Rasen	North East	3	Max every 30 mins	0630 - 1830	No services	N/A
A158/Louth/Horncastle	North East	1	6 journeys	0700 - 1800	No services	N/A
B1308/Fiskerton	East	3	Max every 30 mins	0630 - 1900	No services	N/A
B1190/Horncastle	East	2	Max every 20 mins (Horncastle 5 journeys)	0630 - 1900	2 hourly (H'castle no services)	0900 - 1700
B1188/Boston/Sleaford	South East	1	2 hourly (Mon - Fri)	0700 - 1730	No services	N/A
A15/Sleaford	South	1	1 journey - Tue/Fri only	N/A	No services	N/A
A607/Grantham	South	0	N/A	N/A	N/A	N/A
A46/Newark/Birchwood/Waddington	South West / West	7	Birchwood every 10 mins (Newark 4 journeys)	0600 - 2300	Every 30 mins	0900 - 1800
A57/A156/Gainsboro'/Saxilby	West / North West	4	Max hourly	0700 - 1730	No services	N/A

Lincoln Study Area Bus Services						
Route	Direction from Lincoln	No. of Services*	Monday to Saturday		Sunday	
			Frequency	Schedule	Frequency	Schedule
School/College Routes	Lincoln	17	1 - 2 journeys school days only	1 AM and PM	N/A	N/A
Lincoln Circulars	Lincoln City Centre	4	Max every 10 mins	0700 - 0800	Every 30 mins	0900 - 1700

The Interconnect network and its services are subsidised by Lincolnshire County Council. Some of the services were scaled back in April 2011 as a result of cuts to local government funding¹⁴.

It should however be noted that in 2011, Lincolnshire County Council reported a 23.5% increase in usage of CallConnect, the demand responsive element of the Interconnect service, compared to 2010.¹⁵

Five Interconnect services operate within the study area. These routes provide links between the Lincoln and the larger towns in Lincolnshire, visiting rural locations on the journeys. These services also operate a flexible and demand responsive CallConnect service in 14 areas across Lincolnshire. Each of the Interconnect services operate on an approximate hourly basis serving peak times. However, Sundays are poorly served with only two of the five services operating on a Sunday and at a reduced frequency.

Table 8-22 – InterConnect Services

Route	No. of Services	Frequency	Schedule
A46/Market Rasen	1 Service	12 Journeys (Mon – Sat)	0700-1800 (weekdays only)
A158/Louth/Horncastle	1 Service	Hourly (Sun 5 services)	0600-2100 (Sun 0800-2000)
B1188/Boston/Sleaford	1 Service	Hourly	0700-1800 (Mon-Sat only)
A607/Grantham	1 Service	30 mins (6 Sunday Services)	0600-2000 (Mon-Sat)

¹⁴ Lincolnshire County Council (2011) *Service changes from 4th April 2011*. Available from: <http://www.lincsinterconnect.com/timetables/ServiceChangesApril2011.pdf>

¹⁵ Louth Target (2012) *Lincolnshire's CallConnect bus usage increases by 23.5 per cent*, 21 January. Available from: <http://www.thisislincolnshire.co.uk/Lincolnshire-s-CallConnect-bus-usage-increases-23/story-14986912-detail/story.html>

A57/A156/Gainsboro'/ Saxilby	1 Service	Hourly	0700- 800 (Mon-Sat only)
---------------------------------	-----------	--------	-----------------------------

Discussions with the County Council's public transport team have revealed that there have been no significant changes to the bus network since 2008. However, CallConnect now covers 90% of the county, replacing a number of traditional rural services.

Due to the Council's budgetary constraints, funding for Sunday and evening services was withdrawn in 2011. Stagecoach, the main operator in the area, continued to maintain a number of Sunday services, on a commercial basis, but at significantly lower frequencies, however, the company is now starting to increase the frequencies on some routes. Furthermore, some early evening services have been reintroduced to support commuter journeys following complaints from the public.

Centrally held bus patronage data is reasonably limited; however, some data is available nationally and enables a good comparison to be made between Lincolnshire as a whole and the surrounding area.

The following table shows the annual bus passenger numbers (in millions) for Lincolnshire, the East Midlands region, England and Great Britain. Since 2009/10, bus passenger numbers have grown slightly in Lincolnshire and at a higher rate than Great Britain as a whole. This positive trend is also set against a background of significant declines in bus passengers in the East Midlands over the same, relatively short period. The Lincolnshire figures also compare favourably to those for non-metropolitan areas in England and areas outside of London; passenger numbers fell by both measures. It should be noted that figures for Lincoln are not available and that patterns for Lincolnshire as a whole may vary from Lincoln itself.

Table 8-23 – Annual Bus Passenger Journeys (Millions)

Area	2009/10	2010/11	2011/12	% Change 09/10 to 11/12
Great Britain	5,214	5,203	5,233	0.4%
England	4,639	4,656	4,678	0.8%
East Midlands	218	215	213	-2.3%
Lincolnshire	16.3	16.9	16.4	0.6%
Non-Metropolitan England	1,315	1,317	1,314	-0.1%
Outside London	2,401	2,387	2,355	-1.9%

Source: Department for Transport

However, the following table presents a different perspective of bus passenger numbers, with passenger number per head of population falling in Lincolnshire since 2009/10.

As shown previously and shown in Table 8-25, the population of Lincolnshire has grown significantly since 2009, by 2.4%, which is a higher rate than for both the East Midlands and England. It can therefore be suggested that the increase in bus passenger numbers is likely to be a result of increased population in Lincolnshire rather than higher propensity of the established population to travel by bus.

Table 8-24 – Passenger Numbers by Head of Population

Area	2009/10	2010/11	2011/12	% Change 09/10 to 11/12
England	89.5	89.1	88.8	-0.8%
East Midlands	49.0	47.9	47.0	-4.1%
Lincolnshire	23.4	24.0	22.7	-3.0%

Source: Department for Transport

Table 8-25 – Population Change 2009-2011

Year	Mid-2009	Mid-2010	Mid-2011	% Change 09/10 to 11/12
England	52,196,381	52,234,045	53,107,169	1.7%
East Midlands	4,451,200	4,481,431	4,537,448	1.9%
Lincolnshire	697,900	703,000	714,800	2.4%
Lincoln	88,491	89,668	93,541	5.7%

Source: Lincoln Research Observatory and Office for National Statistics

The following table shows total bus patronage figures for a selection of bus services operated in the Lincoln area. This shows that, for the services operated continuously over the 2008 to 2012 period, there was been a 4% rise in patronage, although there has been a marked decline from the peak in 2010.

Table 8-26 – Bus Patronage on Routes Continuously Operating: 2008 to 2012

Year	Total
2008	5,019,000
2009	5,107,000
2010	5,298,000
2011	5,239,000
2012	5,235,000
% Change 2008-2012	4%

Issue

Bus patronage levels in Lincolnshire remained unchanged between 2009/10 and 2011/12, performing better than the East Midlands region as a whole

Issue Of the bus routes in Lincoln, those that have operated continuously between 2008 and 2012 have shown a combined increase in patronage of 4%

Issue Bus journeys per head of population in Lincolnshire decreased between 2009/10 and 2011/12 at a higher rate than nationally but at a lower rate than the East Midlands region

Data was collected on the timeliness of buses within the Lincoln area for 2009, 2010 and 2011. The statistics show that of the sample collected, average punctuality was found to range between 68.7 and 73.7%. Importantly, the average punctuality ratings improved year-on-year during the course of the study period.

Table 8-27 – Summary of Bus Punctuality Surveys 2009 to 2011

	2009	2010	2011
Total observations	4,531	2,385	2,391
Observations early or late	1,416	725	630
Observations on time	3,115	1,660	1,761
Punctuality	68.7%	69.6%	73.7%
Departure point punctuality	88.4%	88.4%	87.7%
Timing point punctuality	58.1%	62.5%	65.8%
Punctuality Target	Departure Points: 87% Timing Points: 69%	Timing Points: 80%	Timing Points: 78%

Source: Lincolnshire County Council

Issue Bus punctuality has improved up from 68.7% in 2009 to 73.7% in 2011

There is, however, great variation in the punctuality records of timing stations, with certain timing points performing consistently poorly.

For example, Lincoln Bristol Drive has seen a relative improvement in its performance (on-time services rising from 32% to 61%), but still lies 12% below average punctuality. Causing even more concern is the performance of North Hykeham ASDA timing point, which recorded a poor punctuality score of 52% in 2009/10 and 2010/11, but has since seen its punctuality has dropped further, as 2011/2012 saw just 40% of buses arrive on time.

Conversely, Monk’s Road saw a vast improvement in punctuality, up from 59% in 2009/10 to 79% in 2010/11 and 2011/12. Newark Road also saw an upward trend in reliability, up from 51% in 2009/10 and 2010/11, to 73% in 2011/12.

Lincoln City Bus Station was the only departure point from where timings were recorded. At that location, approximately 87-88% of buses were on time, which means that a large proportion of delays were caused by problems at the bus station. The close clustering of punctuality statistics for the bus station could in part be caused by ever-present mechanical factors such as vehicle wear and tear. If this is the case, a greater investment in vehicle stock could be required to boost promptness.

Please note, the definition of an ‘on time’ bus, is one that arrives not more than five minutes late or one minute early.

8.5.2 Rail

Patronage figures for the railway stations in Lincolnshire are also limited, however, annual patronage figures are available for the four stations within the study area, as well as wider data to provide national comparison. In total, the strategy area’s four stations generate 1.64million passengers per year, with the majority (1.46million) using Lincoln Central Station. Since 2008/09, passenger numbers have increased by 5% across the strategy area, this being slightly higher than the 4% for Lincolnshire in total but less than the 7% nationally.

Table 8-28 – Rail Passengers (millions)

Area	2004/05	2008/09	2009/10	2010/11	04/05 to 2010/11	08/09 to 10/11
Lincoln Central Station	1.28	1.38	1.48	1.46	14%	6%
Metheringham Station	0.10	0.11	0.10	0.10	1%	-8%
Saxilby Station	0.05	0.05	0.06	0.05	13%	10%
Hykeham Station	0.01	0.02	0.02	0.03	86%	21%
Strategy Area Total	1.44	1.56	1.65	1.64	14%	5%
Lincolnshire Total	4.15	4.36	4.47	4.52	9%	4%
National Rail Total	1,039.52	1,266.48	1,257.87	1,353.78	30%	7%

Lincolnshire County Council Transport Monitoring Report 2011 and Department for Transport

Using the City of Lincoln population, the passenger journeys per head of population at Lincoln Central Station has increased from 15.7 in 2008/09 to 16.3 in 2010/11.

Opportunity

Rail patronage in the Strategy area increased by 5% between 2008/09 and 2010/11, broadly in line with national growth. Passenger journey per head of population also increased.

The table below summaries crossing downtime surveys for the High Street crossing. This shows a reduction in freight trains in the period between 2007 and 2012, while passenger train numbers have remained constant.

Table 8-29 – High Street Level Crossing Closures 2007 to 2012

Year	Date (12hr 0700-1900)	Crossing	Freight	Passenger
2007	Mon 5th March	High Street	15	72
	Fri 9th March	High Street	18	72
2008	No Data			
2009	Tues 3rd March	High Street	10	72
2010	No Data			
2011	Tues 8th march	High Street	14	73
	Thurs 10th March	High Street	10	72
2012	Tues 6th March	High Street	3	65
	Thurs 8th March	High Street	12	76

Source: Lincolnshire County Council

Issue

The number of freight trains passing through Lincoln have reduced since 2007

8.6 Cycling

Changes in the level of cycling since the 2008 LITS study have been analysed using the city centre cordon and screenline data.

The AM peak hour cordon data, showing movements into the city centre, shows a notable increase in cycling in 2011 and 2012 following a decrease from 2008 to 2010. The AM peak period shows a greater increase over the period, of 9.5%, with the rise from 2008 remaining steady in 2011 and 2012.

Table 8-30 – AM Peak Hour (08:00-09:00) Inbound City Centre Cordon – Bicycles

Mode	2008	2009	2010	2011	2012	Change 2008-2012
Bicycles	780	729	699	842	815	4.5%

Source: Lincolnshire County Council

Table 8-31 – AM Peak Period (07:00-10:00) Inbound City Centre Cordon – Bicycles

Mode	2008	2009	2010	2011	2012	Change 2008-2012
Bicycles	1,822	1,851	1,743	1,997	1,995	9.5%

Source: Lincolnshire County Council

The following table presents cycle count data for a number of locations in Lincoln, showing average daily flows for each site for years 2008 to 2012. This data also shows movements on routes into the city centre. While the data shows a significant variation in flow and trends between the sites, overall, cycle movements increased by 3% between 2008 and 2012.

Table 8-32 – Average Daily Two-Way Cycle Movements – Monday to Friday

Location	Year					2008-2011 % Change
	2008	2009	2010	2011	2012	
Stamp End	165	157	145	168	162	-2%
Riverside Walk	622	599	562	656	613	-1%
Tritton Rd Chieftain	749	712	678	804	821	10%
Doddington Road	418	397	373	432	453	8%
Brant Road	227	203	187	171	215	-5%
Tritton Rd Morrisons	215	192	178	203	197	-8%
Skellingthorpe	85	91	90	97	105	24%
Total	2481	2351	2213	2531	2566	3%

Source: Lincolnshire County Council

Opportunity

Cycling into the city centre appears to have increased since 2008

Longer term data contained in the County Council's Transport Monitoring Report (March 2012) shows a significant increase in cycling for the county as a whole since 2002. However, the data shows that cycling may have remained at broadly the same level between 2008 and 2011.

8.7 Mode Share

A range of mode share data is available for the strategy area including from the Census, traffic surveys and school travel surveys. The following tables show the change in travel to work mode choice between the 2001 Census and 2011 Census.

As can be seen in the following table, the number of Lincoln residents travelling to work by car increased substantially, by 27%, between 2001 and 2011. This is substantially higher than the 20% increase in car ownership over the same period and is a higher rate than both England as a whole and the East Midlands, but lower than for Lincolnshire. However, the mode share for car driver increased by less than two percentage points, indicating that the change in car use is likely to be linked to an increase in travel to work over the period rather than purely a shift to car travel.

Table 8-33 – Census 2001 and 2011 Travel to Work Comparison – Car/Van Driver

Year	England	East Midlands	Lincolnshire	City of Lincoln	CoL Mode Share
2001	12,324,166	1,157,931	155,614	19,192	55.3%
2011	14,345,882	1,409,030	220,876	24,451	57.1%
2001-2011	16%	22%	42%	27%	

Source: Office of National Statistics

The number of people travel to work as car passengers also increased over the period, by 11%, but the mode share actually decreased. The upward trend is against the wider trends in both the region and nationally.

Table 8-34 – Census 2001 and 2011 Travel to Work Comparison – Car/Van Pass.

Year	England	East Midlands	Lincolnshire	City of Lincoln	CoL Mode Share
2001	1,370,685	133,260	19,762	3,039	8.8%
2011	1,264,553	129,471	20,924	3,375	7.9%
2001-2011	-8%	-3%	6%	11%	

Source: Office of National Statistics

Travel to work by walking changed substantially between 2001 and 2011, with the number of people walking increasing by 44%, which also led to an increase in mode share from 17.5% to 20.4%. The increase in walking was substantially higher than for England, the East Midlands and Lincolnshire as a whole.

Table 8-35 – Census 2001 and 2011 Travel to Work Comparison – On Foot

Year	England	East Midlands	Lincolnshire	City of Lincoln	CoL Mode Share
2001	2,241,901	201,247	31,860	6,063	17.5%
2011	2,701,453	236,719	40,899	8,734	20.4%
2001-2011	20%	18%	28%	44%	

Source: Office of National Statistics

Cycling as a mode of travel to work increased by only 2% between 2001 and 2011, which led to a 1.3 percentage point decrease in mode share. The trend was better in Lincoln than both Lincolnshire and the East Midlands but some way behind the 17% increase for England as a whole.

Table 8-36 – Census 2001 and 2011 Travel to Work Comparison – Bicycle

Year	England	East Midlands	Lincolnshire	City of Lincoln	CoL Mode Share
2001	634,588	62,644	15,789	2,645	7.6%
2011	742,675	58,995	13,454	2,698	6.3%
2001-2011	17%	-6%	-15%	2%	

Source: Office of National Statistics

Motorcycle use also decreased but by 11% and mode share decreased to 1.1%.

Table 8-37 – Census 2001 and 2011 Travel to Work Comparison – Motorbike

Year	England	East Midlands	Lincolnshire	City of Lincoln	CoL Mode Share
2001	249,456	20,018	3,541	549	1.6%
2011	206,550	15,557	2,593	489	1.1%
2001-2011	-17%	-22%	-27%	-11%	

Source: Office of National Statistics

Bus travel to work decreased overall by 11%, which resulted in a drop to 5.7% of modal share for the City of Lincoln area. This trend was reflected in Lincolnshire as a whole and was substantially worse than England as a whole, which showed a 12% increase in travel to work by bus.

Table 8-38 – Census 2001 and 2011 Travel to Work Comparison – Bus/Coach

Year	England	East Midlands	Lincolnshire	City of Lincoln	CoL Mode Share
2001	1,685,360	133,858	9,580	2,742	7.9%
2011	1,886,539	132,073	8,364	2,441	5.7%
2001-2011	12%	-1%	-13%	-11%	

Source: Office of National Statistics

Travel to work by train increased considerable across England, the East Midlands and Lincolnshire, with Lincoln itself showing the largest increase of the four areas. However, this only led to a 0.2 percentage point increase in mode share.

Table 8-39 – Census 2001 and 2011 Travel to Work Comparison – Train

Year	England	East Midlands	Lincolnshire	City of Lincoln	CoL Mode Share
2001	950,023	18,849	2,228	193	0.6%
2011	1,343,684	28,777	3,284	364	0.8%
2001-2011	41%	53%	47%	89%	

Source: Office of National Statistics

Taxi use for travel to work now has the lowest mode share in Lincoln, after being overtaken by rail travel.

Table 8-40 – Census 2001 and 2011 Travel to Work Comparison – Taxi

Year	England	East Midlands	Lincolnshire	City of Lincoln	CoL Mode Share
2001	116,503	7,926	1,168	295	0.8%
2011	131,465	8,823	1,212	282	0.7%
2001-2011	13%	11%	4%	-4%	

Source: Office of National Statistics

Overall, the travel to work data shows that car travel remains dominant in Lincoln, with bus travel declining, however, levels of walking and train travel have increased both in real terms and mode share.

Issue

Travel to work data shows that car travel remains dominant in Lincoln, with bus travel declining, however, levels of walking and train travel have increased both in real terms and mode share.

The following two tables show mode share of vehicles passing inbound across the city centre cordon (freight vehicles have been removed) in the AM peak period. As can be seen in both tables, the mode share of vehicles has remained broadly unchanged between 2008 and 2012. Although, as shown earlier, the number of pedal cycles and motor cycles has increased, and cars decreased, the considerably greater number of cars passing the cordon means that very substantial increases in cycling would be required to change these mode shares.

Table 8-41 – AM Peak Hour (08:00-09:00) Inbound City Centre Cordon Passenger Vehicle Mode Share

Mode	2008	2009	2010	2011	2012
Pedal Cycles	1.9%	1.8%	1.8%	2.2%	2.1%
Motor Cycles	1.4%	1.6%	1.6%	1.7%	1.7%
Cars and Taxis	95.6%	95.5%	95.6%	94.9%	95.0%
Buses and Coaches	1.1%	1.1%	1.1%	1.2%	1.1%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

Source: Lincolnshire County Council

Table 8-42 – AM Peak Period (07:00-10:00) Inbound City Centre Cordon Passenger Vehicle Mode Share

Mode	2008	2009	2010	2011	2012
Pedal Cycles	1.8%	1.8%	1.8%	2.1%	2.1%
Motor Cycles	1.5%	1.6%	1.5%	1.7%	1.7%
Cars and Taxis	95.4%	95.4%	95.5%	95.0%	95.0%
Buses and Coaches	1.3%	1.1%	1.2%	1.3%	1.2%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

Source: Lincolnshire County Council

Opportunity

The mode share of passenger vehicle journeys into the city centre appears to have remained largely unchanged since 2008

The mode share of travel to school for schools in Lincolnshire is presented in the table below. The table below shows, as would be expected, significant differences in mode share for primary and secondary school children. Over the period 2007 to 2010, the mode share for car travel for both primary and secondary school pupils remained broadly the same. However, for primary school pupils, there was a shift from public transport towards walking, while there was a shift away from cycling and towards public transport for secondary school pupils. While this data is for Lincolnshire rather than Lincoln itself, it could reasonably be expected that travel patterns for the strategy area will be at least as sustainable as those for Lincolnshire as a whole.

Table 8-43 – Mode Share for Travel to School in Lincolnshire (%)

Mode	Primary				Secondary			
	2007	2008	2009	2010	2007	2008	2009	2010
Car	47.6	48	47.6	46.9	19.5	16.3	17.8	18.6
Cycling	2.8	3.0	2.8	2.5	10.2	6.7	6.1	6.2
Public Transport	7.4	5.6	5.1	4.5	38.0	40.4	41.4	42.1
Walk	41.3	42.6	43.9	45.7	31.6	31.5	31.6	32.6
Other	0.9	0.8	0.7	0.5	0.6	5.0	3.0	0.6

Source: Transport Monitoring Report 2011 (March 2012), Lincolnshire County Council

Opportunity

The mode share of journeys by car to school appears to have remained unchanged since 2007, however, Lincolnshire already compares well with the national trends, particularly given its rural nature

The school travel mode share for Lincolnshire shows varying performance compared to the national average. For primary schools, more pupils walk but fewer use public transport while cycling and walking remain largely unchanged. For secondary school pupils, fewer pupils cycle, more use public transport, while car use and walking remain largely unchanged. Overall, Lincolnshire compares favourably with the national average, which is surprising given the county's predominately rural nature and the significant distances needed to travel to school.

Table 8-44 – Mode Share for Travel to School – National (%)

Mode	Primary				Secondary			
	2007	2008	2009	2010	2007	2008	2009	2010
Car	41	43	42	43	22	21	22	24
Cycling	1	2	1	1	2	2	3	2
Public Transport	7	7	6	8	31	35	35	36
Walk	51	48	50	47	43	40	38	36
Other	1	0	1	1	3	2	2	3

Source: National Travel Survey 2011

8.8 Road Safety

8.8.1 Introduction

Accidents by vehicle type, severity and location have been collated and analysed. Where possible, these figures have then been compared with national trends, in order to inform policymakers of priorities that need to be set for improving road safety within the city of Lincoln area.

8.8.2 Analysis – Accidents by severity

Table 8-45 presents the total number of accidents, by severity, for each year between 2008 and 2012. It can be observed that the city of Lincoln has enjoyed a drop in accidents during the period of this study. However, this drop only occurred between the years 2009 and 2012,

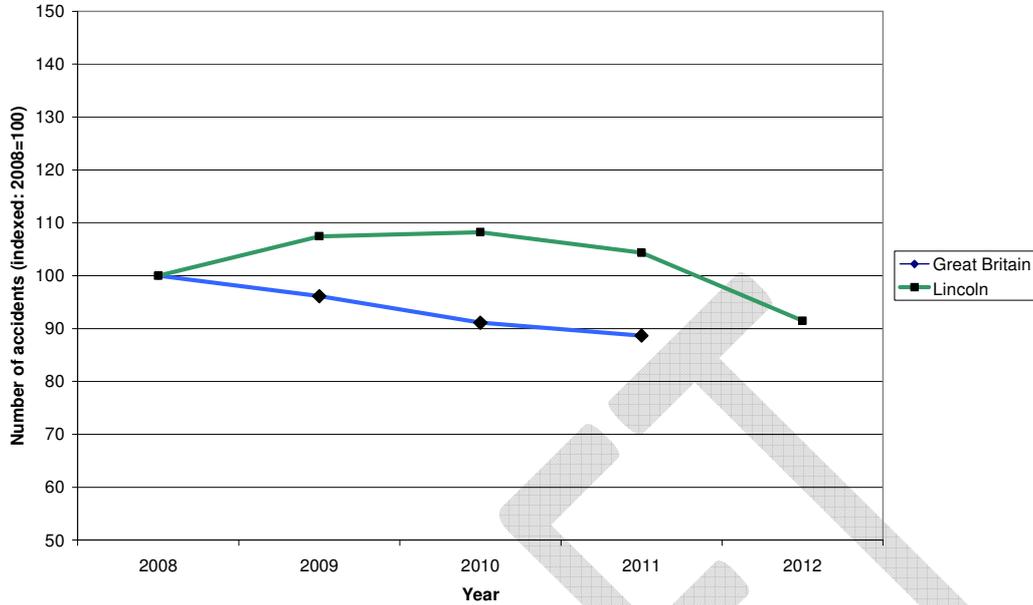
Table 8-45 – Annual Accidents 2008-2012

Severity	2008	2009	2010	2011	2012*	Total	Average	Change 08-12
Fatal	2	0	1	1	0	4	0.8	-100%
Serious	27	41	25	23	29	138	29	7%
Slight	255	274	276	266	233	1246	260.8	-9%
Total	284	315	302	290	263	1388	290.8	-7%

Note: * = data available to 30/09/2012, projections for full year given above, rounded to nearest accident. Source: Lincolnshire County Council

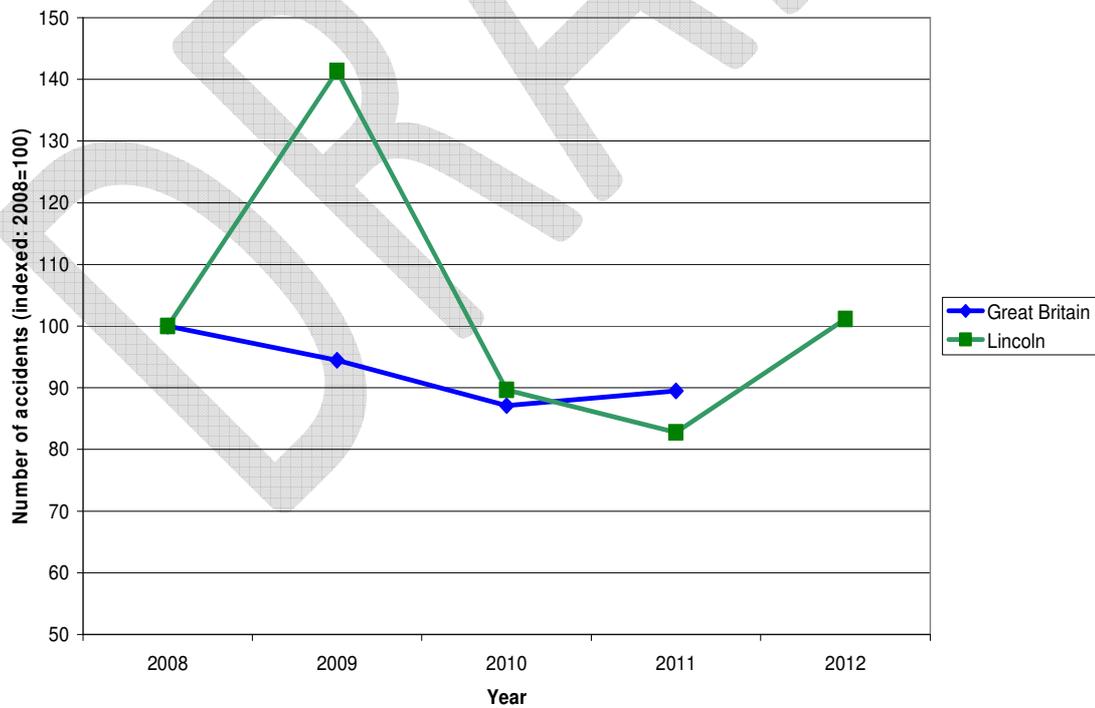
The numbers of serious or fatal accidents seen between 2008 and 2012 are shown in Figure 8-1 and Figure 8-2 and show a comparison of equivalent data for Lincoln and Great Britain. The results show that trends in Lincoln are generally downward, but with a different trajectory that the national data. This probably reflects the fact that the very large dataset nationally allows “smoothing” of the trend whereas the much smaller local numbers will be subject to annual variation due to such factors as weather.

Figure 8-1 – Indexed Representation of Slight Accidents for Lincoln and Great Britain, 2008-2012 (2012 = projection)



Source: Department for Transport

Figure 8-2 – Indexed Representation of Serious or Fatal Accidents for Lincoln and Great Britain, 2008-2012 (2012 = projection)



Source: Department for Transport

Issue The number of road accidents in Lincoln between 2008 and 2012, while varying between individual years, has shown a general decrease

Issue Lincoln has experienced a 7% drop in accidents since 2008

8.8.3 *Analysis – Accidents by vehicle type*

The frequency in which each type of vehicle (including pedestrians) is involved in an accident within Lincoln is displayed graphically within Figure 8-3. Unsurprisingly, cars are most frequently involved in accidents, but there are also high involvement rates for motorcycles, pedal cycles and pedestrians.

Figure 8-4 shows the number of accidents for every year involving each specific vehicle type, along with pedestrians. In spite of the period seeing a decline in the number of car accidents, the number of all other types of accidents has remained constant. This is particularly concerning for motor/pedal cycles and pedestrians, as they comprise a relatively small proportion of road traffic.

The statistics also differ slightly compared with those for the whole of Great Britain. For example, on average, between 2008 and 2012, 15.99% of accidents involve a motorcycle. This contrasts with Great Britain, where during 2010 12.7% of accidents involved motorcycles (Source: Department for Transport).

Figure 8-3 – Proportion of Accidents within the City of Lincoln by Mode Involved

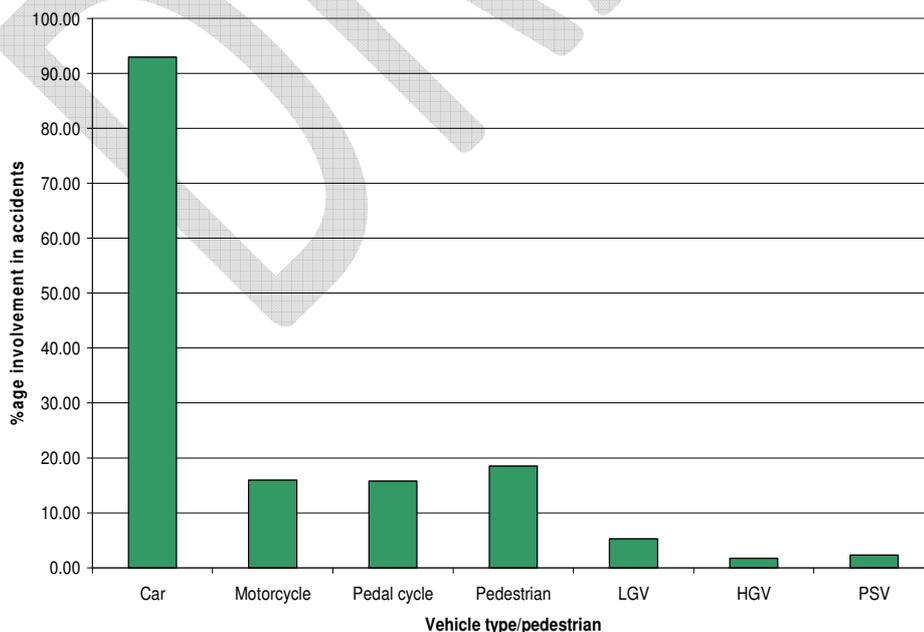
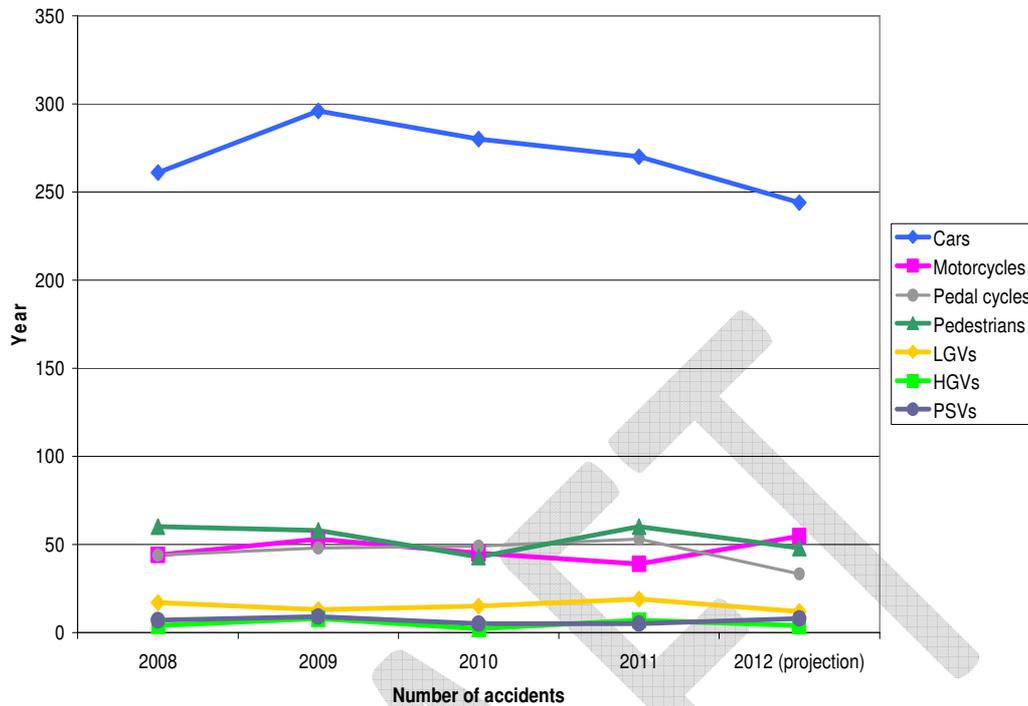


Figure 8-4 – Number of Accidents per Year, by Vehicle Type (Plus Pedestrians)



8.8.4 Analysis – Accidents by location

The spatial distribution of accidents was analysed, according to their severity, and the year in which they occurred.

Figures 8-5 to 8-11 (shown in the Figures section towards the end of this document) show the distribution of accidents for each of the years between 2008 and 2012 inclusive. They all illustrate a wide spread of accidents across the region, but are primarily found on the city’s arterial routes, and the city centre, which is characterised by narrow streets and high volumes of pedestrians.

There does not appear to be any significant variation between years, with all noteworthy accident clusters remaining as such for the whole data period.

Figures 8-10 to 8-11 show how slight, serious and fatal accidents are distributed across the city during the period 2008-2012. It shows that the centre of the city has a high concentration of accidents, but that there are also clusters of serious accidents at many of the intersections between major roads, at the outskirts of the city.

Issue	There are a number of accident clusters that appear consistently between over the years from 2008 to 2012
--------------	---

8.9 Summary

The analysis undertaken reveals the total numbers of slight, serious and fatal accidents in Lincoln has fallen between 2008 and 2012.

The number of pedestrians, motorcyclists and pedal cyclists involved in accidents each year remained steady, while the numbers of cars involved reduces.

The spatial distribution of accidents is largely varied, with most accidents taking place on the busiest roads and streets, as expected. However, there are significant clusters emerging at some junctions and intersections of major roads.

DRAFT

9 Area of Change: Developments

9.1 Introduction

This section of the report summarises the major land use developments that have been implemented since the publication of the 2008 LITS report.

The 2008 LITS report identified the following outcome directly relevant to this section of the report:

LITS Outcome	O3	A reduction in car trips resulting from development
---------------------	-----------	---

9.2 Major Developments 2008-2012

The following table shows the number of residential units completed within the City of Lincoln boundary between 2007/08 and 2010/11. These figures should first be compared to those for the 2006/07 financial year, which saw a total of 529 completions. There was a significant drop in completions, dropping to half this figure in 2008/09. However, completions started to increase over 09-10 and 10-11 and it is likely, given stability is returning to the house developer sector, that the 11-12 figures will be higher still.

Over the course of the 2007/08 to 2010/11 period, a total of 1,387 units were completed; this equates to 3.5% of the 39,825 households recorded in the 2011 Census. This number of additional households also equates to the generation of approximately 830 additional vehicle trips in each peak hour.

Table 9-1 – City of Lincoln Residential Unit Completions (By Site Size) – 2007-2011

Thresholds	07-08	08-09	09-10	10-11	Total
1-4 dwellings	19	20	17	22	78
5-10 dwellings	17	41	20	24	102
11-15 dwellings	18	39	-	17	74
16-20 dwellings	23	41	1	25	90
21-25 dwellings	35	31	16	26	108
26-50 dwellings	54	17	12	24	107
51-100 dwellings	66	15	76	39	196
101-200 dwellings	159	73	177	223	632
Total	391	277	319	400	1,387

Source: City of Lincoln Council

Issue	1,387 residential units were completed in Lincoln between 2007/08 and 2010/11, equating to an additional 830 vehicle trips in a peak hour
--------------	---

10 Area of Change: Engagement and Consultation

10.1 Introduction

This section of the report reviews outputs from recent engagement and consultation exercises concerned with policies or schemes that have a direct relation to LITS. Included in this section are outputs from exercises undertaken for the Local Transport Plan 4 development process, Lincoln Eastern Bypass, East-West Link and the City Council's City Centre Master Plan.

10.2 Local Transport Plan 4

Public and stakeholder consultation was undertaken for the emerging 4th LTP in the Summer of 2012. Over 320 organisations, groups and individuals responded and completed a short set of questions on priorities for the LTP. These responses are summarised below.

Consultees were asked to rank a number of issues in terms of their own priorities. In terms of the overall aims of the LTP, as shown in the table below, supporting the local economy was the highest priority for stakeholders, followed by access and safety/health. Housing growth and the environment came lowest in the ranking.

Table 10-1 – LTP4 Overall Aims Priority Ranking

Issue	Rank
Supporting Local Economy	1
Access	2
Safety/Health	3
Environment	4
Housing Growth	5

Stakeholders consider that public transport and minor highways should be the priorities for larger urban areas, with demand management and traffic management coming bottom of their priorities.

Table 10-2 – LTP4 Transport in Larger Urban Areas Priority Ranking

Issue	Rank
Public transport	1
Minor Highway	2
Cycling	3
Walking	4
Smarter Choices	5
Traffic Management	6
Demand Management	7

In terms of safety, local safety schemes and reactive speed signs were stakeholder priorities while safety cameras and driver rehabilitation were the lowest ranked.

Table 10-3 – LTP4 Safer Roads Priority Ranking

Issue	Rank
Local Safety Schemes	1
Reactive Speed Signs	2
Traffic Policing	3
School and College Training	4
Targeted Campaigns	5
Driver Rehabilitation	6
Safety Cameras	7

Finally, consultees were asked what their spending priorities would be and were asked how they would distribute £100 between the four following areas of expenditure (spending no more than £50, and no less than £5, any one area).

Table 10-4 – LTP4 Overall Priorities Priority Ranking

Issue	Overall % of Expenditure	Rank
Maintaining the Existing Network	31%	1
Tackling problems in rural areas	29%	2
Tackling problems in the larger urban areas	21%	3
Improving road safety	19%	4

Maintaining the existing network and tackling transport problems in rural areas were the highest priority, however, neither were significantly ahead of the other areas.

10.3 Lincoln Eastern Bypass

Two engagement exercises have been undertaken as part of the process to deliver the Lincoln Eastern Bypass. A full stakeholder and public consultation was undertaken for the dual-carriageway scheme during the first quarter of 2008 and a report presenting the findings was published in the following July. However, a further exercise, focusing on the subsequently proposed single-carriageway scheme, the proposal now being taken forward, consulted major stakeholders during the Summer of 2011. The key outputs of the latter exercise can be summarised as follows:

- **Regional traffic movements:** stakeholders highlighted issues related to Lincoln's proximity to the strategic road network, with the city centre suffering from high traffic flows and levels of congestion as a result of the "the interaction of local, regional and strategic traffic movements".
- **Economy – distribution of goods and movement of people:** stakeholders commented that traffic issues are constraining growth as they impede the linking of "production to markets, people to employment, skill needs to training opportunities and visitors to attractions".

Traffic conditions have a negative impact on transportation of goods in terms of increased journey times and journey time unreliability which ultimately results in increased costs. Of particular note were comments on the routes between the key agricultural areas of Lincolnshire and ports facilities pass through Lincoln city centre.

The dominant bus operator in the area, Stagecoach, stated that "further bus use growth is now constrained by traffic conditions in the city centre and the lack of bus priority measures."

Issue

Stakeholders believe that traffic issues are constraining economic growth and alternative transport provision

- **Economy – new business and job creation:** Representatives from business and economic development stated that traffic conditions limit the ability of the wider Lincoln area to fulfil its potential as a principal driver of the county's economy. Stakeholders also stated that Lincoln underperforms in attracting visitor activity due to traffic conditions.

Specific businesses highlighted that expansion is restricted by the absence of the bypass, with Co-op, for example, stating that "The Society has a number of industrial property ownerships... which will not achieve their full potential without delivery of the bypass."

Other stakeholders stated that LEB would attract future investments in the area due to its increased viability to operate as a hub of activity.

Issue

Stakeholders have stated that the delivery of LEB will support and attract business investment

- **Health & Emergency Services:** Stakeholders highlighted the potential direct and indirect health benefits that could result from a reduction in traffic in the city centre, and particularly HGVs making strategic movements. These benefits could include improvements to air quality and quality of life, increase use of healthy modes of transport, fewer road accidents and improvements to health associated with economic development.

The emergency services also highlighted that reduced city centre traffic would improve response and transportation times.

Issue

Stakeholders believe that reducing traffic in Lincoln city centre would have both direct and indirect health benefits

- **Tourism and the Visitor Economy:** In terms of the visitor economy, stakeholders believe that congestion issues in and around Lincoln are constraining performance compared to other similar locations, both for the city itself and the county as a whole. This issue is related to both perception of the issue and general performance of the network.

Issue

Stakeholders have stated that congestion issues in and around Lincoln are constraining performance in terms of tourism, compared to other similar locations

- **Access to education and training:** Stakeholders believe that traffic conditions in Lincoln present a challenge to those in education due to the ‘excessive and intensive traffic passing through the city centre’. The general accessibility to Lincoln from outlying rural areas also presents a problem for those without access to a private car.

The University believes that its expansion is constrained by traffic conditions, stating that “The scale of planned new development at the Brayford Campus could be reduced if transport issues cannot be resolved”...and that... “[Opportunities from the new development land along LEB] could support University expansion or the development of spin off companies from the university”.

Issue

Stakeholders have stated that traffic passing through the city centre presents a challenge to those in education and that traffic conditions are affecting plans for planned education-related developments

10.4 East-West Link

As part of the process to develop the East-West Link, a public consultation exercise was undertaken between July and September 2010. The consultation comprised a three-day exhibition and associated webpages. The resulting outputs from the consultation revealed very strong support for the scheme, with:

- 88% in favour of a road
- 79% supporting the road as proposed
- 79% supporting the pedestrianisation of the High St.
- Letters of support were received from a number of stakeholders including Stagecoach and Network Rail

Whilst very positive, the consultation did reveal various issues, the main issues were:

- The right turn ban for traffic from the High Street into Tentercroft Street was not supported by many local people.
- The loss of on-street car parking at certain locations on Tentercroft Street and Cross Street was not supported by affected local people and businesses.

Each of these issues has been addressed and a proposed solution has been found:

- The proposed right turn ban has been removed. The purpose of this ban was to discourage through traffic using the High Street (south of Tentercroft Street) when better routes exist. Instead the High Street will be reduced to one lane between Portland Street and Tentercroft Street with additional road space allocated to cyclists, which combined, with bus priority measures on the High St, aims to encourage through traffic to use the alternative routes.
- On street car parking has been introduced at suitable locations.

10.5 City Centre Masterplan

As presented in Section 5.5, City of Lincoln Council published for consultation a new City Centre Masterplan. Prior to being released for consultation, a City Centre Masterplan Conference was held on 18 October 2012. The draft Masterplan provides outputs from workshops held during the Conference, with outputs

concerning parking and the potential for increased level crossing downtimes of particular relevance to this report.

10.5.1 *Parking*

One of the workshops at the Masterplan Conference was specifically focussed on parking and the following main points were raised:

- There is a need to consider the full journey experience for visitors and commuters.
- Visitor communication and signage to car parking needs to improve.
- The conditions of some car parks are very poor and unwelcoming and more could be done to make them secure.
- Residents parking provision has scope for improvement.
- Park and Ride requirements and likely impacts should be explored.
- Need to identify short, medium and long-term objectives.
- Consideration of alternative forms of transport, improved bus services, cycle routes, secure bike parking facilities.
- Coach parking requirements.
- Pay on Exit and other helpful management considerations.
- Introduction of visitor maps at key arrival points.
- Toilet facilities in car parks
- Early engagement with private operators.

Issue

Stakeholders are aware that a Car Parking Strategy is being developed and have identified a number of issues that should be considered

10.5.2 *Level Crossings*

As discussed in Section 12.3, there are proposals to substantially increase the number of freight trains using rail corridors within Lincolnshire and this would lead to significant increases in the amount of time that level crossings are closed to vehicles, pedestrians and cyclists. The conference workshops provided an opportunity for stakeholders to comment on proposed changes to Lincoln's level crossings, and the following themes emerged:

- *“Remembering that increased use of rail routes and networks will have both positive and negative effects on Lincoln and that the location of the Station within the City Centre is on the whole a good thing, which should be capitalised on.*
- *Development of proposals for both level crossings should be taken forward in tandem, though the delivery of the Brayford Wharf East solution which is progressing more rapidly should move forward.*
- *Need to ensure that the proposed changes on Brayford Wharf East create a street and a place not just a road for vehicles.*
- *One way street concerns, particularly around speed and permeability.*
- *Retaining an at grade level crossing option for pedestrians and cyclists is essential.*
- *The barriers will have to be managed effectively to ensure safety.”*

Issue

Stakeholders have stated that the impact of increased level crossing closures on the city centre needs to be minimised

10.6 Summary

The review of recent consultations has highlighted just how important stakeholders and the public believe transport and access to be in relation to the economy of Lincoln. The consultation confirmed the belief, and provided evidence, that heavy traffic flows and congestion are restricting investment and growth, while also making the movement of both people and goods more difficult, including public transport. Priorities focussed on interventions that support economic development, public transport, safety and maintaining the existing infrastructure. Parking is also a major issue for stakeholders, with a number of issues highlighted ranging from the general experience and ease of use, to facilities and operational systems.

11 Areas of Potential Change: Proposed Land Use Developments

11.1 Introduction

As stated previously, the Central Lincolnshire Core Strategy is further under development, having been consulted on in the Summer of 2012. The Core Strategy and accompanying policies will set out the future development plans for the City and will be the basis for controlling the level of development planned up to 2031.

The 2008 LITS report contained the following outcomes which are relevant to this section:

LITS Outcome	O3	A reduction in car trips resulting from development
LITS Outcome	O10	An improvement in the liveability quality of life within the Lincoln area
LITS Outcome	O12	An increase in the vitality of Lincoln as a sub-regional centre by encouraging trips for tourism, leisure, business and shopping.
LITS Outcome	O13	A city that operates effectively for trade and service vehicles
LITS Outcome	O14	The provision of appropriate access to development sites with minimised impact of increased traffic on the local area
LITS Outcome	O15	The protection of the historic environment from traffic impacts
LITS Outcome	O16	The sub-regional strategy delivered by 2016

11.2 Housing

In terms of housing, the Central Lincolnshire Joint Planning Committee has resolved to support the planned level of growth in provision as outlined in the adopted East Midlands Regional Plan (2006-2026), although adjusted to take account of development that has already occurred between 2006/07 and 2010/11. The planned growth in housing amounts to 42,800 units for Central Lincolnshire as a whole, of which 18,800 will be in or immediately adjacent to Lincoln Principal Urban Area.

The sites identified to cater for this housing growth varying significantly in both scale and deliverability. There are a number of sites that are expected to be developed within the next five years, which in total equate to 3,106 dwellings within or adjoining the Lincoln Principal Urban Area, developed at 603 dwellings per annum.

There are also developable sites, which in terms of the NPPF cannot be said to be deliverable but there are no specific known constraints to their development. These sites equate to a total of 2,497 dwellings in or adjacent to the Lincoln Primary Urban Area, with a build rate of 499 per annum.

There are also three Sustainable Urban Extensions planned for the Lincoln Primary Urban Area; the Western Growth Corridor, North East Quadrant and South East Quadrant. Assumptions on the development of these sites are:

- The Western Growth Corridor – 180 dwellings per annum commencing construction in 2016/17, amounting to 2700 dwellings by 2031.
- The South East Quadrant – 200 dwellings per annum commencing construction in 2017/18 delivering 2,800 dwellings by 2030/31
- North East Quadrant – 200 dwellings per annum commencing construction in 2017/18 delivering 2,000 dwellings by 2026/27

The sites identified above would provide a total of just over 13,000 dwellings by 2031. The remainder of the dwellings would be build on other sites within the Lincoln Principal Urban Area, some of which have already been identified but have some constraints, while others will be identified during the plan period.

It should be noted that commencement of developing the South East and North East Quadrants is dependent on the completion of the Lincoln Eastern Bypass.

The 2011 Census showed that the City of Lincoln has 39,825 households; the planned housing developments of 18,800 units would therefore represent a 47% increase in households over the next 20 years. This in turn would equate a AM peak hour generation of over 11,000 additional vehicle trips (approximately).

Issue

The Core Strategy will set out plans for an almost 50% growth in the size of Lincoln by 2031

11.3 Employment

The draft Core Strategy also identifies plans for 210ha of employment land development for Central Lincolnshire up to 2031, again carrying over the policy from the East Midlands Regional Plan. The plans include 140ha of employment land in or adjacent to the Lincoln Principal Urban Area. The Sustainable Urban Extensions will account for a significant proportion of this employment land (110ha) with allocations identified as set out below

- Western Growth Corridor – 36ha
- North East Quadrant – 5ha
- South East Quadrant – 19ha
- South West Quadrant – 50ha

Assuming development footprints covering one third of the site areas and land uses are split evenly across B1, B2 and B8, this level of development would equate to approximately 7,500 additional vehicle trips in the AM peak hour by 2031. It should be noted that the combined impact of these additional employment-related trips and those identified for the housing proposals identified above would be less than the sum of their individual generations as many of the additional peak period vehicle trips would be between the new households and the new employment sites.

Issue

The Core Strategy will set out proposals for 140ha of additional employment land for Lincoln by 2031, potentially leading to significant additional journeys in the area.

11.4 Retail

Lincoln is the primary retail centre for the whole of Lincolnshire, attracting shoppers from across the county. At present, the city centre has 171,000m² of retail floor space¹⁶. It is proposed that this provision will be supplemented by the Lindongate Development which will provide a further 29,000m² of retail floor space, a 17% increase in provision.

The Lindongate Development was granted outline planning permission in March 2012. The city centre development will consist of new retail, restaurant and residential space. The proposals also include a new bus station and increased parking facilities.

¹⁶ Central Lincolnshire City and Town Centre Study, Final Report (May 2012), White Young Green

The development is aimed at supporting regeneration within the Sincil Street area but also to create a more attractive city centre offer as a whole. It is envisaged that pedestrian links will be strengthened with the High Street and encourage the use of public transport due to the redevelopment of the bus station and rail station forecourt area. A summary of the Lindongate proposals are as follows:

- 29,000m² of new shops including department store
- New Passenger Transport Interchange with the bus station integrated with the railway station
- New riverside restaurants with residential apartments above
- 875 city centre parking spaces with improved access to the city centre
- High quality new footbridge link opening up Tentercroft Street and the Sincil Bank area

At this stage the proposals have been approved in principle and negotiations are ongoing with interested tenants. The next stage will be to prepare detailed planning applications and undertake further public consultation.

The Central Lincolnshire City and Town Centre Study states that, with the exception of the Lindongate development, the greatest opportunities for retail development in Lincoln city centre are focussed on refurbishment of existing retail provision and making the most of existing floor space, such as the Central Market, Waterside Centre, High Street and St. Mark's Retail Park.

The City and Town Centre Study also shows the following retail growth forecasts, based on Experian data:

Table 11-1 – Experian Expenditure per Capita Growth Forecasts

Year	Convenience Goods	Comparison Goods
2013	+0.5%	+2.1%
2014-18	+0.5% per annum	+3.0% per annum
2019-31	+0.6% per annum	+3.0% per annum

Source: Retail Planner Briefing Note 9 (September 2011)

Overall, therefore, retail expenditure is forecast to grow significantly over the next decade, which should result in additional shopping trips to the city centre. However, similarly to the uncertainty in the wider economy, it is difficult to be certain how accurate these forecasts are.

Issue

Significant growth in retail expenditure forecast with annual growth of 3% for comparison goods between 2014 and 2031.

11.5 Tourism

Tourism is a key generator of revenue for Lincoln and, as the table below shows, nearly 3.5m people visit Lincoln each year, generating over £80m of revenue for the local economy.

Table 11-2 – Lincoln Tourism Market

	2009	2010
Visitors	3,491,000	3,396,000
Revenue £m	87.01	83.88

Source: STEAM (2011)

Of the visitor attractions in Lincoln, the Castle is seen as key to the future economy of the city. The Castle is currently undergoing a renovation to be completed by April 2015, which will also be the start of the celebrations to mark the 800th anniversary of the signing of Magna Carta. The following table presents projections for visitor number at the Castle for years between 2010/11 and 2020/21. The number of visitors is expected to grow from 153,000 in 2010/10 to 239,000 in 2015/16 and 281,000 in 2020/21, using the medium scenario used by the authors of the Lincoln Castle Activity Plan. These figures therefore show that there will be an additional 86,000 visitors to the Castle in 2015/16 and 128,000 in 2020/21, amounting to a 2.5% and 3.8% increase in visitors to Lincoln in 2015/16 and 2020/21 respectively.

Table 11-3 – Projected Lincoln Castle Visitors 2010/11 to 2020/21 (Thousands)

	Year										
	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21
Visitors ('000s)	153	146	137	132	126	239	251	264	278	286	281

Source: Lincoln Castle Activity Plan, Alix Slater Consultancy & Training

Issue

Tourism is a key market for Lincoln and there are forecasts for significant increases in visitors to the Castle over the coming decade.

As shown in Section 8.3, at peak periods there is limited spare capacity within the visitor zoned car parks in the city centre, therefore, the additional visitors to the Castle may have trouble parking.

Issue

The lack of available peak period capacity in the visitor zoned car parks may harm the tourism offer.

11.6 Universities and Colleges

The University of Lincoln

The University of Lincoln has plans to expand the Brayford Pool campus over the next 10 years as part of the institution's masterplan. An outline planning application includes new buildings, offices, accommodation and a multi-storey car park on Ropewalk.

The intention is to create greater integration with the City Centre particularly for pedestrians and cyclists. Work commenced in summer 2012 with the first new building (School of Art & Design) expected to open for September 2013.

The following table shows how student and staff number have changed since 2008. There was a trend of increasing students and staff up to and including 2011/12, however, the current academic year has shown a substantial decrease from the previous year, with both student and staff numbers returning to pre-2009/10 levels. This may be a result of increases in tuition fees. However, the University expects the growth experienced previously to return over the next few years, fitting in with its long term aspirations.

Table 11-4 – University of Lincoln Student and Staff Numbers

Year	Students	Staff
08/09	12,097	1,241
09/10	12,860	1,266
10/11	12,974	1,307
11/12	14,468	1,330
12/13	12,759	1,251

Source: University of Lincoln

Lincoln College

Lincoln College is the largest educational institution in the County, with around 9,000 students, of which 3,000 are full-time. The Monks Road campus has recently undergone major development with a multi million pound project creating a sports pitch and extension of the Deans Building.

The City Centre Masterplan highlights that there are plans for the College to work in partnership with the University of Lincoln and Siemens to launch a University Technical Collage. The establishment would be located in the Cathedral Quarter will create a new academy for 14-19 year olds to study science, technology, engineering and manufacturing including placement studies with businesses. The development should be on site by 2012 and should provide progression to the University of Lincoln's Engineering School and new employees for Lincoln's engineering sector.

Bishop Grosseteste University College

This historic independent higher education institution has recently undergone a £2.5m redevelopment to expand as part of growing need and provide state of the art facilities. The construction works were completed in September 2012.

Issue

The higher and further education establishments within Lincoln continue to expand, attracting more students to the city

11.7 Population Change

The proposed developments outlined in paragraphs above point towards continued and significant increases in the population of Lincoln of the next two decades. The following two tables show Government projections for population growth up to 2035.

Table 11-5 – Population Projections 2012-2035

Area	2012	2013	2014	2015	2020	2025	2030	2035
City of Lincoln	92	92	93	93	96	100	103	107
East Midlands	4,579	4,625	4,67	4,718	4,946	5,166	5,366	5,546
England	53,107	53,563	54,018	54,468	56,607	58,60	60,410	62,078

Source: Office for National Statistics

The following table shows the projected percentage growth from 2012 to a number of future years. Lincoln is projected to keep pace with the population growth of England but will be behind that of the average for the East Midlands.

These figures, however, are contradict the proposed level of housing development, which would increase the number of households by 47% by 2035. While this will not necessarily result in a 47% increase in population, due to the trend of reducing household size, it certainly points to a significantly higher increase than the 17% shown in the ONS projections.

Table 11-6 – Percentage Growth in Population from 2012

Area	2015	2020	2025	2030	2035
City of Lincoln	2%	5%	9%	13%	17%
East Midlands	3%	8%	13%	17%	21%
England	3%	7%	10%	14%	17%

Source: Office for National Statistics

Issue

The population of Lincoln is expected to grow by 9% by 2025 and 17% by 2035

11.8 Summary

Projections and policy currently point towards Lincoln being a hub for significant growth over the coming two decades, with that growth coming in population, housing, employment space, shopping, tourism and education. This points not only to an increase in the size of Lincoln, physically, but also to significant growth in its economy. This in turn indicates that more will be asked of the transport infrastructure that is currently in place and of those plans and interventions that form the Lincoln Integrated Transport Strategy. Indeed, a significant proportion of this growth will be dependent on the access provided by major components of the Strategy.

DRAFT

12 Areas of Potential Change: Future Network Performance

12.1 Introduction

The section of the report concentrates on potential changes to network performance and includes outputs from recent a highway network modelling exercise and commentary on the impact of proposed rail network improvements.

12.2 Highway Network Operation

In support of the process to develop the Central Lincolnshire Joint Core Strategy, Lincolnshire County Council has undertaken some traffic modelling to assess the impact of proposed developments on the highway network in and around Lincoln.

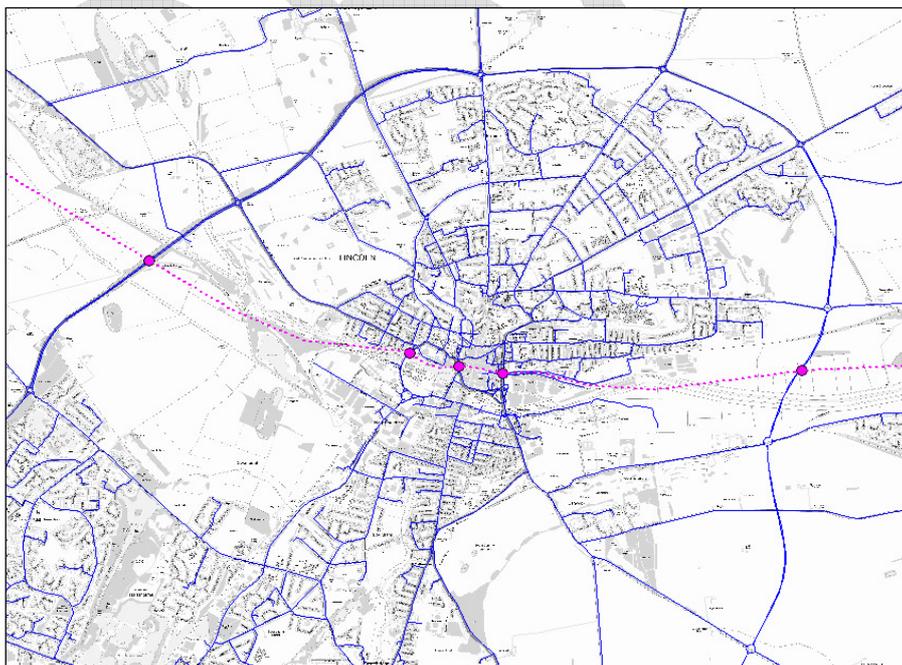
For the basis of this report, two of the network scenarios have been considered:

- Do Minimum Network – including the East-West Link
- Do Something – LEB Single Carriageway (60mph).

12.2.1 Modelling Outputs – Traffic Flows

The modelling provided a limited set of traffic flow outputs relevant to this report, however, they do indicate how the development allocations and the implementation of LEB will affect the city centre. Figure 12-1 shows the location of the north-south screenline through the centre of Lincoln and the associated location of screenline crossing points.

Figure 12-1 – City Centre Screenline



The change in AADT flows across each of the screenline crossing points between the Do Minimum Scenario and Do Something Scenario are shown in Table 12-1 for 2017 and Table 12-2 for 2032. In 2017, the data shows that there are significant decreases in north-south traffic flows movement as a result of the implementation of LEB, with a shift of 26,000 vehicles AADT to the new road. The data shows an increase in total traffic flow across the cordon, associated with background growth and new developments, however, overall city centre north-south movements decrease.

In 2032, traffic flows across the screenline will increase substantially from the 2017 Do-Something scenario base, an increase from 212,000 vehicles AADT to 256,000, equating to a 21% increase over 15 years. However, the implementation of LEB will reduce daily movements across the city centre screenline crossing points by 14,000 vehicles, reducing from 109,000 to 95,000 vehicles per day.

In 2017, the data shows that there are significant decreases in north-south traffic flows movement as a result of the implementation of LEB, with a shift of 26,000 vehicles AADT to the new road. The data shows an increase in total traffic flow across the cordon, associated with background growth and new developments, however, overall city centre north-south movements decrease.

In 2032, traffic flows across the screenline will increase substantially from the 2017 Do-Something scenario base, an increase from 212,000 vehicles AADT to 256,000, equating to a 21% increase over 15 years. However, the implementation of LEB will reduce daily movements across the city centre screenline crossing points by 14,000 vehicles, reducing from 109,000 to 95,000 vehicles per day.

Table 12-1 – AADT Screenline Flows – Do Min & Do Something 2017

Part of Cordon	Do Min	Do Some	Difference	% Difference
West of Lincoln	62,000	60,000	-2,000	-3%
A46	37,000	35,000	-2,000	-5%
City Centre - Brayford Way	30,000	27,000	-3,000	-10%
City Centre - Wigford Way	17,000	16,000	-1,000	-6%
City Centre - A15 Broadgate	47,000	35,000	-12,000	-26%
LEB Section 2	0	26,000	26,000	-
East of Lincoln	14,000	13,000	-1,000	-7%
Total	207,000	212,000	5,000	2%

Source: Lincolnshire County Council

In 2017, the data shows that there are significant decreases in north-south traffic flows movement as a result of the implementation of LEB, with a shift of 26,000 vehicles AADT to the new road. The data shows an increase in total traffic flow across the cordon, associated with background growth and new developments, however, overall city centre north-south movements decrease.

In 2032, traffic flows across the screenline will increase substantially from the 2017 Do-Something scenario base, an increase from 212,000 vehicles AADT to 256,000, equating to a 21% increase over 15 years. However, the implementation of LEB will reduce daily movements across the city centre screenline crossing points by 14,000 vehicles, reducing from 109,000 to 95,000 vehicles per day.

Table 12-2 – AADT Screenline Flows – Do Min & Do Something 2032

Part of Cordon	Do Min	Do Some	Difference	% Difference
West of Lincoln	78,000	75,000	-3,000	-4%
A46	42,000	39,000	-3,000	-7%
City Centre - Brayford Way	35,000	32,000	-3,000	-9%
City Centre - Wigford Way	20,000	20,000	0	0%
City Centre - A15 Broadgate	54,000	43,000	-11,000	-20%
LEB Section 2	0	32,000	32,000	-
East of Lincoln	18,000	15,000	-3,000	-17%
Total	247,000	256,000	9,000	4%

Source: Lincolnshire County Council

The analysis also demonstrates the following:

- Links with an increase in flow as a result of the LEB are A158 to the north of LEB and A15 south of the LEB
- Links benefiting from a decrease in flow as a result of the LEB are A15 Broadgate and Canwick Road.
- The existing A15 Broadgate has the most significant traffic relief with other city centre roads and the A46 also having some relief.
- Inclusion of the LEB has an effect on strategic traffic moving between areas to the far north of Lincoln and the far south of Lincoln.
- The pattern of traffic relief at the majority of screenline points is relatively consistent across 2017 and 2032. However by 2032, the impact of the major developments located at the northern and southern end of the LEB impacts on the volume of north south traffic movements.

The following table compares the screenline flows for the 2017 Do-Minimum and the 2032 Do-Something scenarios. The table shows that while total flows across the screenline will increase from 207,000 to 256,000, a 24% increase, the implementation of LEB will relieve the north-south city centre movements to the extent that AADT across the three screenline crossing points will increase by less than 1% between 2017 and 2032.

Table 12-3 – Comparison of AADT Screenline Flows – Do-Minimum 2017 and Do-Something 2032

Part of Cordon	Do Min 2017	Do Some 2032	Difference	% Difference
West of Lincoln	62,000	75,000	13,000	21%
A46	37,000	39,000	2,000	5%
City Centre - Brayford Way	30,000	32,000	2,000	7%
City Centre - Wigford Way	17,000	20,000	3,000	18%
City Centre - A15 Broadgate	47,000	43,000	-4,000	-9%
LEB Section 2	0	32,000	32,000	
East of Lincoln	14,000	15,000	1,000	7%
Total	207,000	256,000	49,000	24%
City Centre - Total	94,000	95,000	1,000	1%

Source: Lincolnshire County Council

Opportunity

Key north south routes in the city centre will be relieved by Lincoln Eastern Bypass, keeping traffic growth on those routes to less than 1% between 2017 and 2032

12.2.2 Junction Delay

The following six figures show junction delay within the Lincoln highway network for the AM and PM peak hours for 2006, 2018 and 2032. The latter two years include both East-West Link and Lincoln Eastern Bypass but they also include future traffic growth associated with developments that are predicted to have been completed by those years.

As would be expected, delays grow, both in the AM and PM peaks from 2006 to 2018 and 2032, particularly on the Western and Northern Relief Roads. However, the completion of East-West Link and Lincoln Eastern Bypass has a positive impact by reducing the effect of the additional traffic on the city centre.

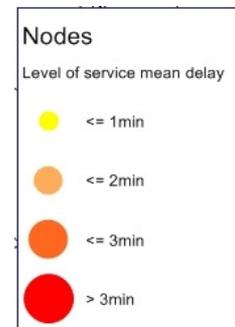


Figure 12-2 – Junction Delay – AM Peak – Base 2006



Figure 12-3 – Junction Delay – AM Peak – Do-Something 2018

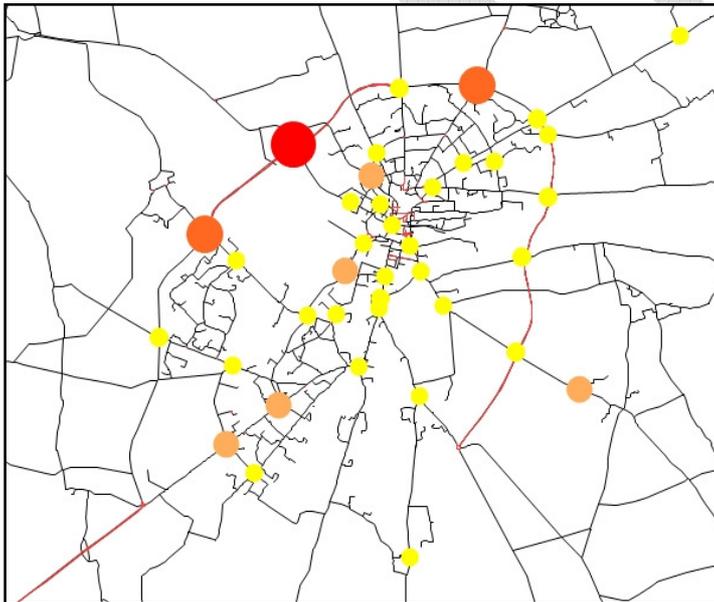


Figure 12-4 – Junction Delay – AM Peak – Do-Something 2032

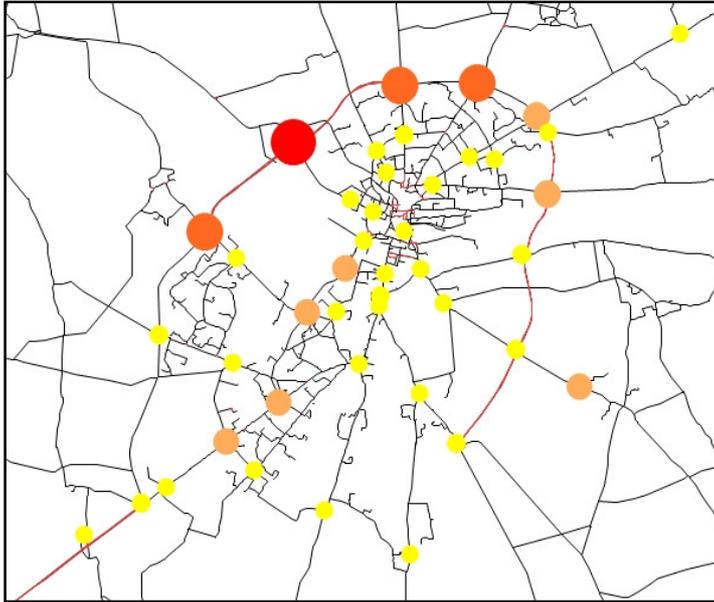


Figure 12-5 – Junction Delay – PM Peak – Base 2006

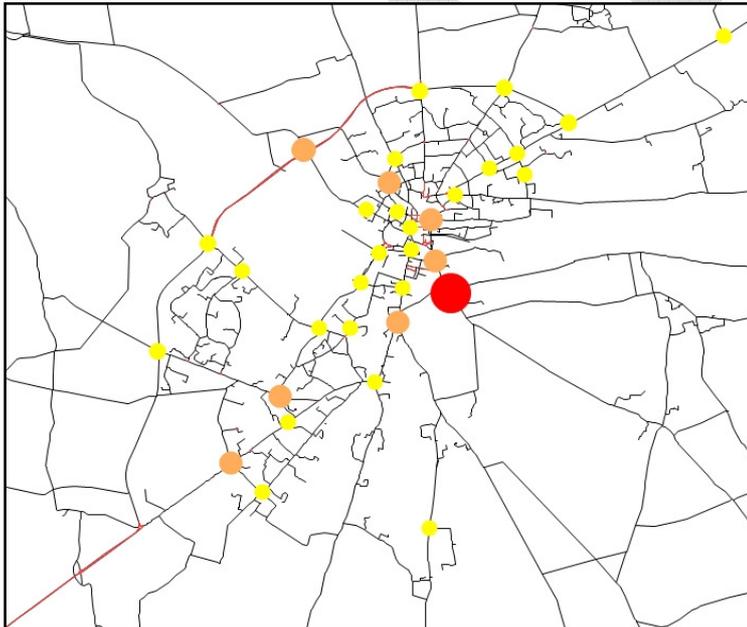
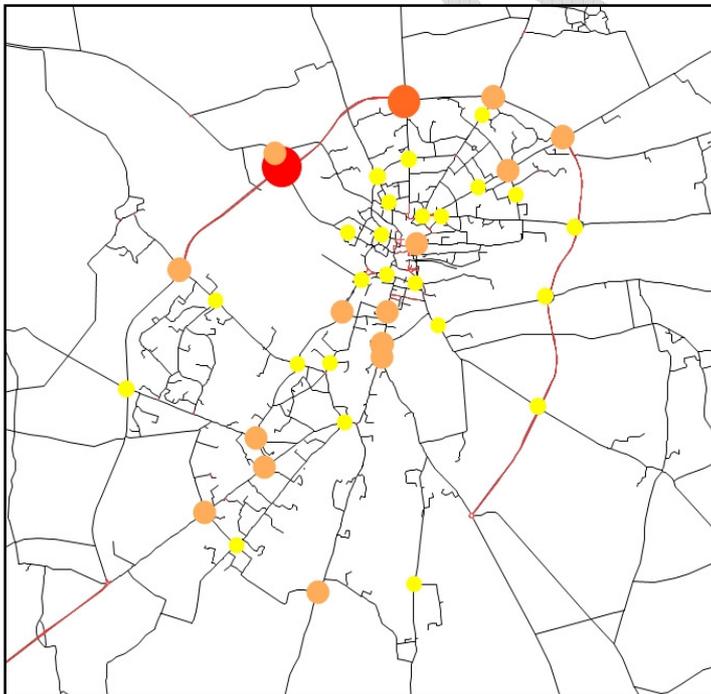


Figure 12-6 – Junction Delay – PM Peak – Do-Something 2018



Figure 12-7 – Junction Delay – PM Peak – Do-Something 2032



12.3 Level Crossing Downtimes

A major upgrade to the Great Northern/Great Eastern (GN/GE) Joint Line is currently being progressed by Network Rail. The GN/GE Joint Line provides an alternative route to the East Coast Mainline (ECML) between Peterborough and Doncaster, via Spalding and Lincoln. The ECML is currently operating at or close to its capacity, and Network Rail plans to move some freight trains off the line to reduce this

constraint and release capacity. The upgrades to the GN/GE Joint Line include improvements and alterations to track, signalling, upgrading or closure of levels crossings, and changes to structures. The improvements will result in higher line speeds and improved loading gauge and completion is planned for 2014.

The Network Rail strategy for 2016 for freight movements between Peterborough and Doncaster is for the improvements to the GN/GE Joint Line to enable the line to provide two freight paths per hour, in each direction, in addition to the existing passenger services being operated. The strategy for 2036 is for freight capacity between Peterborough and South or West Yorkshire to be increased to 4 freight paths per hour, in each direction, using a combination of GN/GE Joint Line and the Midland Mainline.

The impact of the above improvements and operations on Lincoln may be significant, with Lincoln Central Station being on the GN/GE, which passes through the city centre. The increased number of freight trains per hour will result in the level crossings in Lincoln city centre being closed more often with resulting delays to road traffic, cyclists and pedestrians.

At present, between 07:00 and 19:00, the Lincoln level crossings are on average closed to road traffic for almost 16 minutes in every hour, with the maximum total length of closure in any one hour being 22 minutes. With the addition of two freight paths per hour in each direction, it is expected that the level crossings will be closed for an average of 25 minutes per hour, with a maximum of total closure per hour of 31 minutes. While the existing length of level crossing closures in the city centre causes congestion, the increase of nine to ten additional minutes of closure per hour will exacerbate the situation. However, the implementation of the East-West Link will resolve some of these issues.

Issue

Additional in freight trains passing through Lincolnshire will result in increases in level crossing downtime including within Lincoln city centre, resulting in additional congestion

12.4 Summary

In summary, information in this section has shown that a key element of LITS, LEB, will substantially limit traffic flows on key north-south movements within the city centre up to 2032. However, journey times will continue to increase on key routes across, and to and from the city centre as traffic from developments, identified within Core Strategy, join the network over the coming two decades.

In the shorter term, the implementation of improvements to the railway network will result in increased level crossing downtimes within the city centre, resulting in increased delays for traffic for some traffic.

13 Areas of Change: Summary and Conclusions

13.1 Introduction

This section of the report provides an overall summary to the information presented as well as conclusions.

13.2 Policy

Since the publication of the last full version of LITS in 2008, national, regional and local government policy and direction have moved on significantly. The change in national government and the need to return the country to growth has led to significant changes to policy; both in structure and focus.

Nationally, new policies on spatial planning and transport have been published, giving new direction to local policy makers, while the removal of the regional tier of policy is yet to come fully into effect and the Regional Plan continues to provide some focus at a local level. Locally, the separate processes to develop new Local Plans for the City of Lincoln, North Kesteven and West Lindsey have been merged so that a single Central Lincolnshire Local Plan is being produced, guiding development for Lincoln and the surrounding larger towns, villages and rural area.

The aim of transport policy is now strongly focussed on achieving both sustainable economic development and securing reductions in carbon emissions. While returning the UK to growth is the primary aim of the Government, this should not be to the detriment of the environment and particular not at the cost of increasing carbon emissions. Local transport policy makers and strategists have therefore the task of supporting the local economy and growth, while also delivering new infrastructure and accessibility in a way that does not detrimentally affect carbon reduction aims and the wider environment.

The growth agenda is particularly strong in and around Lincoln with very significant proposals for designating additional housing and employment land for development in the Core Strategy. These plans, in many cases, are very much reliant on the provision of new transport infrastructure to enable sites to be brought forward, and the major elements of those infrastructure requirements are contained in LITS.

The localism movement, and the transfer of public health responsibilities to local authorities, have changed the way government works at the local level but also provides opportunities for transport to play a role in improving local communities.

Regional and local policy raises a number of issues of concern in the Lincoln area including the need to:

- Manage traffic to improve the natural and built environment, and reduce carbon emissions
- Reduce through traffic in the city centre, particularly HGVs

- Develop infrastructure to support economic development
- Increase accessibility for all communities to make them more sustainable and reduce disadvantage
- Encourage sustainable modes of transport
- Protect local identify
- Manage parking effectively

13.3 Summary of Trends

The following table presents an overall summary of some of the key trends identified in the earlier sections of the report.

Table 13-1 – Summary of Trends

Area of Change	Specific Area	Change	Period	Area	Comparison
Population	0-15 age group	Up 2.3%	2008-11	City of Lincoln	Lower rate than England
	Working age	Up 8.5%	2008-11	City of Lincoln	Much higher rate than England and E. Midlands
	65+ age group	Up 1%	2008-11	City of Lincoln	Lower rate than England and E. Midlands
	Total Population	Up 6.3%	2008-11	City of Lincoln	Much higher rate than England and E. Midlands
Businesses	Small Businesses (<20 employees)	Down 8.7%	2008-11	City of Lincoln	Worse performance than Lincolnshire, E. Midlands and England
	Larger Businesses (>20 employees)	No Change	2008-11	City of Lincoln	Better performance than Lincolnshire, E. Midlands and England
	Total Businesses	Down 8%	2009-11	City of Lincoln	Double the national average and poorer performance than Lincolnshire and E. Midlands
Employment	Employees	Down 7.7%	2008-12	City of Lincoln	

Area of Change	Specific Area	Change	Period	Area	Comparison
Environment	Carbon emissions from transport	Down 4%	2008-10	City of Lincoln	Same rate as UK
Traffic	Car Ownership	Up 20%	2001-11	City of Lincoln	Higher rate than England and E. Midlands
	Vehicle Registrations	Up 0.4%	2008-11	Lincolnshire	Higher rate than England and E. Midlands
	AM Peak Hour Traffic into City Centre	Down 6.2%	2008-12	Lincoln City Centre Cordon	
	AM Peak Period Traffic into City Centre	Down 3.4%	2008-12	Lincoln City Centre Cordon	
	AADT Traffic Across the North-South Screenline	Down 3.3%	2008-12	Lincoln City Centre North-South Screenline	
	AM Peak Hour Traffic into City Centre	Up 7%	2001-2011	Lincoln City Centre Cordon	
	AADT Traffic Across the North-South Screenline	Up 7%	2001-2011	Lincoln City Centre North-South Screenline	
City Centre Parking	General Usage (Weekdays) - Average Occupancy	74%	Down from 82% in 2010	Lincoln City Centre	
	Peak Usage (Weekdays) – 85%ile Occupancy	82%	Down from 85% in 2010	Lincoln City Centre	
Freight	AM Peak Hour HGV Traffic into City Centre	Down 15.9%	2008-12	Lincoln City Centre Cordon	
	AM Peak Period HGV Traffic into City Centre	Down 15.2%	2008-12	Lincoln City Centre Cordon	
	AADT Traffic Across the HGV North-South Screenline	Down 16.3%	2008-12	Lincoln City Centre North-South Screenline	
	Freight Trains through Lincoln	Down	2007-12	High Street Level Crossing	
Public Transport	Bus Passengers	Up 0.6%	2009/10 – 2011/12	Lincolnshire	Better performance than E.

Area of Change	Specific Area	Change	Period	Area	Comparison
					Midlands and Non-Metropolitan England
		Up 4%	Routes continuously operating between 2008 – 2012	LITS Strategy Area	Better performance than England as a whole
	Bus Passenger per Head of Population	Down 3%	2009/10 – 2011/12	Lincolnshire	Worse performance than England but better than E. Midlands
	Bus Punctuality	Up from 68.7% to 73.7%	2009-2011	Routes in Lincoln	
	Rail Passengers	Up 5%	2008/09 – 2010/11	LITS Strategy Area Stations	Worse performance than England but better than Lincolnshire
Cycling	Cycling on routes into the city centre	Up between 3% and 9.5%	2008 – 2012	Lincoln City Centre	
Mode Share	Travel to Work	Up for car Up for Walking Up for train Down for cycling Down for motorcycle Down for bus	2001-2011	City of Lincoln	
	Mode share across the city centre cordon in the AM Peak Hour	No change	2008-12	Lincoln City Centre	
	Travel to School (Primary)	Down for car Down for cycling Down for P T Up for walking	2007-10	Lincolnshire	
	Travel to School (Secondary)	Down for car Down for cycling Up for P T Up for walking	2007-10	Lincolnshire	

Area of Change	Specific Area	Change	Period	Area	Comparison
Road Safety	Total Accidents	Down 7%	2008-2012	LITS Strategy Area	
Developments	Residential Unit Completions	1,387 (3.5% increase in households)	2007/08 – 2010/11	City of Lincoln	

13.4 Issues and Opportunities Summary

The following table presents the summary of the issues and problems identified in the 2008 revision of LITS. The final column provides an update, and expands on those matters using the information review in this report.

Table 13-2 – Summary of Issues/Problems Identified in the 2008 and 2010 Strategy Documents and 2013 Update

Topic	Issues/Problems Identified in 2008 – LITS (Revision 1)	Update on Issues/Opportunities – 2013
Buses	Delays to buses due to congestion, increasingly affecting punctuality; rationalisation of routes resulted in increased patronage; poor quality bus station; issues resulting from concessionary fares scheme	Traffic has reduced in the city centre and bus punctuality has improved, but congestion and the High Street level crossing still lead to issues. Implementation of bus priority at junctions will reduce delays Bus passenger numbers have increased in Lincolnshire as a whole, and in Lincoln in particular, (against trends for similar areas) but journeys per head have reduced. Concessionary fares issues have been resolved at present but remain a potential future issue
Environment	Environmental Constraints – high noise levels on some routes; air quality issues in city centre	Currently reduced traffic levels will lead to improved air quality but Air Quality Management Area Remains in place Proposed LITS schemes will reduce city centre traffic leading to further improvements Transport-related carbon emissions have reduced Carbon reduction targets have been set for Lincoln which transport will help to deliver
Highways and Traffic	General congestion issues on many routes within the constrained highway network; specific issues at the level crossing on High St, which is likely to experience increasing closures in the future; a general over-dependence on the private car	Traffic congestion is a significant issue on the outskirts of the urban area as well as accessing the city centre Stakeholders believe traffic is constraining the economy Mode share for car travel does not appear to have changed. Due to lower traffic levels congestion should have reduced.

Topic	Issues/Problems Identified in 2008 – LITS (Revision 1)	Update on Issues/Opportunities – 2013
		Implementation of Civil Parking Enforcement should have a beneficial impact in congestion.
Freight		Freight movements through the city centre have reduced. Rail freight movements through Lincoln have reduced.
Land use and regeneration	Continuing pressures	An almost 50% increase in households in Lincoln is planned to 2032.
Tourism & Visitors		Tourism is forecast to increase, particularly in relation to the Castle and the Magna Carta 800 th anniversary. Increased visitors will put additional strain on parking resources in the uphill area A Destination Management Plan is being developed for the city and a Coach Parking Strategy is required
Parking	Various issues and pressures relating to city centre parking	Pressure remains on parking capacity A new Parking Strategy is being developed
Cycling	Lack of cycle paths and good cycle parking; issues with safety and movement between uphill/downhill areas	Cycling has increased but constraints remain. LCCM to identify new routes and potential provision
Pedestrians	Poor walking environment on main routes; severance between areas of the city; level crossing issues; public realm improvements recently completed. School travel plans	Poor connectivity, definition of routes and severance issues remain. Public realm improvements completed in the city centre. School travel plans implemented
Rail Network	Daily through service to London now operating; continuing issues with rolling stock, level crossing closures and service patterns to local areas	Rail passengers have increased, but below the national average. Increased level crossing closures will lead to greater severance in the city centre Opportunity for improved services to London to be identified in next East Coast Franchise
Safety	High accident numbers in some areas due to unsuitable traffic levels	Accident levels have reduced but significant clusters remain
Future	Development pressures and traffic growth likely to exacerbate existing problems & issues	Significant growth forecast in housing, employment land, retail, leisure and tourism – it is important to ensure sufficient infrastructure is in place to support growth plans

13.5 Conclusion

This report presents the outputs from a process to gather relevant data and information, and analyse it, to provide evidence to support the production the LITS Progress Review. Information has been collated and reviewed from a wide range of sources and this has led to the identification of a number of trends and related issues and opportunities.

It is clear from this stage of the Progress Review that much has changed in Lincoln since the last full review of LITS in 2008. The change in the economic performance of the UK has been reflected in the local economy of Lincoln and the surrounding area. While Lincoln has continued to grow in terms of population, at a significantly higher rate than the rest of the region and England as a whole, the economy has not kept pace. The numbers of businesses and people in employment have reduced markedly since 2008 and this appears to have had an impact on the transport network.

Car ownership has increased significantly over the past decade but this increase appears to have tailed off in the past few years. More recently, traffic has reduced on routes into the city centre, probably as a result of lower economic activity, and this is particularly notable in the reduced number of HGVs accessing the city centre. There is less demand for city centre parking, although at peak times, car parks operate close to operational capacity. Public transport usage has increased, possibly due to increased population and/or transfer from cars, but the trips per head by bus has decreased. Cycling has increased on routes into the city centre but constraints to both cycling and walking remain. The number of accidents in Lincoln has reduced, but this may reflect lower levels of traffic and specific accident clusters remain.

However, notwithstanding the above analysis, significant progress has been made in the implementation of the Lincoln Integrated Transport Strategy with a number of the small schemes completed and operational. The major components of LITS have yet to be implemented, therefore, significant changes in travel patterns generated by LITS should not be expected at present. However, progress is being made on many of these components with East-West Link and Lincoln Eastern Bypass passing through the statutory processes.

With the growth predicted for the coming two decades, the LITS strategy is of growing importance, not only in making travel more sustainable generally, but also to support the growth being planned.

14 Validating the Strategy Objectives

14.1 Introduction

This section of the report is concerned with reviewing the objectives that steer the implementation of LITS.

The existing set of objectives was reviewed as part of the process to develop the 2008 LITS (Revision 1); however, the only change made at that time was to add Objective SO10, which focuses on helping to deliver wider strategies. The 2008 objectives are set out in the table below.

Table 14-1 – 2008 LITS Objectives

Ref:	Objectives
SO1	To assist the sustainable economic growth of Lincolnshire through infrastructure improvements to the following: <ul style="list-style-type: none"> The Strategic Road Network & Non-Strategic Road Network
SO2	To remove strategic road-based freight from Lincoln and other adversely affected communities through: <ul style="list-style-type: none"> Encouraging the use of alternative modes Improving links to the Primary/Trans-European Road Network
SO3	To ensure that the transport infrastructure meets the needs of existing and proposed developments especially: <ul style="list-style-type: none"> In the regeneration priorities in the Lincoln Policy Area Including minimising congestion through the promotion of walking, cycling and public transport Managing parking
SO4	To reduce the number and severity of road traffic accidents by reducing the potential for conflict between different modes and improving the facilities for convenient and safe alternatives.
SO5	To maximise accessibility and reduce peripherality by improving the range of travel options especially for those without access to the private car.
SO6	To increase Public Transport usage by improving: <ul style="list-style-type: none"> Reliability, frequency and journey time of bus services.
SO7	To improve overall air and noise quality within the study area, especially in the Air Quality Management Area in Lincoln by the removal of unnecessary traffic by: <ul style="list-style-type: none"> Removing through traffic Reducing local journeys in Community Travel Zones Other traffic management measures
SO8	Protect and enhance the built environment by reducing the adverse impacts from traffic, through improvements to the transport infrastructure.
SO9	Improve the attractiveness and liveability of central Lincoln for residents, workers and visitors by creating a safe, attractive and accessible environment for pedestrians.
SO10	To support the effective implementation and delivery of both the emerging Sub-Regional Strategy and the new Growth Point agenda of the Lincoln Policy Area.

14.2 Reviewing the Objectives

It has not been the intention of this Progress Review to produce a new set of objectives or, indeed, to significantly change those that are already in use. However, in order to ensure that the existing objectives remain valid and appropriate for the continuing delivery phases of LITS, it was felt appropriate to give the robustness of the objectives due consideration.

A multi-stage process has been undertaken to assess the robustness of the objectives and to identify any potential changes; these stages have included:

- Broad discussion and review of the objectives during the first Progress Meeting with the Project Steering Group.
- Identification of key themes in national Government local transport policy (the 2011 Transport White Paper has been used as the basis for this) and an assessment of whether the objectives relate to these broad themes (See Appendix A).
- Broad assessment of relevant policy documents to ascertain whether aims and objectives relevant to LITS are mirrored within the objectives
- Development of the project team’s general views.

Appendix B presents the tabulated output from the stages outlined above.

Following the above process, the objectives have been updated according to findings and are presented in the following table, with the third column explaining the changes made.

Table 14-2 – Revised LITS Objectives

Ref:	Objectives	Change
SO1	To assist the sustainable economic growth of Lincolnshire through transport infrastructure improvements	Reduced to one sentence and broader rather than narrowly focusing on roads.
SO2	To remove strategic road-based freight from Lincoln and other adversely affected communities through encouraging the use of alternative modes and improving links to the Primary Road Network	Now refers to Primary Road Network (not Trans-European Road Network) and reduced to one sentence
SO3	To ensure that the transport infrastructure meets the needs of existing and proposed developments especially: <ul style="list-style-type: none"> • In the regeneration priorities in the Lincoln Policy Area • Including minimising congestion through the promotion of walking, cycling, public transport and minor highway improvements • Parking provision and management 	Second bullet point includes minor highway improvements and third bullet point includes parking provision as well as management.

Ref:	Objectives	Change
SO4	To reduce the number and severity of road traffic accidents by reducing the potential for conflict between different modes and improving the facilities for convenient and safe alternatives.	No change
SO5	To maximise accessibility and reduce peripherality by improving the range of travel options especially for those without access to the private car.	No change
SO6	To increase public transport usage by improving reliability, frequency, journey time and integration of bus and rail services.	Combined into one sentence, includes integration and rail as well as bus
SO7	To improve overall air and noise quality within the study area, especially in the Air Quality Management Area in Lincoln by the removal of unnecessary traffic by: <ul style="list-style-type: none"> • Removing through traffic • Reducing local journeys in by car • Other traffic management measures 	As the implementation of CTZs has now concluded, replace bullet with 'reducing local journeys by car' AQMA remains in place
SO8	Protect and enhance the built environment by reducing the adverse impacts from traffic, through improvements to the transport infrastructure.	No change
SO9	Improve the attractiveness and liveability of central Lincoln for residents, workers and visitors by creating a safe, attractive and accessible environment and encouraging healthy travel and lifestyles	Specific reference to pedestrians removed and reference to healthy travel and lifestyles included
SO10	To support the effective implementation and delivery of the Core Strategy and the emerging priorities of the Local Transport Body and Greater Lincolnshire Local Enterprise Partnership.	Sub-regional Strategy and Growth Point no longer relevant. Now refers to Core Strategy and supporting LTB and LEP
SO11	To reduce Lincoln's carbon emissions through planning, improving and managing transport	New objective to integrate carbon emissions into the Strategy
SO12	To reduce the overall impact of travel decisions by making best use of the range of transport interventions available including smarter choices, technology and information.	New objective reflecting the wider range of transport interventions available

14.3 Summary

The updated objectives revealed above, provide a more robust and up-to-date set of aims for LITS to be steered by. While the previous set of objectives has not been fundamentally changed, amendments have been made to ensure they remain relevant to the situation in Lincoln and the surrounding area and reflect current national policy. Furthermore, additional objectives have been identified where either policy has significantly changed since the last review of objectives in 2008 or where it was felt that a wider focus on potential interventions was needed. The previous set of objectives was primarily concerned with managing and limiting the impact of road traffic, while the updated set of objectives is much broader and is more inclusive of alternatives.

15 Progress on Delivering the Benefits of the Strategy

15.1 Introduction

This section presents a qualitative commentary on progress that has been made towards achieving the benefits identified in the LITS document. In addition, a review of progress towards the 16 LITS Outcomes is also provided.

15.2 LITS Benefits

Within the 2008 LITS report, a commentary was provided on the likely broad benefits that would be delivered by LITS; these benefits were as follows:

- City Centre
- Accessibility
- Environmental
- Safety
- Economic and Regeneration

15.2.1 City Centre

2008 LITS Report – City Centre Benefits

“Analysis indicates that the introduction of the highway infrastructure included within the Revised Strategy (in particular, Lincoln Eastern Bypass and the East-West Link) would provide alternative routes for traffic which currently passes through the city centre. When combined with the traffic management measures to ‘lock-in’ the benefits associated with this relocation of traffic, this provides the opportunity to reallocate road space within central Lincoln. This will support the introduction of the city centre improvements within the City of Lincoln’s emerging Local Development Framework.

The Revised Strategy proposes to utilise this road space for the benefit of all types of user and make Lincoln a more vibrant and accessible city centre for residents, visitors and businesses. The Revised Strategy includes measures to extend and enhance pedestrian areas and priorities, improve the cycle network, introduce Quality Bus Corridors and close the High Street level crossing to traffic.

This combination of interventions will result in significant benefits for all users and fundamentally change and improve the public realm within the city centre.”

Significant progress has been made towards delivering the two major highway improvements which will have a direct impact on traffic movements within the city centre. Planning permission has been secured for the first phase of the East-West Link and works are due to commence in late 2014 with the road opening towards the end of 2016 at the latest. A planning application for Lincoln Eastern Bypass was submitted in December 2012 and is due before the planning committee in June

2013; the road is due to open during the 2016/17 financial year. These two schemes will make a significant difference to the city centre, with through traffic, particularly HGVs, moved to outside of the city centre, or indeed out of the urban area altogether, and the impact of the increase in level crossing closures will be significantly mitigated.

While traffic management schemes are being progressed, which will help to lock in the benefits of Lincoln Eastern Bypass, further, yet to be identified schemes will be brought forward as the Bypass is completed, to ensure that the benefits of this major scheme are fully realised.

The proposed public transport interchange, being developed privately, will provide a modern facility for the city centre, more closely locating provision for rail, buses and taxis. This will substantially improve the integration of public transport modes in the city centre and make bus and rail travel more attractive overall, with the knock-on effects of higher patronage and lower car use. This transport improvement will be further enhanced by the potential operation of a Park & Ride service past the interchange site.

As stated in the 2008 report, the major highway schemes will enable road space to be reallocated to other modes and significant steps have already been made. One of the Quality Bus Corridors has been implemented and a further three will go-ahead once LEB has been completed. The Cultural Quarter pedestrian improvements made considerable improvements to the pedestrian environment in an important area of the city centre, providing a safer environment for non-car users.

15.2.2 Accessibility

2008 LITS Report – Accessibility

“The multi-modal nature of the Revised Strategy will also ensure that accessibility throughout the Lincoln Area will be enhanced.

Traditionally, movements within the Lincoln area are heavily dependant on the private car. However, as a consequence of introduction of the highway infrastructure included within the Revised Strategy (in particular the Lincoln Eastern Bypass), it will be possible to re-allocate road space on key arterial routes to and from Lincoln to accommodate the introduction of viable Quality Bus Corridors and Park & Ride facilities. This will significantly improve the options for travel within the Lincoln Area.

The removal of traffic from key arterial routes and communities will also result in significant net benefits in terms of severance. In addition, the intention to further improve public transport services will further improve accessibility and provide additional attractive options for travel by public transport.”

With significant progress being made on the major highway schemes proposed by LITS, opportunities will become available to move space over to other modes on major arterial routes over the next few years, particularly in relation to public transport. Work will need to be undertaken quickly after the opening of Lincoln

Eastern Bypass, for example, to achieve significant benefits. Any delay could lead to the opportunities being lost with traffic returning to the city centre.

Work has already begun, and in some cases been completed, in the lead up to the delivery of these schemes. As well as the completion of QBC 1, the real-time passenger information system has enabled buses to be given priority at a number of signalised junctions, saving between 30 to 60 seconds per location. This will be further rolled out as more buses are fitted with the equipment and further QBCs and potential Park & Ride corridor improvements are implemented.

The development of a new Parking Strategy for the city, which is currently ongoing, will also present opportunities to lock in the benefits of the highway schemes, particularly when coupled with the potential development of Park & Ride sites. A number of actions from the previous Parking Strategy have been implemented which support LITS including the zoning of parking types and harmonisation of charges within those zones.

The Community Travel Zones implemented as part of LITS have supported travel by non-car modes, increasing accessibility and reducing severance through the delivery of a range of schemes including pedestrian crossings, traffic calming, speed restrictions and cycle routes. These improvements can now be coupled with those being delivered as part of the Access LN6 Local Sustainable Transport Fund project which will deliver a significant range of both hard and soft measures over a three year period, to also increase accessibility and reduce severance.

Severance will be further reduced in the city centre through reductions in traffic brought about by proposed major highway schemes, with the installation of two new pedestrian bridges over the railway line and associated improvements to the public realm including the pedestrianisation of the High Street between Wigford Way and Tentercroft Street.

15.2.3 Environmental

2008 LITS Report – Environmental Benefits

“The Revised Strategy will result in environmental benefits within the city centre as a consequence of the relocation of unnecessary traffic onto the highway schemes proposed. This will have particular benefits within the Air Quality Management Area and for sensitive receptors such as the Cathedral within Lincoln’s historic core. These environmental benefits will further contribute to the improved public realm within the city centre.

The Revised Strategy will result in some disbenefits as a consequence of the slight predicted increase in traffic associated with the introduction of the highways schemes. Any disbenefits are likely to be predominantly restricted to the relevant route corridors of these schemes.”

Work undertaken to develop proposals for the major highway schemes since 2008 has continued to show that significant benefits to the environment of Lincoln will be brought about by these projects.

While the Air Quality Management Areas (AQMA) remain in place in Lincoln, the original city centre AQMA plus a city-wide AQMA introduced in February 2008, reductions in traffic in the city over the past few years have resulted in improved air quality. The implementation of Lincoln Eastern Bypass and East-West Link, complemented by other traffic management, public transport and public realm improvements, will help to ensure that further environmental improvements are secured and that air quality will improve to a level where the Air Quality Management Areas are no longer required and impact on specific sensitive receptors and the historic areas are reduced.

15.2.4 Safety

2008 LITS Report – Safety Benefits

“The relocation of traffic to modern standard highways away from the city centre and key arterial routes will make a significant contribution to improving safety and reducing road casualties. This will be further enhanced by traffic management measures reducing vehicle conflicts with non-motorised users in the city centre.

When combined with the security benefits resulting from the improvements to the existing car parking stock and the introduction of a modern Public Transport Interchange, safety will be further enhanced.”

LITS remains on course to deliver significant safety improvements over the next few years. Already, smaller scale walking, cycling and traffic management schemes have improved safety at individual locations and the reductions in traffic experienced in Lincoln over the past few years have contributed to fewer accidents (accidents decreased by 7% between 2008 and 2012). However, significant clusters of accidents remain on the highway network and further work will be required to investigate these and identify improvements.

The delivery of key LITS schemes will see a further reduction in traffic both in the city centre and the wider urban area, which should lead to additional safety benefits. Public transport, walking and cycling improvements should also lead to personal security benefits across the transport network. In parallel, Lincolnshire County Council, in partnership with Lincolnshire Road Safety Partnership, continues to implement Local Safety Schemes, to reduce accident levels at identified cluster sites.

15.2.5 Economic and Regeneration

2008 LITS Report – Economic and Regeneration Benefits

“The Revised Strategy will support the needs of existing and proposed developments within the Lincoln Area. It offers high value for money when measured against Department for Transport criteria for measuring economic benefit through reducing congestion and improving journey time reliability.

The Revised Strategy supports regeneration proposals within North Kesteven, West Lindsey and parts of the City of Lincoln which qualified as Objective 2 areas under the European Regional Development Fund up to 2006.

The benefits identified for the city centre will ensure that the city remains an attractive location for residents, visitors and businesses, thereby sustaining its role as the County Town and one of the five key urban areas within the East Midlands. The introduction of the East-West Link will facilitate the realisation of the aspirations for the public realm improvements contained within the emerging Local Development Framework.

The Revised Strategy will also act as a catalyst for development opportunities to the west of the city in the Western Growth Corridor and to the east of the city within the North East Quadrant and South East Quadrant.

As with many other benefits associated with the Revised Strategy, the introduction of the Lincoln Eastern Bypass, the East-West Link and the other highway schemes proposed are of fundamental importance to ensure that economic and regeneration benefits are delivered. In particular, the Lincoln Eastern Bypass will open up a strategic growth area, important in reinforcing Lincoln’s status as one of the Region’s five principal urban areas.”

The statements made in the 2008 LITS report on the economic and regeneration benefits of the Strategy remain valid today. Improvements to Lincoln have benefits that reach outside of the immediate city centre or urban area. Major transport improvements for Lincoln itself will also support the economies of other towns and Lincolnshire as a whole. As the major urban area and service centre for Lincolnshire, the success of the city is vital to the prosperity of the wider county. LITS, as a package of improvements, supports Lincoln’s position but individual schemes will also support the wider area. The ongoing implementation of Lincoln Eastern Bypass, for example, will provide improved highway access between areas to the north and south of Lincoln, reducing journey times and improving reliability for both freight and people travelling past the city. The now completed Teal Park improvement on the A46 has directly supporting new employment developments to the west of the city, supporting economic development in the local area and improving journey times for through traffic.

Supporting the economy of the city centre is vital to the prosperity of the Lincoln and the county as a whole. LITS will remove through traffic, reducing congestion and supporting a healthier environment. Pedestrians and cyclists will experience benefits from traffic reductions, reduced severance and improved environment, which in turn will make Lincoln a more attractive location to shop and do business. Schemes already delivered as part of LITS have improved the attractiveness of the city centre and further schemes will build upon this.

Accessing the city centre by non-car modes will be made easier, through bus priority, Park & Ride and the new public transport interchange, supporting access to the jobs market for those without the use of a car. A new Parking Strategy will also look to support the local economy while also balancing the need to deliver carbon emission reductions.

Furthermore, LITS has a vital role to play in the plans for significant expansion of the city through the Sustainable Urban Extensions. Lincoln Eastern Bypass and Swanpool Link will facilitate major developments identified within the Core Strategy and without these schemes and the supporting measures contained in LITS, future growth plans will not be achieved.

The planned major developments have the potential to bring negative impacts of greater travel demand and associated growth in traffic. However, the focus for the development of transport networks within, to and from the Sustainable Urban Extensions is primarily on public transport, cycling, walking and reducing the need to travel. These new urban areas will include local shopping centres and community facilities (e.g. schools and health care facilities), as well as employment, to reduce the need for new residents to travel longer distances to access services and work.

In a similar way that LITS schemes will support the wider area, improvements elsewhere in county and beyond will and are supporting Lincoln. The dualling of sections of the A46 to the south of Lincoln has significantly improved long distance access to the city.

15.3 LITS Outcomes

Sixteen individual outcomes have been identified as part of the Strategy; these state the detailed, in some cases measurable, aims of the Strategy. This sub-section reviews the progress that has been made in delivering these outcomes.

15.3.1 Outcome 1

A reduction of 'through trips' within the urban area, particularly:

- Trips passing through the city centre
- HGV trips

Traffic flows in general decreased within Lincoln between 2008 and 2012, despite a longer term trend of increasing car ownership and increasing population. While projects have been delivered which support a drop in traffic, the likely cause of the majority of this change will be the worsening of the economic environment since 2008. Reduced economic activity can be directly linked to a reduction in trips for both people and freight and, therefore, reduced traffic levels. Reduced economic activity will also affect the general prosperity of the population, which may trigger a shift from car travel to public transport. When the wider economy returns to a sustained period of growth, the historic accompanying trend of growth in traffic would

appear likely to return. However, the implementation of LITS schemes, including those to lock in the benefits of reduced city centre traffic resulting from Lincoln Eastern Bypass, may reduce the return of this trend locally.

While data collected by the County Council cannot categorically show a reduction in 'through trips', data for the city centre cordon, showing traffic travelling into the city centre, and the screenline, showing traffic passing north-south through the area, does indicate that 'through trips' may have reduced. AM peak period vehicle journeys into the city centre decreased by 6% between 2008 and 2012, while journeys across the screenline decreased by 3.3% over the same period. Journeys specifically by HGVs over that period decreased by 15.2% in to the city centre and 16.3% across the screenline.

The LITS schemes which will have the biggest impact on reducing 'through trips' within the urban area, mostly notably Lincoln Eastern Bypass, have yet to be implemented, therefore, the major benefits for this outcome should not be expected in the immediate short term.

15.3.2 Outcome 2

A reduction in the modal share for the private car for:

- Trips into Lincoln city centre
- Trips on the 'school run'

Since the last full review of LITS in 2008, data shows that there has not been a significant change in mode share, either for trips into the city centre or for the 'school run'. Traffic flow data across the city centre cordon in the AM peak hour show that car and taxi movements, as a percentage of the total, reduced from 95.6% in 2008 to 95% in 2012; an insignificant change.

Travel to school data, for Lincolnshire as a whole, did show some improvement in reducing car mode share between 2007 and 2010 but to a limited extent. For primary school pupils, car mode share reduced from 47.6% to 46.9%, while for secondary school pupils, car mode share reduced from 19.5% to 18.6%. However, given the county's predominantly rural nature, the figures already compared reasonably well to the national averages.

Transport improvements to be implemented as part of LITS should contribute to changes in modal share for both trips into the city centre and the school run. Public transport improvements, including QBCs, junction priority, Park & Ride and the new interchange should increase the attractiveness of bus travel while highway schemes will reduce traffic through the city centre, therefore, a shift in mode share should follow, particularly where released capacity is prioritised for public transport.

The softer improvements being implemented by the Council, particularly targeting travel to school, should also have measurable impacts on mode share, particularly when combined with other schemes which will reduce traffic.

15.3.3 Outcome 3

A reduction in the impact of car trips resulting from development

This outcome is difficult to measure directly, however, LITS related improvements will continue to have an impact on development related car trips. Of particular note is the work on the Access LN6 Local Sustainable Transport Fund project which will directly work with new developments to reduce their car-based trips, as well as improving accessibility for existing journeys.

New developments may also support wider transport measures to reduce the impact of development-related car trips. The new Sustainable Urban Extensions to the east of the Lincoln urban area will support the potential provision of further Park & Ride sites, which will serve existing car movements but may also encourage public transport use from those new developments. These developments will also include a range of local services (e.g. schools, retail, community centres, etc) which should reduce the need to travel into the wider area for such services.

15.3.4 Outcome 4

An improvement in air quality within the urban area (particularly the AQMA within central Lincoln)

Although the Air Quality Management Area for Lincoln city centre remains in place, there have been improving trends in air quality since the last full review of LITS in 2008. The reductions in traffic in the city centre will have made a substantial contribution to these improvements and further removal of traffic from sensitive areas, through the implementation of major highway schemes (including Lincoln Eastern Bypass and East-West Link) should bring additional improvements in air quality.

However, some ongoing monitoring is required to assess air quality and further monitoring may be required of the impact of the highway schemes in due course.

15.3.5 Outcome 5

A reduction in casualties, particularly:

- Involving vulnerable road users
- At sites with known accident issues

The number of road accidents has broadly fallen since 2008, although concentrating on an area as relatively small as Lincoln can lead to significant fluctuations in the data. Overall, accidents involving cars reduced but those involving vulnerable road users remained constant over the same period.

The distribution of accidents across the highway network remained similar during the period between 2008 and 2012 and notable clusters consistently occurred.

Individual LITS schemes have been implemented over the period to improve safety at specific locations but further work is required to generate a substantial decrease in accident and casualty levels.

15.3.6 Outcome 6

An increase in public transport trips into and through the city centre

Constraints on the public sector budgets have resulted in financial support for buses being reduced, particularly during off-peak periods in evenings and weekends. This has resulted in fewer bus services being operated and a resulting reduction in bus patronage would be expected. However, bus passenger numbers for Lincoln as a whole grew between 2009 and 2012, bucking the general downward trend nationally. While actual bus journey numbers have also increased in Lincolnshire as a whole, the population of the county has grown more quickly, therefore resulting in a reduction in the number of journeys per head.

Bus journey reliability has also improved in Lincoln, increasing the attractiveness of public transport. This will partly have been achieved through Quality Bus Corridor 1 and junction priority improvements but will also have been supported by the general reduction in traffic levels.

Rail journeys to and from the stations within the strategy area increased by 5% between 2008 and 2011, a slightly higher rate than the rest of Lincolnshire but less than the national trend.

Proposed improvements to public transport provision contained in LITS, including further implementation of QBCs and the new city centre integrated transport interchange will lead to an increase in the attractiveness of bus and rail travel, potentially resulting in increased patronage.

15.3.7 Outcome 7

The provision of appropriate parking options for all users of the city centre

The development of a Parking Strategy in 2005 as part of the original LITS proposals provided a number of actions to support the delivering of robust parking management and appropriate provision. Actions implemented included the zoning of car parks, targeting particular users, and unifying charges across those zones. The Walk & Ride bus service was also implemented, which provides for movements between the uphill and downhill areas of the city centre. Park & Ride was also included in the Strategy and this is part of the wider measures contained in LITS.

The implementation of Civil Parking Enforcement in December 2012 has already lead to improved management of parking on-street, however, a robust assessment of the benefits of the scheme cannot be undertaken this early in its implementation.

With reductions in traffic entering the city centre over the past few years, demand for parking, as would be expected, has reduced. However, peak periods of demand continue to put strain on parking supply and projections for economic growth in the city show that further strain will be placed on this limited resource.

A new Parking Strategy is under development and will provide a range of new parking policies covering parking supply, charges, residential parking zones and interaction between city centre parking and the Park & Ride system. This strategy will provide an up-to-date picture of parking management in the city centre and a robust parking policy for the next few years, including the impacts of future development.

15.3.8 Outcome 8

Sufficient freedom of movement for all modes to and within the Lincoln Area

This outcome is also difficult to measure directly, however, it can be shown, through a review of different modes, that improvements in the freedom of movement have been made since 2008 and that further improvements will be secured through other LITS schemes.

Provision for cycling and walking have been made as part of LITS over the past few years, ranging from further pedestrian enhancements in the city centre to installation of new crossings in the rest of the urban area. Both cycling and walking have also been supported through the County Council's Community Travel Zone programme.

Further improvements for cycling and walking are included in LITS including further city centre pedestrianisation, the footbridges over the railway and as part of larger

schemes such as the inclusion of walking and cycle routes as part of Lincoln Eastern Bypass.

Public transport improvements have been delivered in the form of Quality Bus Corridor 1 and bus priority as individual signalised junctions, with further improvements to come through further Quality Bus Corridors, the public transport interchange and Park & Ride.

Wider economic issues have led to significant reductions in traffic flows within the Lincoln urban area and freedom of movement will have increased to all modes through lower traffic levels in the city centre. The proposed major highway schemes will build on this current trend and increase freedom of movement further.

15.3.9 Outcome 9

An increase in levels of walking and cycling within the Lincoln Area, particularly:

- Parents and children travelling to and from school
- Short trips of less than two miles
- Trips into the city centre

While City of Lincoln specific data has only recently begun to be collected for travel to school journeys, data for Lincolnshire as a whole has been collected for some time. Travel to school data shows that in the county, walking trips by primary school pupils has increased significantly since 2007 while cycling levels have remained relatively unchanged. In terms of secondary school pupils, walking has increased to a lesser extent and cycling decreased significantly between 2007 and 2008 but then remained largely unchanged to 2010.

Cycling into the city centre, across the survey cordon, increased by 9.5% between 2008 and 2012. Other surveys on specific cycle routes show an average increase of 3% between 2008 and 2012.

Over the period since the last LITS report, cycling and walking improvements have been implemented through the Community Travel Zones and further public realm schemes in the city centre.

The continuing implementation of LITS will deliver further improvements to encourage cycling and walking, both within the city centre and the surrounding urban area. The two railway footbridges at Brayford Wharf East and High Street will reduce severance for pedestrians while public realm and pedestrianisation associated with a number of schemes will increase the attractiveness of the city centre for those travelling on foot.

Away from the city centre the LSTF Access LN6 packages will provide significant investment in walking and cycling, both in terms of infrastructure and softer measures.

Progress has been made towards achieving this outcome and transport improvements to be delivered over both the short and long term will support increasing levels of walking and cycling.

15.3.10 Outcome 10

An improvement in the liveability quality of life within the Lincoln area

Liveability and quality of life can be significantly affected by transport, and traffic in particular. The recent reducing trend in traffic levels will have led to improvements in both of these issues in the Lincoln area, through improvements in air quality, reductions in severance and generally less interaction between traffic and non-car modes.

Improvements to walking, cycling and public transport will have increased the liveability of the city and the quality of life of its inhabitants, while planned improvements will continue to build upon work delivered to date. The removal of through-traffic in particular will result in improvements to the urban area, while associated reallocation of road space should encourage more people to walk, cycle and use public transport.

15.3.11 Outcome 11

A reduction in noise levels caused by traffic (particularly for sensitive receptors such as schools and hospitals)

The reduction in traffic levels will have reduced noise levels within the urban area as a whole, although data has yet to be produced to indicate this. Further implementation of LITS improvements, ranging from major highway schemes to public transport measures should further reduce traffic and therefore is likely to lead to further reductions in noise levels.

15.3.12 Outcome 12

An increase in the vitality of Lincoln as a sub-regional centre by encouraging trips for tourism, leisure, business and shopping.

The general economic climate has had a significant impact on Lincoln as a sub-regional centre, with reductions in both businesses and employment since 2008. However, forecasts and proposals for development show that there will be significant increases in economic activity over the long term with plans for very significant extensions to the urban area, improvements to the tourism and retail offer, and further space for business.

While national and global issues have impacted upon the vitality of Lincoln, the implementation of LITS will support the local economic recovery. The major schemes contained within LITS have yet to be implemented but the County Council has progressed these schemes (Lincoln Eastern Bypass and East-West Link in particular) in ways that mean that they will be delivered to timescales that should support returning growth.

Other measures, including those for walking, cycling and public transport should also support the attractiveness of Lincoln for the range of economic interests and the new Parking Strategy will support wider Council objectives for delivering economic development while reducing carbon emissions.

15.3.13 Outcome 13

A city that operates effectively for trade and service vehicles

The recent reductions in traffic levels, including fewer HGVs passing through the city centre, will directly benefit trade and service vehicles, allowing for faster and more reliable journeys. Furthermore, the implementation of Civil Parking Enforcement will lead to greater availability of delivery spaces due to fewer contraventions of regulations.

The major highway schemes, including Lincoln Eastern Bypass in particular, will reduce the need for freight vehicles to pass through the city centre, therefore, increasing journey speed and reliability for both strategic freight and local trade and service vehicles.

15.3.14 Outcome 14

The provision of appropriate access to development sites with minimised impact of increased traffic on the local area

The East-West Link, Lincoln Eastern Bypass and Swanpool Link will all provide access to development sites and, indeed, without the latter two, the Sustainable Urban Extensions could not be delivered to the scale planned.

In a predominantly rural area like Lincolnshire, reliance on the private car is greater than it is in the metropolitan areas. However, LITS contains transport improvements, which when delivered alongside the major highway schemes, should work towards limiting the traffic impact of new major developments. The quality bus corridors, Park & Ride sites, public transport interchange, rail service improvements and Parking Strategy should all contribute to less reliance on the private car for journeys to and within the Lincoln urban area.

The draft Core Strategy sets out a transport policy which focuses supporting and promoting a safe and efficient transport network which offers a range of choices for the movement of both people and goods, reduces reliance on car-based travel and encourages the use of public transport, walking and cycling.

15.3.15 Outcome 15

The protection of the historic environment from traffic impacts

The historic nature of Lincoln is one of its key assets and a number of improvements included within LITS will help to add further protection to the valuable built environment. The major highway schemes will remove traffic from city centre, reducing harmful pollution and vibration while also reducing the dominance of vehicles within historic views of the city. Improved management of parking, through a new Parking Strategy, supporting the City Centre Masterplan, should reduce the impact of car parks on the protected urban environment and may also facilitate the redevelopment of some sites for more sensitive uses.

Improvements to the public realm, as part of highway and pedestrian schemes have improved the setting for the historic elements of the city centre and further improvements, including traffic management in the uphill area, will enhance the protection of Lincoln's heritage assets. Improvements to be delivered as part of LITS will become increasingly important with the projected significant increases in visitors to the historic areas of Lincoln.

15.3.16 Outcome 16

The sub-regional strategy delivered by 2016

The sub-regional strategy is no longer the driving policy for Lincoln, with the emerging Central Lincolnshire Core Strategy outlining the future development proposals for the city and surrounding districts. LITS will play a key role in delivering the development aspirations outlined in the draft Core Strategy and is specifically referred to.

15.4 Summary

This section has provided a summary of progress that has been made in delivering the stated benefits and outcomes from LITS.

This section has shown that a range of improvements have been delivered since 2008 and that significant progress has been made to bring forward the major LITS schemes. It has also been shown that the economic situation nationally and locally has led to changes in travel patterns in Lincoln. At present, without the major LITS schemes being in place, it is likely that economic factors rather than the Transport

Strategy have led to changes in travel patterns. However, over the coming years, the implementation of major LITS schemes, complemented by smaller scale projects, will lead to improvements to the transport network bringing associated benefits of reduced congestion, increased accessibility, an improved and more protected environment and a supported economy. With growth returning to the economy in the medium to long term, LITS remains relevant and is, indeed, vital to the delivery development aspirations of Lincoln and wider Central Lincolnshire.

DRAFT

16 Pathways to Delivery

16.1 Introduction

This section presents the Pathways to Delivery for each transport improvement. The transport improvements include those already established as LITS improvements, through the 2008 review, and new, emerging improvements that have been identified as part of this progress review.

For each transport improvement, the Pathway to Delivery is presented in a tabulated format presenting the following information:

- **Purpose of the improvement** – the overall purpose of the transport improvement
- **Original Proposal (2008)** – the description of the improvement contained in the 2008 ‘Light Touch’ Review of LITS
- **Delivered to Date** – the schemes or elements of the transport improvement delivered to date
- **Detailed Schemes** – the detailed schemes that form the overall transport improvement
- **Steps to delivery** – The key steps in the process to deliver each transport improvement
- **Programme** – commentary on the known programme/s for the transport improvement and detailed schemes
- **Cost** – The indicative cost of each transport improvement is identified, taken from existing information.
- **Funding** – the likely funding sources for each transport improvement will be identified.
- **Lead organisation** – the organisation which will take the lead in delivering each transport improvement.
- **Partner organisations** – any partner organisations key to the delivery of transport improvements.
- **Consultation requirements** – the likely consultation requirements/stages during the delivery process for each transport improvement will be identified.
- **LITS Objectives they support** – the LITS objectives that each transport improvement helps to achieve are highlighted. The objectives are identified in terms of their relevance to the specific transport improvements with

objectives identified as being highly relevant, moderately relevant or of low relevance (the objectives are presented in Section 14 for reference and the overall assessment of relevance is provided in Appendix C).

- **Risks** – the key high level risks to delivery associated with each transport improvement.
- **Links to other schemes** – interdependencies between schemes will be identified.
- **Measurement of success** – the LITS outcomes that the transport improvement will support. The outcomes are identified in terms of their relevance to the specific transport improvements with outcomes identified as being highly relevant, moderately relevant or with low relevance (the outcomes are presented in Appendix D for reference).

16.2 Individual Pathways

Sustainable Travel Initiatives	
Purpose of Improvement	To introduce a range of improvement measures, mostly through Travel Planning, to enable and encourage the use of more sustainable means of travel other than the private car.
Original Proposal (2008)	<p>The 2008 LITS report stated:</p> <p><i>“A range of on-going sustainable travel initiatives proposed for the short and longer term to encourage people to use more sustainable means of travelling wherever possible. They would involve a wide range of different initiatives, some of which are already in operation throughout Lincoln:</i></p> <ul style="list-style-type: none"> • <i>School Travel Plans</i> • <i>Workplace Travel Plans</i> • <i>Car-sharing Initiatives</i> • <i>Personalised Travel Planning</i> • <i>Travel awareness campaigns</i> • <i>Education initiatives</i> • <i>Safer routes to school”</i>
Delivered to Date	<p>Each of the initiatives is ongoing. Following the County Council restructure in 2011 a team of full time staff was formed to focus on sustainable means of travel to schools, workplaces and within communities.</p> <p>The Travelling to School Initiative (TTSI) was launched in 2004 to encourage the implementation of School Travel Plans to promote sustainable and active forms of travel. Participating schools were eligible for a capital grant for on-site or off-site infrastructure improvements. TTSI ended in 2010 with Lincolnshire achieving a 100% success rate of schools with a nationally accredited School Travel Plan in the study area, 30 of which were in the City of Lincoln. Those schools in the City of Lincoln were awarded a grant of £223,900 to support sustainable travel methods with an additional grant of £104,370 awarded through the CATCH (Choose Active Travel, Choose Health) fund which focuses on improving health and reducing obesity. The County Council has been undertaking monitoring of the travel plans.</p>
Detailed Schemes	<ul style="list-style-type: none"> • Provision of support for schools, businesses and community groups to develop Travel Plans • Implementation of grants to businesses and community groups through LSTF, DfT and LCC funding

	<ul style="list-style-type: none"> • Lincs2Work Car Share Scheme • Lincoln BIG Car Share Scheme • Travel Plan evaluation and monitoring of travel to work trends
Steps to Delivery	All initiatives are being implemented and are ongoing
Programme	All initiatives are being implemented and are ongoing
Cost	Costs identified as schemes development
Funding	Sustainable Travel Initiatives will be funded by LCC, LSTF and developer contributions
Lead Organisation	Lincolnshire County Council
Partner Organisations	<ul style="list-style-type: none"> • Department for Transport • District Councils • Lincoln BIG • Developers • Siemens
Consultation Requirements	Ongoing consultation with organisations being supported through the Travel Planning process
LITS Objectives Supported	<p>High: SO3, SO5, SO9, SO11, SO12</p> <p>Medium: SO4, SO6, SO8</p> <p>Low: SO1, SO2, SO7</p>
Risks	<ul style="list-style-type: none"> • Availability of funding to support Travel Plan implementation • Willingness of organisations to implement Travel Plans • LCC is unable to effectively monitor
Links to Other Schemes	<ul style="list-style-type: none"> • Access LN6 (Local Sustainable Transport Fund Project) • Small Scale Walking/Cycling/Public Transport Schemes • Lincolnshire Cycle Strategy
Measurement of Success – LITS Outcomes	<p>High: O2, O9, O10</p> <p>Medium: O3, O4, O6, O8, O11, O14, O15, O16</p> <p>Low: O1, O5, O7, O12, O13</p>

Small Scale Walking/Cycling/Public Transport Schemes	
Purpose of Improvement	To encourage walking, cycling and the use of public transport through investment in local transport to make best use of existing transport network.
Original Proposal (2008)	<p>The original proposal in the 2008 LITS document included the following text:</p> <p><i>“The Revised Strategy proposes that the pedestrian and cycle network, as well as public transport infrastructure where possible, is extended and improved through the County Council’s continued programme of Community Travel Zones. This involves local transport investment within the study area to encourage people to use their cars less, making the best use of the existing transport network.</i></p> <p><i>Improvements of this nature have been carried out throughout the Lincoln area, which includes North Hykeham, and are proposed to continue in the short and longer term through an ongoing programme of investment. They would support other initiatives proposed as part of the Parking Strategy and the range of sustainable travel initiatives discussed below.”</i></p>
Delivered to Date	<p>The programme of Community Travel Zones (CTZs) was concluded within the LTP3 period and there are no plans for further CTZs. The CTZs have delivered a range of improvements including:</p> <ul style="list-style-type: none"> • Cycle routes and crossings • Pedestrian crossings and path improvements • Traffic calming • Speed and HGV restrictions <p>The South Park/Cross O’Cliff Hill scheme has been designed and the County Council wishes to implement it.</p> <p>The County Council would also support initiatives proposed as part of the Parking Strategy.</p> <p>Lincoln BIG organise several initiatives including:</p> <ul style="list-style-type: none"> • Big Bus Deal – reduced season ticket fares on Stagecoach services • Part Time Pass – This offers part time workers a scratchcard type pass with reduced bus fares • Cycle Lockers – a series of secure cycle lockers are located throughout the city centre <p>Access Group – formed to monitor and improve access for all using Lincoln City Centre</p>
Detailed Schemes	<ul style="list-style-type: none"> • Cycle challenge, challenge for change • Cycle training – Bikeability and adult cycle training ‘Bikeable’ • Cycle hire/cycle loan scheme • Free ‘try the bus’ passes promotion • Walking/cycling local champions • Lovetoride.net Lincoln • Lincoln BIG organise several initiatives including: <ul style="list-style-type: none"> ○ Big Bus Deal – reduced season ticket fares on Stagecoach services ○ Part Time Pass – This offers part time workers a scratchcard type pass with reduced bus fares ○ Cycle Lockers – a series of secure cycle lockers are located throughout the city centre ○ Access Group – formed to monitor and improve access for all using Lincoln City Centre
Steps to Delivery	All initiatives are being implemented and are ongoing
Programme	All initiatives are being implemented and are ongoing
Cost	Costs identified as schemes progress

Funding	Funding has been secured through the successful LN6 LSTF bid. Other funding streams include LCC Integrated Transport Block, contributions from private developers through Section 106 Agreements and Central Government funding bid opportunities (when released).
Lead Organisation	Lincolnshire County Council
Partner Organisations	<ul style="list-style-type: none"> • Sustrans • Lincoln BIG • Public Transport Providers
Consultation Requirements	When required for individual schemes
LITS Objectives Supported	<p>High: SO3, SO4, SO9, SO11</p> <p>Medium: SO1, SO6, SO7, SO8, SO10, SO12</p> <p>Low: SO2, SO5</p>
Risks	<ul style="list-style-type: none"> • Buy in from Stakeholders • Uptake by users
Links to Other Schemes	<ul style="list-style-type: none"> • Sustainable Transport Initiatives • Lincoln Eastern Bypass • Access LN6 (Local Sustainable Transport Fund Project) • Lincolnshire Cycle Strategy
Measurement of Success – LITS Outcomes	<p>High: -</p> <p>Medium: O5, O8-O11, O13-O16</p> <p>Low: O1-O4, O6, O7, O12</p>

DRAFT

Quality Bus Corridors	
Purpose of Improvement	Increase the attractiveness of bus travel by improving journey times and reliability through bus priority measures on key corridors. These schemes will take advantage of road space released by the opening of Lincoln Eastern Bypass.
Original Proposal (2008)	<p>The original proposal in the 2008 LITS document included the following text:</p> <p><i>“QBC1 would be along High Street between St Marks Street and Dixon Street and would be the top priority. It is likely to include bus lanes, parking and delivery restrictions, and signal priorities, with the aim of improving journey times for buses.</i></p> <p><i>QBC2 would be along High Street, St Catherine’s and Newark Road from Dixon Street to Brant Road and could also include bus lanes, parking restrictions and signal priorities.</i></p> <p><i>QBC3 would be along Broadgate, Lindum Road and Wragby Road, but it is anticipated that it would require the introduction of the Lincoln Eastern Bypass to reduce the congestion on this route and improve journey times to a sufficient level.</i></p> <p><i>QBC4 would be along Dixon Street, Boutham Park Road and Skellingthorpe Road. Whilst there is little space available for bus lanes, some priority could be given to buses at certain locations, particularly the Skellingthorpe Road level crossing.</i></p> <p><i>Some aspects of the QBCs are longer term aspirations that may not be introduced until after 2016. The opportunity may also exist for additional QBC routes to be added in the future as appropriate. The exact nature of all the measures involved in each Quality Bus Corridor would require a more detailed feasibility study.”</i></p>
Delivered to Date	<p>Improvements for QBC 1 were completed in Autumn 2011 as part of the High Street Improvement Scheme and included:</p> <ul style="list-style-type: none"> • bus lanes, • parking and delivery restrictions • bus signal priorities (INEO) on High Street between St. Mark’s Street and Dixon Street • Improved access to Portland Street for buses. <p>The High Street section of QBC 2 has also been delivered.</p>
Detailed Schemes	<p>QBC2 (remainder of)</p> <p>QBC3</p> <p>QBC4</p>
Steps to Delivery	<ul style="list-style-type: none"> • Scheme Design & Feasibility • Business Case (if required) • Planning Application (if required) • Statutory Procedures • Public Inquiry (if required) • Detailed Design • Scheme Procurement • Full Approval • Construction • Scheme Evaluation
Programme	QBCs 2, 3 and 4 will be implemented following the completion of Lincoln Eastern Bypass. Early steps to delivery will need to be completed to enable the QBCs to be delivered within a short timescale following the opening of the Bypass to ensure that benefits of reduced city centre through traffic are ‘locked in’.
Cost	The budget for QBCs 2, 3 and 4 are yet to be identified

Funding	Funding for QBCs 2, 3 and 4 are to be identified on a case by case basis. Potential funding opportunities include LCC's Integrated Transport Block budget, developer contributions and central Government funding bid opportunities
Lead Organisation	Lincolnshire County Council
Partner Organisations	Bus operators
Consultation Requirements	Consultation will be undertaken as part of the steps to delivery; mostly likely being part of scheme design & feasibility, planning application and statutory procedures.
LITS Objectives Supported	High: SO1, SO3, SO5-SO8, SO10, SO11 Medium: SO9 Low: SO2, SO4, SO12
Risks	<ul style="list-style-type: none"> • Availability of funding to deliver QBCs to programme • Early steps to delivery will need to be undertaken in time to enable quick implementation following the opening of Lincoln Eastern Bypass • Issues arising at consultation • Road space not available
Links to Other Schemes	<ul style="list-style-type: none"> • Bus Telematics • Public Transport Interchange • Park & Ride • Lincoln Eastern Bypass • Bus Network Review
Measurement of Success – LITS Outcomes	High: O2, O6, O8, O15, O16 Medium: O3, O4, O10, O11 Low: O1, O5, O7, O9, O12, O13, O14

Bus Telematics	
Purpose of Improvement	Improve the attractiveness of bus travel by providing real-time information at bus stops and bus priority at traffic signals. At present, plans focus on implementing INEO-based bus priority at further junctions rather than expanding the real-time information system. Further opportunities will be identified as they emerge either as part of other schemes (e.g. Quality Bus Corridors, Park & Ride, etc) or independently.
Original Proposal (2008)	The 2008 LITS report stated that “... <i>Real-Time Passenger Information system would be extended across the majority of the urban bus network to provide bus passengers waiting at bus stops with up to the minute information about when the next bus will arrive.</i> <i>The original Strategy also proposed extending the InterConnect network to the Lincoln – Gainsborough corridor, however this has now been implemented and no further corridors remain for the extension of Lincoln’s InterConnect services. Other possible improvements to public transport may also be possible through partnership with the bus companies.</i> ”
Delivered to Date	Prior to 2008, Real-Time Passenger Information (RTPI) was implemented including on-street signs, a new website and on-board bus equipment (including live information for operators). Since 2008, the RTPI system has been implemented on the following routes: <ul style="list-style-type: none"> • Inter-Connect Route 3 – Lincoln to Grimsby: Implemented 2009 (funding through DfT Bus Challenge) • InterConnect 100 – Lincoln – Gainsborough – Scunthorpe: Implemented 2012 (Funded through Gainsborough Growth Point funding) Also since 2008, INEO, which gives late-running buses priority at signalised junctions, has been installed at the following junctions, at the cost of £4,000 each: <ul style="list-style-type: none"> • Canwick Hill/Washingborough Road • Skellingthorpe Road/Birchwood Avenue • Dixon Street/Boultham Park Road As a result, monitoring shows that buses appear to move through junctions more quickly with time savings of between 30 and 60 seconds per junction. Equipment is currently available for 42 buses to be fitted with RTPI equipment and the overall target is for 70 to 80 buses to be fitted altogether.
Detailed Schemes	<ul style="list-style-type: none"> • Doddington Road/Tritton Road Junction – INEO installation • Doddington Road/Whisby Road Junction – INEO installation • Other schemes, to be identified
Steps to Delivery	<ul style="list-style-type: none"> • Detailed Design • Scheme Procurement • Full Approval • Construction • Scheme Evaluation
Programme	The two INEO installations on Doddington Road are to be funded through the Access LN6 LSTF project and will therefore need to be completed by 2015 when funding ends. The programme for further bus priority improvements is dependent on the detailed programmes of other projects, most notably Lincoln Eastern Bypass, and the potential Park & Ride sites.
Cost	£4,000 per junction for INEO
Funding	Both identified schemes are funded but other schemes are likely to be funded from LCC’s Integrated Transport Block budget, developer contributions and central Government funding bid opportunities.
Lead Organisation	Lincolnshire County Council

Partner Organisations	<ul style="list-style-type: none"> • Local Bus Operators • Developers
Consultation Requirements	No consultation required.
LITS Objectives Supported	<p>High: SO6, SO12</p> <p>Medium: SO3, SO5, SO11</p> <p>Low: SO1, SO2, SO4, SO7-SO10</p>
Risks	No significant risks
Links to Other Schemes	<ul style="list-style-type: none"> • Quality Bus Corridors • Public Transport Interchange • Park & Ride • Access LN6 • Bus Network Review
Measurement of Success – LITS Outcomes	<p>High: O6</p> <p>Medium: O2, O8, O11, O15</p> <p>Low: O1, O3, O4, O5, O7, O9-O14.</p>

DRAFT

Public Transport Interchange	
Purpose of Improvement	Improve public transport facilities through the integration of bus and rail interchange facilities within the city centre as part of a private sector-led development
Original Proposal (2008)	The proposal for a new public transport interchange was presented in the 2008 LITS report as follows: <i>“As part of the proposed Lindongate development within the city centre, a new facility is proposed to replace the existing bus station in the city centre. This is fully endorsed by the Revised Strategy and would provide a new bus station which would have clear high quality pedestrian links to the railway station and key city centre areas.”</i>
Delivered to Date	Outline planning permission for the Lindongate development, including the public transport interchange, was granted in early 2012. The scheme would replace the existing city centre bus station with a new facility immediately adjacent to the railway station, which would provide a modern integrated rail/bus interchange serving the heart of the city centre.
Detailed Schemes	Public Transport Interchange
Steps to Delivery	<ul style="list-style-type: none"> • Planning Application (reserved matters, if necessary) • Statutory Procedures • Detailed Design • Scheme Procurement • Full Approval • Construction • Scheme Evaluation <p>Outline planning permission for the Lindongate development, including the public transport interchange, was granted in early 2012.</p>
Programme	The scheme is developer-led and as such is dependent on the prevailing economic conditions being appropriate for the developer to be able commit to the commencement of the project. At present the programme is therefore unclear but it has been hoped that the scheme would be delivered by 2016. However, recent indications point to a three to five year delivery timescale. Detailed proposals will need to be approved before the project commences.
Cost	Developer funded
Funding	This is a developer funded scheme although further funding may be provided by City of Lincoln Council.
Lead Organisation	Private Developer
Partner Organisations	<ul style="list-style-type: none"> • Train/Railway Station Operators • Bus Operators • City of Lincoln Council • Lincolnshire County Council
Consultation Requirements	Only as part of statutory procedures, if necessary. The scheme consulted on as part of the wider Lindongate Development planning proposals.
LITS Objectives Supported	<p>High: SO3, SO5, SO6, SO10, SO11</p> <p>Medium: SO1, SO8, SO9</p> <p>Low: SO2, SO4, SO7, SO12</p>
Risks	<ul style="list-style-type: none"> • Developer-led scheme relying on economic conditions to improve before delivery can commence • Approval may be required as part of planning permission reserved matters
Links to Other Schemes	<ul style="list-style-type: none"> • Quality Bus Corridors • Bus Telematics

	<ul style="list-style-type: none">• Park & Ride• Rail Service Improvements• Bus Network Review
Measurement of Success – LITS Outcomes	High: O2, O6, O15, O16 Medium: O3, O4, O12 Low: O1, O5, O7-O11, O13, O14

DRAFT

Park & Ride	
Purpose of Improvement	Improve access to the city centre by providing a Park & Ride Scheme, to support economic development, reducing congestion, the wider Parking Strategy and the tourism offer
Original Proposal (2008)	<p>The 2008 LITS report stated:</p> <p><i>“Within the Revised Strategy, Park & Ride continues to be proposed as a key initiative for improving access to the city centre. This would form part of the wider Parking Strategy for the town (see below). Analysis of predicted parking demand carried out during the original study process revealed that the city centre would already benefit significantly from remote parking stock to supplement city centre provision.</i></p> <p><i>Two ‘areas of search’ for potential Park & Ride sites were identified within the original study process, to the west and east of the city. These would each be served by frequent high quality bus services to and from the city centre along routes with bus priorities to avoid congestion.</i></p> <p><i>Proposals put forward as part of the three major sustainable urban developments have included Park & Ride facilities, however feasibility investigations, which have already commenced, are required to determine the most appropriate locations for any Park & Ride schemes.”</i></p>
Delivered to Date	<p>While Park & Ride schemes are yet to be delivered for Lincoln, significant feasibility work has been undertaken since 2008.</p> <p>To date there have been four stages of feasibility work:</p> <p>Stage 1 – February 2008: A desktop review of initial feasibility issues for a three site Park & Ride Network</p> <p>Stage 2 – December 2008: A more detailed initial assessment of other Park & Ride networks, patronage and economics, bus priority and site assessment. This work recommended that Site 3, a western site at the junction of the A46 and A57 be taken forward as a priority.</p> <p>Stage 3 – March 2010: Environmental site constraints assessment and traffic modelling of route improvements. This work recommended that Site 3B, the quadrant north of the A57 and east of the A46 be taken forward as the proposed Park & Ride site.</p> <p>Stage 4 – January 2012: Detailed assessment of the operational feasibility of Park & Ride service operating from Site 3B including further analysis of the potential market, patronage and economics, routing, facilities, bus stops, ticketing and a delivery programme.</p> <p>The Draft Core Strategy highlights that the North East and South East Sustainable Urban Extensions will support the delivery of an eastern Park & Ride site/s.</p>
Detailed Schemes	<ul style="list-style-type: none"> • Park & Ride Site 1 and/or 2 – North East/South East • Park & Ride Site 3 – North West
Steps to Delivery	<ul style="list-style-type: none"> • Scheme Design & Feasibility • Business Case • Planning Application • Statutory Procedures • Public Inquiry • Detailed Design • Scheme Procurement • Full Approval • Construction • Scheme Evaluation
Programme	The timescale for the delivery of Park & Ride is within the medium to long term.

	The programme for the eastern site/s is dependent on the delivery of Lincoln Eastern Bypass and associated Sustainable Urban Extensions.
Cost	Budget for each site is in the region of £5m to £8m
Funding	Investigations are currently underway into funding sources.. Funding for eastern site/s may come from a number of sources including Community Infrastructure Levy, developer contributions and bus operators. Funding for Site 3 may come from LCC's Forward Capital Programme, district councils, central Government funding bid opportunities and bus operators
Lead Organisation	Lincolnshire County Council
Partner Organisations	<ul style="list-style-type: none"> • City of Lincoln • Parking/Bus Operators • Developers
Consultation Requirements	Consultation will be required during the scheme development process including during scheme design and feasibility, planning application and statutory procedures.
LITS Objectives Supported	High: SO3, SO5-SO10 Medium: SO1, SO11 Low: SO2, SO4, SO12
Risks	<ul style="list-style-type: none"> • Availability of funding • Availability of land • Potential for delays through the planning process
Links to Other Schemes	<ul style="list-style-type: none"> • Quality Bus Corridors • Bus Telematics • Public Transport Interchange • Lincoln Eastern Bypass • Lincoln Parking Strategy • Bus Network Review
Measurement of Success – LITS Outcomes	High: O2, O7, O15, O16 Medium: O3, O4, O6, O8, O10-O13 Low: O1, O5, O9, O14

Parking Strategy	
Purpose of Improvement	Support sustainable economic development in Lincoln by developing an updated Parking Strategy for the city
Original Proposal (2008)	<p>The 2008 LITS report stated:</p> <p><i>“A Parking Strategy for Lincoln city centre was developed as part of the original study process. This involved the formation and implementation of clear policies aimed at making better use of existing facilities and suggested additional provision of parking stock as appropriate.</i></p> <p><i>Developed through consultation with the City of Lincoln Council, it is envisaged that this will help support the regeneration of Lincoln. Short-term measures involve re-classification of car parks, development of pricing structure and improvements to the security and safety of car parks.”</i></p>
Delivered to Date	<p>The strategy contained the following measures to be implemented:</p> <ul style="list-style-type: none"> • Signing – Introduction of VMS • Pricing – Introduction of zoned pricing structure • Security and Safety – Improvements to Car Parks and Routes to City Centre • City Centre Supply – Maintain Appropriate City Centre Parking Stock • Tourist Link – Long-Stay Car Parks to Historic Area • Demand Management – Encourage Travel Plans and Walking and Cycling Improvements • Information – Dissemination of Information to the Public • Remote Park & Ride • Pricing – “Locking-In” Remote Park and Ride Benefits <p>Since the publication of the Strategy, a zoned pricing structure has been implemented and a tourist bus link, Walk & Ride, is operating between the downhill and uphill areas of the city centre, providing links into the historic area. Work has also been undertaken on the dissemination of information to the public, including improvements to the website, and demand management (as part of wider Council programmes).</p> <p>The parking strategy relates to all parking in Lincoln city centre and not only those operated by City of Lincoln Council.</p>
Detailed Schemes	<ul style="list-style-type: none"> • Parking Strategy Study • Parking Strategy • Parking Strategy Schemes.
Steps to Delivery	Steps to delivery will be identified for individual policies or schemes included in the final transport strategy
Programme	The Parking Strategy Study report is due to be completed in July 2013. Measures to be recommended by the study have yet to be identified but the associated programmes are likely to range from the short to the long term.
Cost	The costs associated with delivering parking policies and schemes will be identified following adoption of the final Parking Strategy
Funding	The Parking Strategy Study is underway and therefore funded. The Parking Strategy itself will be produced in-house by City of Lincoln Council. Funding for any resulting schemes could include LCC’s Integrated Transport Block budget, City of Lincoln Council and developer contributions.
Lead Organisation	City of Lincoln Council
Partner Organisations	<ul style="list-style-type: none"> • Lincolnshire County Council • Parking Providers/operators
Consultation Requirements	Consultation requirements will be identified separately for each individual policy or scheme resulting from the final adopted Parking Strategy.

LITS Objectives Supported	<p>High: SO1, SO3, SO9, SO10, SO11</p> <p>Medium: SO5, SO7, SO8, SO12</p> <p>Low: SO2, SO4, SO6</p>
Risks	Availability of funding to deliver resulting policies and schemes
Links to Other Schemes	<ul style="list-style-type: none"> • Park & Ride • East-West Link • Parking Standards • City Centre Signing Strategy
Measurement of Success – LITS Outcomes	<p>High: O7, O15, O16</p> <p>Medium: O2, O12, O13</p> <p>Low: O1, O3-O6, O8-O11, O14</p>

DRAFT

Rail Service Improvements	
Purpose of Improvement	Improve the attractiveness of rail travel through Lincolnshire County Council working with industry stakeholders to secure improvements to the rail network and services.
Original Proposal (2008)	The 2008 LITS report stated: <i>“Improvements to rail services are proposed wherever possible, however due to funding issues and the structure of the rail industry, there is a limited amount of influence that local authorities have in securing such improvements. However, proposed service alterations within the recent re-franchising process would result in direct services between Lincoln and London. These are supported by the Revised Strategy, which also proposes that other opportunities that may arise for further service improvements are fully explored.”</i>
Delivered to Date	Since 2008, there is now one direct Lincoln to London service with one train to London in the morning and one return service in the evening. The County Council has prepared a business case, submitted to DfT, for enhanced direct services between Lincoln and London to be included within the next East Coast Main Line Franchise. East Midlands Trains has recently consulted on a revised timetable for North Hykeham Station.
Detailed Schemes	<ul style="list-style-type: none"> Lincoln to London service improvements Nottingham-Newark-Lincoln service improvements Lincoln-Gainsborough-Doncaster service improvements Level Crossing Safety Improvements
Steps to Delivery	The County Council will continue to lobby for and promote improvements to rail services to Lincoln.
Programme	The programme for service improvement being lobbied for by the Council and its partners is very much reliant on the refranchising process. Following major issues with the West Coast Main Line refranchising process, the timetables for new franchises have slipped. The new franchises that will serve Lincoln are now to take effect from February 2015 (East Coast) and October 2017 (East Midlands).
Cost	Costs to the County Council will be dependent on individual schemes to be identified
Funding	Funding for schemes may come from a number of sources including Network Rail, train operating companies, LCC's Integrated Transport Block or public transport budgets and Department for Transport.
Lead Organisation	Network Rail, Train Operating Companies and Department for Transport
Partner Organisations	<ul style="list-style-type: none"> Lincolnshire County Council City of Lincoln Council
Consultation Requirements	Consultation requirements would be identified as part of the development of individual schemes
LITS Objectives Supported	<p>High: SO1, SO4, SO7, SO9</p> <p>Medium: SO2, SO3, SO8, SO10, SO11, SO12</p> <p>Low: SO1, SO4, SO7, SO9</p>
Risks	<ul style="list-style-type: none"> Lincolnshire County Council is not the lead organisation and is dependent on other stakeholders for delivery. Changes to franchises Lack of engagement with lead organisations
Links to Other Schemes	<ul style="list-style-type: none"> Public Transport Interchange East-West Link City Centre Pedestrian Improvements

	<ul style="list-style-type: none">• Access LN6• Bus Network Review
Measurement of Success – LITS Outcomes	High: O6 Medium: O2, O12, O15, O16 Low: O1, O3, O4, O5, O7-O11, O13, O14

DRAFT

Lincoln Eastern Bypass	
Purpose of Improvement	Create a strategic north/south highway route by joining the A15 with Wragby Road therefore reducing the amount of traffic currently travelling through the city centre.
Original Proposal (2008)	<p>The 2008 LITS report stated:</p> <p><i>“One of the key improvements that the Revised Strategy proposes is the Lincoln Eastern Bypass. This is an established proposal to join the A158/Wragby Road roundabout to the A15 south of Bracebridge Heath. This would create a strategic north/south route of county and regional significance and provide an alternative route for traffic which currently has to pass through the city centre. It would be supported by traffic management measures to ‘lock-in’ the benefits in the city centre and improve the environment along the roads relieved by the new bypass through improving accessibility and reducing community severance.</i></p> <p><i>This proposal continues to be of key significance to facilitating the overall aim of the Revised Strategy. Alongside other schemes, it provides the opportunity to deliver the city centre improvements identified in the City of Lincoln’s emerging Local Development Framework and is of fundamental importance to the successful delivery of a number of schemes within the Revised Strategy.</i></p> <p><i>The current alignment of the LEB, which has received planning permission, is currently subject to an alignment review (subject to consultation) to take account of the potential increase in housing allocations contained within the draft Regional Spatial Strategy.”</i></p>
Delivered to Date	<p>Planning consent for a dual-carriageway scheme was granted in October 2010. However, due to the Government’s spending review and resulting austerity package, the DfT requested that a revised scheme be developed based on a single carriageway road. A ‘Best and Final Bid’ for funding was submitted to the DfT in September of 2011 and in Autumn 2011 LEB was announced as one of 35 schemes that are to receive Government funding.</p> <p>A planning application for the revised single carriageway scheme was submitted in December 2012 and a decision on this application is expected in April 2013.</p> <p>It remains the aspiration of the County Council to deliver a dual carriageway scheme in due course when funding and travel demand make this feasible.</p>
Detailed Schemes	Lincoln Eastern Bypass Single Carriageway Scheme
Steps to Delivery	<ul style="list-style-type: none"> • Planning Application (awaiting decision) • Statutory Procedures • Public Inquiry • Detailed Design • Scheme Procurement • Full Approval • Construction • Scheme Evaluation <p>A planning application for the revised single carriageway scheme was submitted in December 2012 and a decision on this application is expected in June 2013.</p>
Programme	Planning permission is expected to be secured in 2013 with construction to commence in 2014/15 and opening in 2016/17.
Cost	£96m
Funding	<p>The total budget for the scheme is £96m, which is made up of the following components:</p> <ul style="list-style-type: none"> • DfT – £49.95m • Lincolnshire County Council – £12m • Third parties – £34m • Third party funding sources are likely to include the Community Infrastructure Levy.

Lead Organisation	Lincolnshire County Council
Partner Organisations	<ul style="list-style-type: none"> • Department for Transport • District Councils • Developers
Consultation Requirements	Consultation may be required during statutory procedures
LITS Objectives Supported	<p>High: SO1, SO2, SO3, SO7-SO11</p> <p>Medium: SO6</p> <p>Low: SO4, SO5, SO12</p>
Risks	<ul style="list-style-type: none"> • Potential for delays through the planning process • Compulsory Purchase Orders may be unsuccessful • Third party funding may not be secured
Links to Other Schemes	<ul style="list-style-type: none"> • Quality Bus Corridors • Park & Ride • Traffic Management Measures • Lincoln Southern Bypass • Relief Road Improvements • Lincoln Eastern Bypass Dualling • City Centre Signing Strategy
Measurement of Success – LITS Outcomes	<p>High: O1, O4, O8, O10, O11, O13-O16</p> <p>Medium: O2, O5, O12</p> <p>Low: O3, O6, O7, O9</p>

DRAFT

Traffic Management Measures	
Purpose of Improvement	Introduction of traffic management measures which aim to protect and enhance the city's historic environment with further measures to 'lock-in' the benefits of the Lincoln Eastern Bypass.
Original Proposal (2008)	<p>The 2008 LITS report stated:</p> <p><i>"A variety of traffic management measures continue to be proposed which would alter traffic movements in the centre of Lincoln.</i></p> <p><i>Some of these are proposed in Lincoln's historic core, which is also known locally as the 'Uphill area' of the city centre. Increased restrictions for traffic in the area surrounding the Cathedral and Bailgate would ensure that the city's historic buildings, particularly the Cathedral, are protected from the negative environmental impacts of traffic. This would protect and enhance the tourism economy and when combined with other city centre measures would result in significant improvements to the public realm.</i></p> <p><i>The Lincoln Eastern Bypass is expected to reduce traffic levels and congestion through the city centre, particularly along the Canwick Road - Pelham Bridge - Broadgate - Lindum Road corridor. Traffic management measures are therefore proposed to 'lock-in' the benefits of the Lincoln Eastern Bypass. This would aim to ensure that, overall in Lincoln, the Lincoln Eastern Bypass does not encourage unnecessary trips by car. A feasibility study is required to determine the exact nature of all these measures."</i></p>
Delivered to Date	<p>Civil Parking Enforcement has been introduced across Lincolnshire and should improve traffic flows in the city centre.</p> <p>Tritton Road – completed summer 2012 to improve the Tritton Road/Beevor Street junction.</p>
Detailed Schemes	<ul style="list-style-type: none"> • Uphill Area Restrictions – Some of these are proposed in Lincoln's historic core, which is also known locally as the 'uphill' area of the city centre. Increased restrictions for traffic in the area surrounding the Cathedral would ensure that the city's historic buildings, particularly the Cathedral, are protected from the negative environmental impacts of traffic. This would protect and enhance the tourism economy and when combined with other city centre measures would result in significant improvements to the public realm. • City Centre Improvements associated with Lincoln Eastern Bypass – the Lincoln Eastern Bypass is expected to reduce traffic levels and congestion through the city centre, particularly along the Canwick Road – Pelham Bridge – Broadgate – Lindum Road corridor and traffic management measures are therefore proposed to 'lock-in' the benefits of the Bypass. Details of these schemes will be developed following the completion of the Bypass. • Brayford Wharf East – A planning application has been submitted for Brayford Wharf East which would introduce one-way traffic management northbound and introduce a right turn ban. This is tied in to the Brayford Wharf pedestrian footbridge. • Park Street/Mint Lane – Following the cultural quarter improvements, there will be a review of traffic management measures at Park Street/Mint Lane to reduce rat-running and pedestrian safety issues. • Dixon Street/Boultham Road – provision of a right turn lane and better pedestrian crossing facilities. • Park Ward Area Review – following the completion of the East-West Link, a review of the traffic management arrangements in the Park Ward area, the streets surrounding Portland Street and Sincil Bank, will be undertaken.
Steps to Delivery	<p>The detailed schemes are currently at different stages but will require the following steps to delivery:</p> <ul style="list-style-type: none"> • Scheme Design & Feasibility • Business Case

	<ul style="list-style-type: none"> • Planning Application • Statutory Procedures • Public Inquiry • Detailed Design • Scheme Procurement • Full Approval • Construction • Scheme Evaluation
Programme	<p>Uphill Area Restrictions – to be confirmed but possibly implemented in time to support the Castle Reveal and Magna Carta anniversary in 2015</p> <p>City Centre Improvements associated with Lincoln Eastern Bypass – following completion of the bypass</p> <p>Brayford Wharf East – commencing September 2013</p> <p>Park Street/Mint Lane – to be confirmed</p> <p>Dixon Street/Boultham Road – currently on-site and to be completed in Summer 2013</p> <p>Park Ward Area Review – to be confirmed – to follow completion of East-West Link</p>
Cost	<p>Uphill Area Restrictions – to be confirmed</p> <p>City Centre Improvements associated with Lincoln Eastern Bypass – to be confirmed</p> <p>Brayford Wharf East – £2m</p> <p>Park Street/Mint Lane – to be confirmed – funded through Integrated Transport Block</p> <p>Dixon Street/Boultham Road – to be confirmed</p> <p>Park Ward Area Review – to be confirmed</p>
Funding	<p>The Brayford Wharf East and Dixon Street/Boultham Road schemes are funded. Sources of funding for the other individual schemes are likely to be as follows:</p> <p>Uphill Area Restrictions</p> <ul style="list-style-type: none"> • LCC Integrated Transport Block <p>City centre improvements associated with Lincoln Eastern Bypass</p> <ul style="list-style-type: none"> • LCC Forward Capital Programme, Integrated Transport Block and Maintenance Block • District Councils • Central government funding bid opportunities <p>Park Street/Mint Lane</p> <ul style="list-style-type: none"> • LCC Integrated Transport Block <p>Park Ward Area Review</p> <ul style="list-style-type: none"> • LCC revenue budgets • Developer contributions • Central government funding bid opportunities
Lead Organisation	Lincolnshire County Council
Partner Organisations	To be confirmed
Consultation Requirements	Consultation requirements will be identified on a scheme by scheme basis but could include during scheme design and feasibility, planning application and statutory procedures
LITS Objectives Supported	<p>High: SO3</p> <p>Medium: SO1, SO2, SO4, SO6-SO11</p> <p>Low: SO5, SO12</p>

Risks	<ul style="list-style-type: none"> • Identification of available funding streams • Consultation may identify stakeholder objections
Links to Other Schemes	<ul style="list-style-type: none"> • Lincoln Eastern Bypass • East-West Link • City Centre Pedestrian Improvements • City Centre Signing Strategy
Measurement of Success – LITS Outcomes	<p>High: O5 Medium: O4, O8, O10, O11, O13-O16 Low: O1, O2, O3, O6, O7, O9, O12</p>

DRAFT

East-West Link (Rope Walk to South Park Avenue)	
Purpose of Improvement	<p>This scheme will improve access to the city centre and certain areas south east of the city centre. When combined with the Lincoln Eastern Bypass, this would support the delivery of the City Centre Masterplan and other documents within the City's Local Development Framework</p> <p>The proposals for East-West Link have been split into three phases:</p> <ul style="list-style-type: none"> • Phase 1 – This phase of the scheme was put into the County Council's capital programme and will largely be funded by the County Council to mitigate the impact of Network Rail's intention to put more freight traffic through Lincoln which directly affects the Lincoln High Street and Brayford Wharf East level crossings • Phase 2 – This is an improvement to the Canwick Road area. Two potential options have been developed for this phase and include the dualling of Canwick Road (removing the tidal flow system), improvements to the junction with South Park Avenue and a new junction into the Tesco/Jackson site east of Canwick Road. • Phase 3 – This will be an online improvement to Ropewalk, St Marks St and the Witham Bridge. No detailed work has been undertaken on this phase. <p>In addition, work is now being undertaken on delivering an improvement to the South Park Avenue junction as a Phase 1a of East-West Link.</p>
Original Proposal (2008)	<p>The 2008 LITS report stated:</p> <p><i>"A new road, known as the East-West Link, is proposed to the southeast of the city centre. It is currently proposed from Rope Walk, along Tentercroft Street, under Pelham Bridge to a junction with Great Northern Terrace, then south on an alignment with the old railway to Canwick Road/South Park Avenue junction. An additional potential link could join up with Washingborough Road, to the east of the Canwick Road junction. The exact alignment and make up of the scheme is subject to more detailed feasibility investigations.</i></p> <p><i>This scheme would improve access to the city centre and certain areas south east of the city centre. When combined with the Lincoln Eastern Bypass, this would support the delivery of the City Centre Masterplan and other documents with the City's Local Development Framework. It would also cater for more strategic east-west movements across the city centre and ensure that traffic uses the most appropriate route. This would support the delivery of improvements to the pedestrian and public transport environment.</i></p> <p><i>The East-West Link would also enable the pedestrianisation of the High Street between Wigford Way and Tentercroft Street and the closure of the High Street level crossing to traffic. However, consideration is being given to the potential for continued use of this route for buses only. This would improve the environment within the city centre and would in turn encourage tourism and assist in the economic growth of the city. The exact nature of these improvements would again be subject to a more detailed feasibility study."</i></p>
Delivered to Date	Phase 1 of the scheme was granted planning permission and conservation area consent in 2012.
Detailed Schemes	<ul style="list-style-type: none"> • East-West Link Phase 1 • East-West Link Phase 2 • East-West Link Phase 3 • East-West Link Phase 1a
Steps to Delivery	<ul style="list-style-type: none"> • Scheme Design & Feasibility • Business Case • Planning Application • Statutory Procedures • Public Inquiry • Detailed Design • Scheme Procurement

	<ul style="list-style-type: none"> • Full Approval • Construction • Scheme Evaluation <p>Phase 1 of the scheme was granted planning permission and conservation area consent in 2012.</p>
Programme	<p>Phase 1 – works programmed to begin in late 2014 with a construction period of 18 to 24 months.</p> <p>Phase 2 – the current status of this scheme is on hold and it will only be delivered when the associated land owners redevelop their site as the road requires substantial land take.</p> <p>Phase 3 – there is no programme for this phase and it may only be brought forward when justified by a development proposal.</p> <p>Phase 1a – to be delivered with or shortly after Phase 1</p>
Cost	<p>Phase 1 – £20m</p> <p>Phase 2 – £20m (indicative)</p> <p>Phase 3 – £4m (initial estimate)</p> <p>Phase 1a – £2m (indicative)</p>
Funding	<p>Phase 1 is already funded by the County Council while funding sources for the other phases will be as follows:</p> <p>East-West Link Phase 1a, 2 and 3 are likely to be funded through:</p> <ul style="list-style-type: none"> • LCC Forward Capital Programme and Integrated Transport Block • Developer contributions • Central Government funding bid opportunities
Lead Organisation	Lincolnshire County Council
Partner Organisations	<ul style="list-style-type: none"> • City of Lincoln Council • Private Developers
Consultation Requirements	Consultation may be required during the process to develop 2 and 3 potentially including scheme design & feasibility, planning application and statutory procedures.
LITS Objectives Supported	<p>High: SO1, SO3, SO7-SO10</p> <p>Medium: SO2, SO6, SO11</p> <p>Low: SO4, SO5, SO12</p>
Risks	<ul style="list-style-type: none"> • Identification of available funding streams • Reliance on developer-led projects • Potential for delays through the planning process for Stages 2 and 3
Links to Other Schemes	<ul style="list-style-type: none"> • Parking Strategy • Lincoln Eastern Bypass • Rail service improvements • Traffic management measures • City Centre Pedestrian Improvements
Measurement of Success – LITS Outcomes	<p>High: O8, O10, O13, O16</p> <p>Medium: O4, O11, O14, O15</p> <p>Low: O1m O2, O3, O5, O6, O7, O9, O12</p>

City Centre Pedestrian Improvements	
Purpose of Improvement	Improvements to increase pedestrian attractiveness of Lincoln including an extension of pedestrian areas and priorities in the city centre.
Original Proposal (2008)	<p>The 2008 LITS report stated:</p> <p><i>“Further to the various schemes above which relate to the city centre, the Revised Strategy proposes further schemes in the longer term to improve the public realm and make the city centre more permeable. This would include the extension of pedestrian areas and priorities in the city centre, along with further alterations to city centre traffic arrangements.</i></p> <p><i>These proposals would further support the delivery of the improvements contained within the City of Lincoln’s emerging Local Development Framework. They could involve a variety of measures, the exact nature of which would require more detailed study.”</i></p>
Delivered to Date	<p>The Cultural Quarter scheme was undertaken to enhance streets across an area of historic Lincoln which covers part of the city centre, with museums, libraries, creative industries workspace, theatres and restaurants and bars, as well as shops. It was designed to uplift this part of the city, making it a far more attractive place to visit using high quality materials which are sympathetic to their context, and to improve pedestrian links by reducing the severance of Silver Street and Clasketgate, between the south and north of the city.</p> <p>The scheme also aimed to improve pedestrian safety through improved crossings and physiological traffic calming.</p> <p>The area included in the original scheme is from High Street in the west (including part of Corporation Street and Mint Street), to Broadgate in the east, and from the Stonebow and Free School Lane in the south to the Usher Gallery and Dane’s Terrace in the north. This is all part of the Cathedral and City Centre Conservation Area, and it also contains many Listed Buildings.</p> <p>There were three broad areas that required different treatment according to their character and function:</p> <ul style="list-style-type: none"> • The area around The Collection, with streets comprising Flaxengate, Danes Terrace, Hungate, Grantham Street and Danesgate. • High Street • Broadgate, Silver Street and Clasketgate
Detailed Schemes	<ul style="list-style-type: none"> • Brayford Wharf East Railway Footbridge • High Street Railway Footbridge • High Street Pedestrianisation (Tentercroft Street to Wigford Way)
Steps to Delivery	<ul style="list-style-type: none"> • Scheme Design & Feasibility • Business Case • Planning Application • Statutory Procedures • Public Inquiry • Detailed Design • Scheme Procurement • Full Approval • Construction • Scheme Evaluation <p>The three schemes are currently at different stages in the delivery process with both railway footbridges at or beyond the planning application stage. The High Street Pedestrianisation scheme is currently at the beginning of the steps to delivery.</p>
Programme	<p>Brayford Wharf East Railway Footbridge – 2014</p> <p>High Street Railway Footbridge – 2014/2015</p>

	High Street Pedestrianisation (Tentercroft Street to Wigford Way) – 2016 following opening of East-West Link
Cost	Brayford Wharf East Railway and High Street Railway Footbridge are Network Rail funded (with the exception of the Traffic Regulation Orders which will be funded by the County Council) High Street Pedestrianisation (Tentercroft Street to Wigford Way) – £2m (approx).
Funding	Brayford Wharf East Railway and High Street Railway Footbridge are Network Rail funded (with the exception of the Traffic Regulation Orders which will be funded by the County Council) High Street Pedestrianisation (Tentercroft Street to Wigford Way) – Funding for this project could potentially come from LCC’s Integrated Transport Block and Maintenance Block, City of Lincoln Council, Central Government funding bid opportunities and Network Rail.
Lead Organisation	Lincolnshire County Council/Network Rail
Partner Organisations	City of Lincoln Council
Consultation Requirements	Consultation may be required during the process to develop the scheme potentially including scheme design & feasibility, planning application and statutory procedures.
LITS Objectives Supported	High: SO3, SO11 Medium: SO4, SO5, SO9 Low: SO1, SO2, SO6, SO7, SO8, SO10, SO12
Risks	Identification of available funding streams of the High Street Pedestrianisation Scheme
Links to Other Schemes	<ul style="list-style-type: none"> • Rail Service Improvements • East-West Link • Traffic Management Measures • City Centre Signing Strategy
Measurement of Success – LITS Outcomes	High: O9 Medium: O5, O8, O10, O12, O15, O16 Low: O1-O4, O6, O7, O11, O13, O14

Swanpool Link	
Purpose of Improvement	Creation of a new highway link from the Western Relief Road to Tritton Road to support the Western Growth Corridor proposals
Original Proposal (2008)	The 2008 LITS report stated: <i>"The proposed Swanpool Link would form a new route from the Western Relief Road to Tritton Road across the Swanpool area, with a connection to the Skellingthorpe Road/Birchwood Avenue junction. This would be delivered as part of the Western Growth Corridor development proposals and is therefore an entirely developer-led improvement scheme, dependent upon the Western Growth Corridor proposals."</i>
Delivered to Date	Ongoing negotiations with developer of Western Growth Corridor development
Detailed Schemes	<ul style="list-style-type: none"> • Swanpool Link – Tritton Road Link • Swanpool Link – Skellingthorpe Road Link • Swanpool Link – Beevor Street Link • Swanpool Link – A46 Link
Steps to Delivery	<ul style="list-style-type: none"> • Scheme Design & Feasibility • Business Case • Planning Application • Statutory Procedures • Public Inquiry • Detailed Design • Scheme Procurement • Full Approval • Construction • Scheme Evaluation
Programme	The scheme is entirely reliant on developers bringing forward their proposals, which in turn is dependent on market conditions – an early indicative timescale is for developers to start in 2016, with sections of the Link starting to be delivered by 2017 onwards.
Cost	The cost of the entire Swanpool Link is £31.7m, based on the developer's estimates.
Funding	Developers are likely to fund the major element of the link including the section between Tritton Road and the A46 – £17.5m. The Skellingthorpe Road Link and Tritton Road Link will be entirely developer funded. Funding for the A46 and Beevor Street Links will come from a variety of sources including LCC's Forward Capital Programme, the Local Transport Board, district councils, Community Infrastructure Levy and central Government bidding opportunities.
Lead Organisation	Private developers/Lincolnshire County Council
Partner Organisations	<ul style="list-style-type: none"> • District Councils • Central Lincolnshire Joint Policy Unit
Consultation Requirements	Consultation may be required during the process to develop the scheme potentially including scheme design & feasibility, planning application and statutory procedures.
LITS Objectives Supported	<p>High: SO1, SO3, SO10</p> <p>Medium: -</p> <p>Low: SO2, SO4-SO9, SO11, SO12</p>
Risks	<ul style="list-style-type: none"> • Identification of available funding streams • Reliance on private developers to deliver key components of the scheme • Potential for delays through the planning process

Links to Other Schemes	<ul style="list-style-type: none">• Relief Road Improvements
Measurement of Success – LITS Outcomes	High: O14 Medium: O16 Low: O1-O13, O15

DRAFT

Lincoln Southern Bypass	
Purpose of Improvement	Creation of a new highway route from the A15 in the east to the A1434/A46 roundabout in the west, completing the orbital relief road around Lincoln.
Original Proposal (2008)	The 2008 LITS report stated: <i>“The Lincoln Southern Bypass is a new road proposed in the long-term from the A15 in the east to the A1434/A46 roundabout in the west, which would complete a full orbital relief road around Lincoln. Public consultation for this scheme has been carried out and a preferred alignment for this route has been identified.”</i>
Delivered to Date	This scheme continues to be a long term aspiration and remains part of LITS. To protect the alignment from development, a preferred route was adopted in December 2006.
Detailed Schemes	<ul style="list-style-type: none"> Lincoln Southern Bypass
Steps to Delivery	<ul style="list-style-type: none"> Scheme Design & Feasibility Business Case Planning Application Statutory Procedures Public Inquiry Detailed Design Scheme Procurement Full Approval Construction Scheme Evaluation
Programme	This scheme continues to be a long term aspiration and remains part of LITS. To protect the alignment from development, a preferred route was adopted in December 2006. The scheme may be dependent on further development coming forward.
Cost	An initial cost estimate has yet to be identified
Funding	Funding opportunities will include LCC’s Forward Capital Programme, Local Transport Board, Community Infrastructure Levy, central Government funding bid opportunities and developer contributions.
Lead Organisation	Lincolnshire County Council
Partner Organisations	<ul style="list-style-type: none"> Private Developers District Councils
Consultation Requirements	Consultation may be required during the process to develop the scheme potentially including scheme design & feasibility, planning application and statutory procedures.
LITS Objectives Supported	<p>High: SO1, SO2, SO3, SO10</p> <p>Medium: SO7, SO8, SO9, SO11</p> <p>Low: SO4, SO5, SO6, SO12</p>
Risks	<ul style="list-style-type: none"> Identification of available funding streams Potential for delays through the planning process
Links to Other Schemes	<ul style="list-style-type: none"> Lincoln Eastern Bypass Relief Road Improvements Lincoln Eastern Bypass Dualling
Measurement of Success – LITS Outcomes	<p>High: O16</p> <p>Medium: O4, O8, O10, O11, O12-O15</p> <p>Low: O2, O3, O5, O6, O7, O9</p>

Relief Road Improvements	
Purpose of Improvement	Includes various long-term improvements to the existing Relief Road to the west and north of the city to ensure that it continues to provide good quality routes to bypass urban areas.
Original Proposal (2008)	<p>The 2008 LITS report stated:</p> <p><i>“The Revised Strategy proposes various long-term improvements to the existing Relief Road to the west and north of the city to ensure that it continues to provide good quality routes to bypass urban areas.</i></p> <p><i>To the north of the city, this would involve making best use of the existing network and improving the existing roundabouts as they start to become increasingly congested. In due course it could also include upgrading the single carriageway sections to dual carriageway.</i></p> <p><i>To the west of the city, improvements are proposed to many of the junctions which already suffer from congestion during peak periods. This may also be supplemented by upgrading some of the single carriageway sections to dual carriageway, but this would be subject to further investigation.</i></p> <p><i>As this section of the relief road is designated as Trunk Road it falls outside the jurisdiction of the County Council. Consequently, the timescales associated with delivering these proposals will be subject to discussions with the Highways Agency.”</i></p> <p>The Highways Agency is responsible for the A46 from the south up to and include the A57 junction.</p>
Delivered to Date	<p>The Teal Park Improvement, which has dualled the section of the Western Relief Road between the junctions of Whisby Road and Doddington Road and improved the junctions, was completed in early 2013, at a cost of £26m.</p> <p>No progress has been made on other improvements.</p>
Detailed Schemes	<ul style="list-style-type: none"> • Northern Relief Road Improvements • Western Relief Road Improvements
Steps to Delivery	<ul style="list-style-type: none"> • Scheme Design & Feasibility • Business Case • Planning Application • Statutory Procedures • Public Inquiry • Detailed Design • Scheme Procurement • Full Approval • Construction • Scheme Evaluation
Programme	No improvements are currently programmed but are likely to be in the medium to long term post-opening of Lincoln Eastern Bypass
Cost	An initial cost estimate has yet to be identified
Funding	Funding sources are likely to include LCC’s Integrated Transport Block budget, Local Transport Board and central Government funding bid opportunities.
Lead Organisation	Lincolnshire County Council/Highways Agency
Partner Organisations	<ul style="list-style-type: none"> • Private Developers • District Councils
Consultation Requirements	Consultation may be required during the process to develop the scheme potentially including scheme design & feasibility, planning application and statutory procedures.
LITS Objectives Supported	<p>High: SO1, SO2, SO3, SO10</p> <p>Medium: SO7, SO8, SO9, SO11</p>

	Low: SO4, SO5, SO6, SO12
Risks	<ul style="list-style-type: none"> • Improvement may be required to sections that form part of the Highways Agency's network • Potential for delays through the planning process
Links to Other Schemes	<ul style="list-style-type: none"> • Lincoln Eastern Bypass • Lincoln Southern Bypass • Lincoln Eastern Bypass Dualling
Measurement of Success – LITS Outcomes	<p>High: O14, O15, O16</p> <p>Medium: O1, O2, O4, O8, O10-O13</p> <p>Low: O3, O5, O6, O7, O9</p>

DRAFT

16.3 New Transport Improvements

This sub-section of the highlights a number of additional transport improvements that have been identified as likely to support the implementation of LITS both in the short and long term. While some of these projects are not 'new' to the County Council, they appear here as they are new to LITS.

These improvements have been identified from a range of sources, but mostly from discussions with Council officers and suggestions from within the project team. In total, seven new transport improvements have been identified; these are as follows:

- Lincoln Eastern Bypass Dualling
- Coach Parking Facility
- Congestion Easing Schemes
- Whisby Road Improvements
- Access LN6
- Bus Network Review
- Lincolnshire Cycle Strategy
- Parking Standards
- City Centre Signing Strategy

Pathways are provided below for each new transport improvement:

Lincoln Eastern Bypass Dualling	
Purpose of Improvement	<p>The dualling of the Bypass remains an aspiration of the County Council and will ensure that this major highway link continues to operate efficiently, and continues to support economic development of Lincoln.</p> <p>The Lincoln Eastern Bypass scheme currently being progressed is a single-carriageway road, a reduction in standard from the original scheme which was granted planning permission in 2010.</p> <p>The current single carriageway scheme includes a number of elements that will support the future dualling including the provision of structures designed to dual standard.</p>
Detailed Schemes	<ul style="list-style-type: none"> Lincoln Eastern Bypass Dualling
Steps to Delivery	<ul style="list-style-type: none"> Scheme Design & Feasibility Business Case Planning Application Statutory Procedures Public Inquiry Detailed Design Scheme Procurement Full Approval Construction Scheme Evaluation
Programme	The programme for dualling of the Bypass is long term, with the additional capacity likely to be required in future to support further economic and traffic growth.
Cost	Initial estimates for this scheme are in the region of £70m.
Funding	Potential funding sources are LCC's Forward Capital Programme and Integrated Transport Block budgets, Local Transport Board and central Government funding bid opportunities
Lead Organisation	Lincolnshire County Council
Partner Organisations	<ul style="list-style-type: none"> Department for Transport District Councils Developers
Consultation Requirements	Consultation may be required during the process to develop the scheme potentially including scheme design & feasibility, planning application and statutory procedures.
LITS Objectives Supported	<p>High: SO1, SO2, SO3, SO7, SO8, SO9, SO10, SO11</p> <p>Medium: SO6</p> <p>Low: SO4, SO5, SO12</p>
Risks	Securing funding for this scheme is likely to be a significant constraint on progress.
Links to Other Schemes	<ul style="list-style-type: none"> Lincoln Eastern Bypass Relief Road Improvements
Measurement of Success – LITS Outcomes	<p>High: O1, O8, O10, O11-O16</p> <p>Medium: O2, O5, O12</p> <p>Low: O3, O6, O7, O9</p>

Coach Parking Facility	
Purpose of Improvement	<p>Lincoln presently generates a significant number of coach trips per year, in a similar manner to many historic cities. Such trips are generated by major historic attractions including the castle and cathedral, but also by the general historic nature of the city and by the range of events organised each year, the most notable of which being the Christmas Market.</p> <p>At present, coaches park in a number of locations across the city, from side streets and the Stagecoach depot, to lay-bys on the primary road network. This can lead to a number of issues including traffic management problems.</p> <p>The provision of a purpose-built coach park will not only reduce issues associated with the unmanaged parking of coaches, it will also provide a high quality facility which will make Lincoln more attractive to coach operators.</p> <p>The facility could be provided in a number of ways including construction of a stand-alone site or the joint siting of the facility with a potential Park & Ride site.</p>
Detailed Schemes	<ul style="list-style-type: none"> Coach Parking Facility
Steps to Delivery	<ul style="list-style-type: none"> Scheme Design & Feasibility Business Case Planning Application Statutory Procedures Public Inquiry Detailed Design Scheme Procurement Full Approval Construction Scheme Evaluation
Programme	<p>While no specific programme has been identified for the coach parking facility, it could be developed as part of other LITS transport improvements including the Parking Strategy and Park & Ride. Demand for the provision of such a facility is likely to focus on delivery by 2015 to support the Castle Reveal and Magna Carta celebrations</p>
Cost	A cost has yet to be identified
Funding	Potential funding sources are LCC's Forward Capital Programme budget, central Government funding bid opportunities, City of Lincoln Council and bus operators
Lead Organisation	Lincolnshire County Council/City of Lincoln Council
Partner Organisations	-
Consultation Requirements	Consultation may be required during the process to develop the scheme potentially including scheme design & feasibility, planning application and statutory procedures.
LITS Objectives Supported	<p>High: -</p> <p>Medium: SO1, SO3, SO9, SO10</p> <p>Low: SO2, SO4-SO8, SO11, SO12</p>
Risks	<ul style="list-style-type: none"> The scheme may be reliant on other schemes for delivery The availability of funding may be a constraint on delivery
Links to Other Schemes	<ul style="list-style-type: none"> Park & Ride Parking Strategy
Measurement of Success – LITS Outcomes	<p>High: O7, O12</p> <p>Medium: O2, O6, O8, O15, O16</p> <p>Low: O1, O3, O4, O5, O9, O10, O11, O13, O14</p>

Congestion Easing Schemes	
Purpose of Improvement	<p>LCC is investing in a programme of five congestion easing schemes. These five schemes represent the five most congested locations in Lincoln and its environs and they also support the larger transport schemes such as Lincoln Eastern Bypass and East-West Link and the growth agenda. Without these schemes the congestion at these points could lead to limits on future growth on capacity grounds.</p> <p>The first of the five schemes, Tritton Road/Beevor Street, was completed in the Summer of 2012</p>
Detailed Schemes	<ul style="list-style-type: none"> • Rookery Lane Area Improvement • Canwick Road Improvement • Outer Circle Road/Wragby Road/Wolsey Way junctions • Newark Road/Station Road junction, North Hykeham
Steps to Delivery	<p>LCC is progressing one scheme per year.</p> <p>The County Council is currently underway with Rookery Lane Area Improvement detailed design, with procurement due to be started in May 2013 but land purchase is required.</p> <p>The preliminary design has been completed for the Canwick Road Improvement. The scheme requires land from third parties and will be going to Exec Board in July 2013 to seek approval to commence CPO process.</p> <p>Neither Rookery Lane or Canwick Road require planning consent.</p> <p>Feasibility work has been undertaken for Outer Circle Road but no progress has been made on the Newark Road/Station Road scheme. These two scheme may require the following steps to delivery:</p> <ul style="list-style-type: none"> • Scheme Design & Feasibility • Business Case • Planning Application • Statutory Procedures • Public Inquiry • Detailed Design • Scheme Procurement • Full Approval • Construction • Scheme Evaluation
Programme	<p>Rookery Lane Area Improvement – target start on site summer 2013</p> <p>Canwick Road Improvement – target start on site late 2014</p> <p>Outer Circle Road/Wragby Road/Wolsey Way junctions – target start on site 2015</p> <p>Newark Road/Station road junction, North Hykeham – target start on site 2015</p> <p>Should the Pinch Point Fund bid application be unsuccessful, LCC would divert monies from the later schemes (Outer Circle Road and Newark Road, North Hykeham) to fund the Canwick Road Improvement. The result would be the postponement of the last two schemes to beyond 2016.</p>
Cost	<p>Rookery Lane/Newark Road/Hykeham Ave – £2m</p> <p>Canwick Road/ South Park Avenue – £3.38m</p> <p>Outer Circle Road/Wragby Rd – £991k</p> <p>Newark Road/ Station Rd – £1.38m</p>
Funding	<p>Rookery Lane/Newark Road/Hykeham Ave – Integrated Transport Block – £339k, Maintenance Block – £340k and DfT – £1,297k</p> <p>Canwick Road/ South Park Avenue – Integrated Transport Block – £1,654k and DfT – £1,734k</p> <p>Outer Circle Road/ Wragby Rd – Integrated Transport Block – £991k</p>

	Newark Road/ Station Rd – Integrated Transport Block – £1,376k
Lead Organisation	Lincolnshire County Council
Partner Organisations	<ul style="list-style-type: none"> • Land owners • Bus operators • District Councils
Consultation Requirements	Consultation may be required during the process to develop the scheme potentially including scheme design & feasibility, planning application and statutory procedures.
LITS Objectives Supported	<p>High: SO3</p> <p>Medium: SO1, SO2, SO4, SO6-SO11</p> <p>Low: SO5, SO12</p>
Risks	<ul style="list-style-type: none"> • Failure to receive funding
Links to Other Schemes	-
Measurement of Success – LITS Outcomes	<p>High: -</p> <p>Medium: O4, O16</p> <p>Low: O1-O3, O5-O15</p>

DRAFT

Whisby Road Improvements

Purpose of Improvement	Following recent and ongoing developments in the south-west of the Lincoln urban area, and improvements to the A46 including the Teal Park dualling and a new roundabout junction at Whisby Road, issues have been raised concerning the safety of Whisby Road itself. Improvements to Whisby Road are to include widening carriageway, combined footway/cycleways to both sides, streetlighting and two toucan crossings.
Detailed Schemes	Whisby Road Improvements
Steps to Delivery	<ul style="list-style-type: none"> • Construction • Scheme Evaluation
Programme	Whisby Road Improvements – commencing April 2013
Cost	Whisby Road Improvements – £3.2m
Funding	This scheme is fully funded.
Lead Organisation	Lincolnshire County Council
Partner Organisations	-
Consultation Requirements	Consultation is complete
LITS Objectives Supported	High: SO3 Medium: SO1, SO4, SO6-SO11 Low: SO2, SO5, SO12
Risks	Delivery is now underway therefore risks are limited
Links to Other Schemes	-
Measurement of Success – LITS Outcomes	High: O14 Medium: O4, O5, O16 Low: O1-O3, O6-O13, O15

Purpose of Improvement	In February 2012, Lincolnshire County Council submitted to the DfT a bid for funding through the Local Sustainable Transport Fund. The programme includes the development of a multi-modal hub around North Hykeham Station, improving its transport links and implementing a number of behavioural change measures
Detailed Schemes	<ul style="list-style-type: none"> • Access LN6 Behaviour change initiatives • Access LN6 Personalised Travel Plans • Access LN6 Promotion of sustainable modes • Access LN6 Initiative to facilitate access to work • Access LN6 Measures to optimise business opportunities (LN6 car share, intelligent transport database) • Access LN6 Improvements to public transport, walking and cycling facilities • Access LN6 Improvements to Hykeham Station • Access LN6 Use of technology (low emission pool cars, EV charging) • Access LN6 Promotion of initiatives to promote health and activity • Access LN6 Re-routing and provision of bus services to fill gaps
Steps to Delivery	The steps to delivery will vary from scheme to scheme which range from infrastructure improvements to smarter choices measures
Programme	The programme runs over three years – 2012/13, 2013/14 and 2014/15.
Cost	<p>The total package cost amounts to £6.64m with funding of £4.899m sought from the DfT</p> <ul style="list-style-type: none"> • Package 1 – Enabling Smarter Choices by Improving Transport Links – £2,431k • Package 2 – Enabling Smarter Choices by Informing and Inspiring – £1,565k • Package 3 – Enabling Smarter Choices by Meeting Local Needs – £646k • Package 4 – Ensuring Delivery, Implementation and Evaluation – £258k
Funding	Funded through the Local Sustainable Transport Fund
Lead Organisation	Lincolnshire County Council
Partner Organisations	<ul style="list-style-type: none"> • District Councils • Public transport operators • Local businesses • Health and leisure organisations • University of Lincoln • Community Groups • RailFuture • Sustrans
Consultation Requirements	Consultation will be undertaken on a scheme by scheme basis
LITS Objectives Supported	<p>High: SO3, SO5-SO8, SO10, SO11, SO12</p> <p>Medium: SO1</p> <p>Low: SO2, SO4, SO9</p>
Risks	<ul style="list-style-type: none"> • Project fails to secure future sustainability of measures • Partners do not deliver their aspects of schemes • Schemes fail to deliver changes in travel behaviour
Links to Other Schemes	<ul style="list-style-type: none"> • Sustainable Travel Initiatives • Small Scale Walking/Cycling/Public Transport Schemes • Rail Service Improvements • Lincolnshire Cycle Strategy

Measurement of Success – LITS Outcomes	High: O8, O9, O14 Medium: O2, O4, O5, O11, O16 Low: O1, O3, O6, O7, O10, O12, O13, O15
--	---

DRAFT

Bus Network Review	
Purpose of Improvement	<p>The last bus network review for Lincoln was undertaken in 2006. In the intervening period, the economic environment within which the bus network operates has changed significantly. This has led to considerable reductions in local authority financial support for bus services, particularly in the off-peak periods in evenings and at weekend. This in turn has resulted in a reduction in bus services outside of core hours, providing lower service levels for the public.</p> <p>However, in some cases where financial support has been withdrawn and bus services have been initially reduced, operators are now looking to run services on a commercial basis, restoring some of the lost network and operational hours. The commissioning of a comprehensive bus network review would enable the following, among other matters:</p> <ul style="list-style-type: none"> • An assessment to be made of the performance of the network as it currently stands including the overall impact of the changes to funding • A review of up-to-date socio-economic data to identify the level of service provided to key people movements by the bus network • A review of the bus network to identify opportunities to reduce the need for interchange and provide seamless journeys e.g. through the integration of services to create cross-city routes • An assessment of the potential for integration between bus and rail services • An assessment of the potential future demands on the network by recent developments and proposed major developments and wider growth contained in the Core Strategy • An assessment of bus network integrates with CallConnect • A review of the potential impacts of Park & Ride on the network • A review of potential for community transport and social enterprise • A review of the fare policy to identify mechanisms to increase patronage • A review of the network to identify potential for commercial operation <p>A review of the impact of key elements of LITS (including LEB, East-West Link and the Public Transport Interchange), to identify further potential for the bus network to lock in the benefits of the strategy.</p>
Detailed Schemes	Bus Network Review
Steps to Delivery	The primary step to delivery will be the Bus Network Review study itself, which will be followed by implementation.
Programme	No programme has been identified for this action but the review itself should be completed in the short term
Cost	A budget for the study needs to be identified. The study itself will generate a programme of work which will need to be costed.
Funding	Revenue funding would be required to support this measure both in terms of undertaking the review and implementing its recommendations. It is feasible, and should be a stated objective, that this review should be cost neutral at worst.
Lead Organisation	Lincolnshire County Council
Partner Organisations	<ul style="list-style-type: none"> • City of Lincoln Council • Local Bus Operators
Consultation Requirements	Consultation is likely to be needed with operators during both the study and at implementation. Consultation is also likely to be required with a range of other stakeholders and the public.
LITS Objectives Supported	<p>High: SO3, SO5-SO12</p> <p>Medium: SO1, SO2</p> <p>Low: SO4</p>
Risks	<ul style="list-style-type: none"> • Lack of support from operators

Links to Other Schemes	<ul style="list-style-type: none"> • Sustainable Travel Initiatives • Small Scale Walking/Cycling/Public Transport Schemes • Quality Bus Corridors • Bus Telematics • Public Transport Interchange • Park & Ride • Rail Service Improvements
Measurement of Success – LITS Outcomes	<p>High: O2, O3, O6, O8, O10, O14, O16 Medium: O4, O9, O11 Low: O1, O5, O7, O12, O13, O15</p>

DRAFT

Lincolnshire Cycle Strategy	
Purpose of Improvement	<p>A comprehensive cycle strategy should be developed for Lincolnshire, drawing on experience from successful cycle initiatives from across the country. While this would be a countywide strategy, a priority within it should be to develop stronger cycle networks within the Lincoln urban area and the proposed Sustainable Urban Extensions.</p> <p>The cycle strategy is likely to include:</p> <ul style="list-style-type: none"> • An assessment of current cycle trends • An assessment of current provision and infrastructure • An assessment of cycle desire lines and existing major cycle corridors • A review of major development proposals in the core strategy and the potential for these to generate new demand for cycling • An assessment of the barriers to cycling – social, environmental and economic • Development of a partnership approach to cycle promotion including: <ul style="list-style-type: none"> - Public bodies - Businesses - Charity and voluntary sector - Education establishments - Health bodies - Tourism, sport and leisure organisations - Public transport providers • Development of objectives • Development of proposals for both hard and soft measures ranging from new infrastructure to marketing and training schemes. • Development of proposals for infrastructure maintenance • Development of proposals for sustainable and ongoing promotion of cycling • Development of a monitoring framework
Detailed Schemes	<ul style="list-style-type: none"> • Lincoln Cycle Strategy
Steps to Delivery	The key step to delivery will be the development of the strategy itself, which in turn will identify steps for delivering the resulting schemes.
Programme	The Strategy itself should be completed within the short term (2014) with resulting schemes delivered over the medium to long term, depending on funding
Cost	A budget for the Strategy needs to be identified. The Strategy itself will generate a programme of work which will need to be costed.
Funding	The funding for the development of the Strategy will need to be identified from revenue budgets. The Strategy itself will need to identify sources of funding for the resulting schemes.
Lead Organisation	Lincolnshire County Council
Partner Organisations	<ul style="list-style-type: none"> • District Councils • Sustrans • Other Public bodies • Businesses • Charity and voluntary sector • Education establishments • Health bodies • Tourism, sport and leisure organisations • Public transport providers

Consultation Requirements	Consultation will be required during the development of the Strategy and proposals for consultation for the scheme delivery stages will be developed as part of the Strategy.
LITS Objectives Supported	High: SO5, SO7, SO8, SO9, SO11, SO12 Medium: SO3, SO4, SO10 Low: SO1, SO2, SO6
Risks	Lack of funding to deliver resulting schemes
Links to Other Schemes	<ul style="list-style-type: none"> • Sustainable Travel Initiatives • Small Scale Walking/Cycling/Public Transport Schemes • Access LN6 (Local Sustainable Transport Fund)
Measurement of Success – LITS Outcomes	High: O2, O8, O9, O10 Medium: O3, O4, O5, O11, O12, O14, O16 Low: O1, O6, O7, O13, O15

DRAFT

Parking Standards	
Purpose of Improvement	To undertake a study of Parking Standards in the area which Lincolnshire County Council will refer to when setting Parking Standards Policy. The policy would cover the whole of the county.
Detailed Schemes	Review of Parking Standards
Steps to Delivery	The key step to delivery will be the development and adoption of the policy itself
Programme	This action should be completed within the short term (2013/14)
Cost	A budget for the study needs to be identified.
Funding	The funding for this project will need to be identified from revenue budgets.
Lead Organisation	Lincolnshire County Council
Partner Organisations	District Councils
Consultation Requirements	Consultation is likely to be undertaken throughout the development of review of parking standards and as part of the process of adopting a new county-wide policy
LITS Objectives Supported	High: SO1, SO3, SO7-SO11 Medium: - Low: SO2, SO4, SO5, SO6, SO12
Risks	<ul style="list-style-type: none"> Local authorities are unable to agree on proposed standards
Links to Other Schemes	<ul style="list-style-type: none"> Parking Strategy
Measurement of Success – LITS Outcomes	High: O3, O7, O14, O15 Medium: O4, O10, O13, O16 Low: O1, O2, O5, O6, O8, O9, O11, O12

City Centre Signing Strategy	
Purpose of Improvement	<p>With major developments and infrastructure projects planned within and surrounding the Lincoln city centre and the wider urban area, signing will need to be updated to reflect alterations to the road network and hierarchy, and location of key destinations.</p> <p>While urban areas are constantly changing, and signing needs to be updated to reflect these changes, the quantity of major infrastructure and development proposals to be implemented over the next few years requires a comprehensive review of signing to be undertaken.</p> <p>Projects including Lincoln Eastern Bypass, East-West Link, the Parking Strategy, Park & Ride and Lindongate will all have impacts on routing and destinations within the city centre and signing will need to be changed to reflect these.</p>
Detailed Schemes	City Centre Signing Strategy
Steps to Delivery	The key step to delivery will be the development of the strategy itself, which in turn will identify steps for delivering the resulting schemes.
Programme	The Strategy itself should be completed within the short term (2014) with resulting changes to signing delivered in time to support schemes
Cost	A budget for the Strategy needs to be identified. The Strategy itself will generate a programme of work which will need to be costed.
Funding	The funding for the development of the Strategy will need to be identified from revenue budgets. The Strategy itself will need to identify sources of funding for the resulting schemes including LCC's Forward Capital Programme.
Lead Organisation	Lincolnshire County Council
Partner Organisations	<ul style="list-style-type: none"> • City of Lincoln Council • Developers • Car park operators
Consultation Requirements	Primarily consultation will be required with the partner organisations, however, public engagement may be useful in the baseline exercise.
LITS Objectives Supported	<p>High: -</p> <p>Medium: SO2, SO9, SO12</p> <p>Low: SO1, SO3-SO8, SO10, SO11</p>
Risks	<ul style="list-style-type: none"> • Plans and programmes for schemes to be supported by the Signing Strategy may change • Funding will need to be secured for implementing the strategy
Links to Other Schemes	<ul style="list-style-type: none"> • Public Transport Interchange • Park & Ride • Parking Strategy • Lincoln Eastern Bypass • Traffic Management Measures • East-West Link • City Centre Pedestrian Improvements • Swanpool Link • Lincoln Southern Bypass • Coach Parking Facility • Whisby Road Improvements
Measurement of Success – LITS Outcomes	<p>High: O13</p> <p>Medium: O1-O11, O14, O15</p> <p>Low: O12, O16</p>

17 Programme

17.1 Introduction

The 2008 'Light Touch' review produced an indicative programme for the delivery of transport improvements indicating what would be delivered in the short and long terms. Work undertaken in support of this Progress Report has taken that programme to a more detailed level providing an indication of the likely delivery timescales for individual transport improvements. While this programme (presented in Appendix E) does show more detail than previously presented, some individual delivery programmes and plans are firmly in place, while others are aspirations which are reliant on funding being secured and significant further work being undertaken prior to delivery. Furthermore, in a number of cases, the delivery of schemes is outside the direct control of the County Council, in that they will be delivered by partners or are reliant on an improvement in the economy to support their delivery.

DRAFT

18 Funding

With budgetary constraints likely to remain in place for the foreseeable future, the availability of funding is perhaps the biggest obstacle to the delivery of LITS and the associated transport improvements. However, the County Council has a range of sources from which to secure funding ranging from its own capital and revenue budgets and bidding opportunities to central Government to developer contributions, or indeed, developers delivering schemes entirely from their own funds. Other sources of funding include:

- Local Transport Board
- District Councils
- Community Infrastructure Levy
- Developer contributions
- Network Rail
- Public transport operators

Appendix F presents a summary of the potential funding opportunities for each of the LITS transport improvements. Due to the timescales over which the improvements will be delivered, there are likely to changes in the funding opportunities available for each improvement, therefore, Appendix F is indicative and subject to change.

DRAFT

Figures

DRAFT

Figure 8.5 – All Accidents in the City of Lincoln Area During 2008

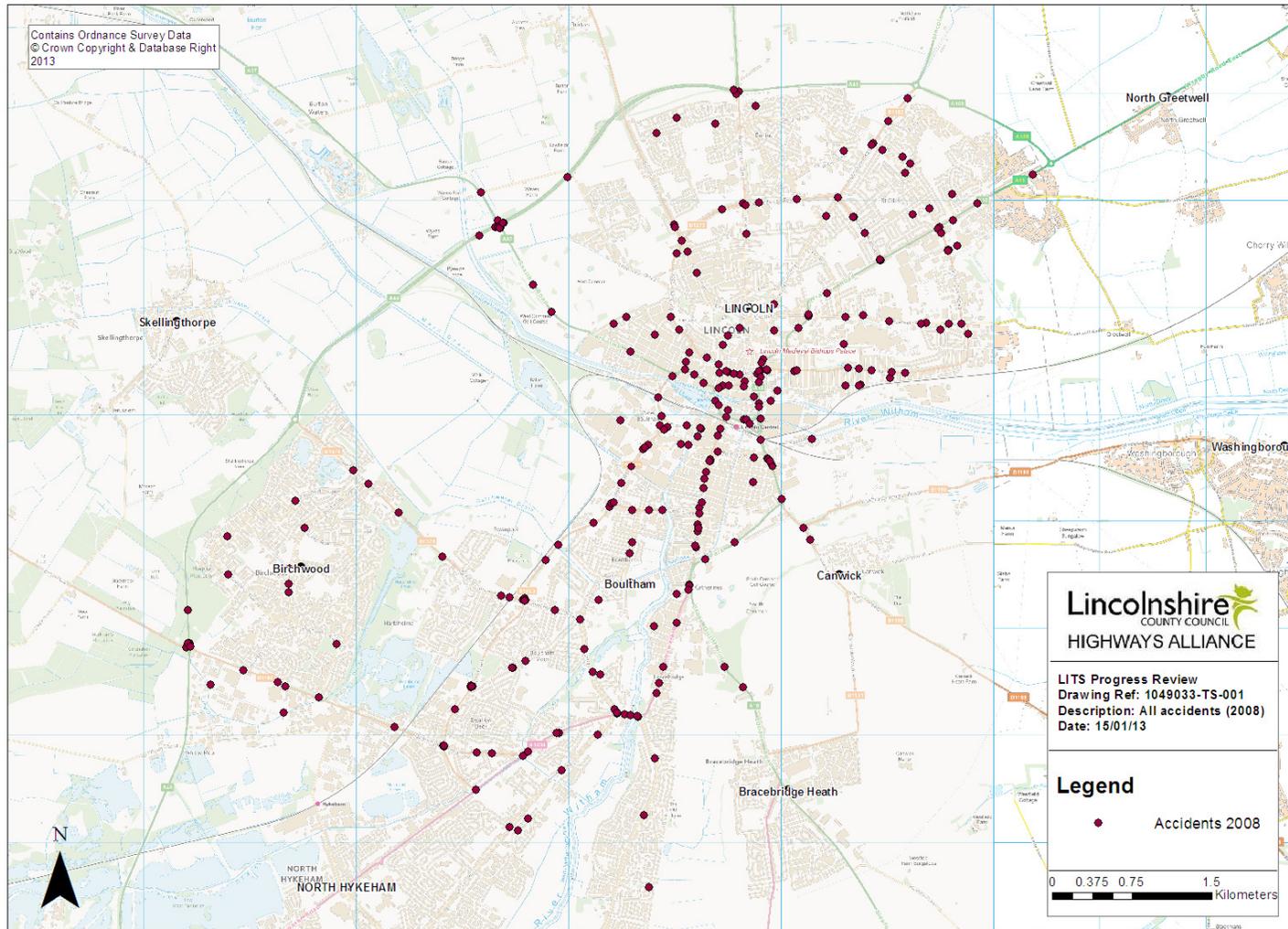


Figure 8.6 – All Accidents in the City of Lincoln Area During 2009

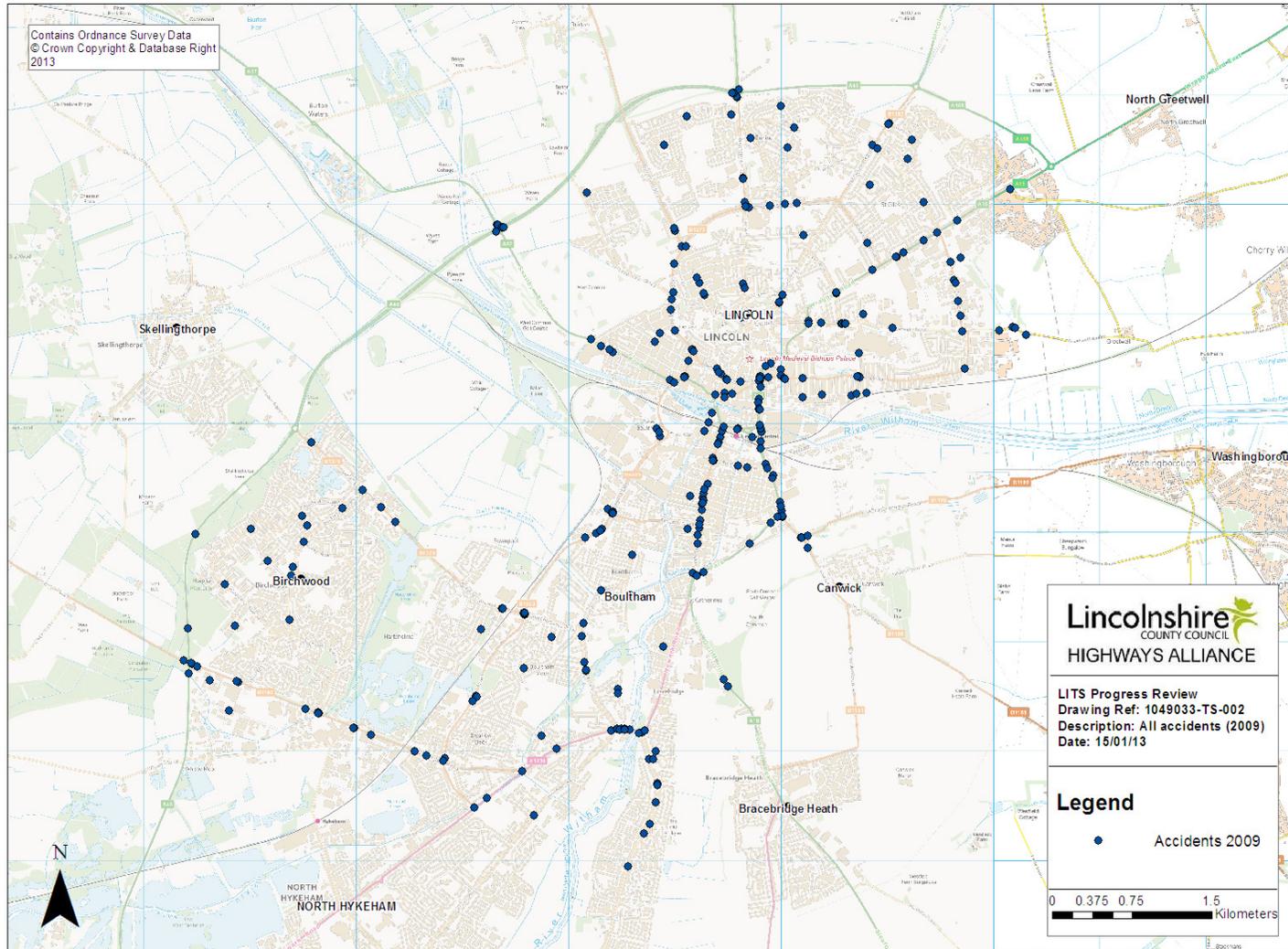


Figure 8.7 – All Accidents in the City of Lincoln Area During 2010

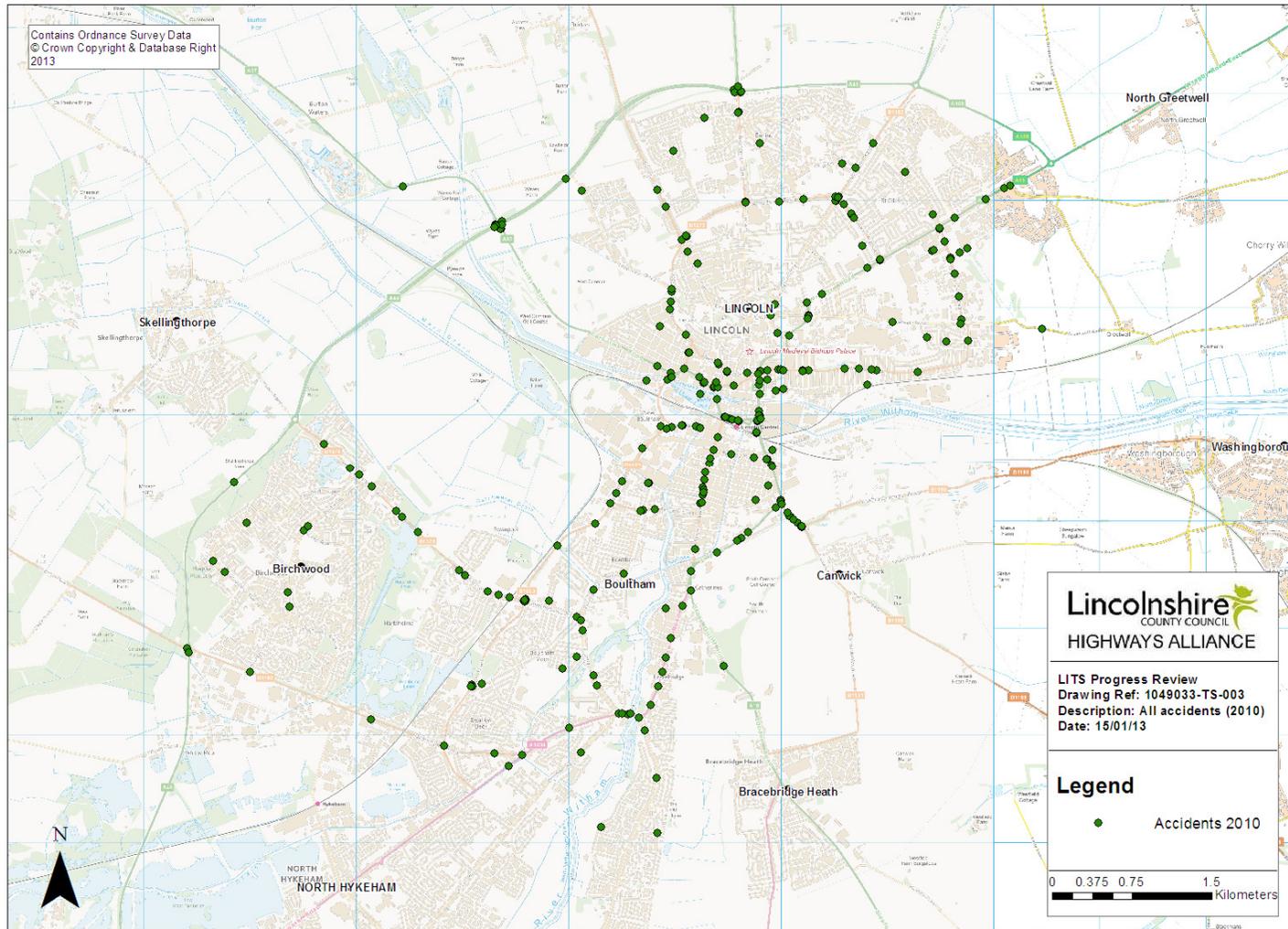


Figure 8.8 – All Accidents in the City of Lincoln Area During 2011

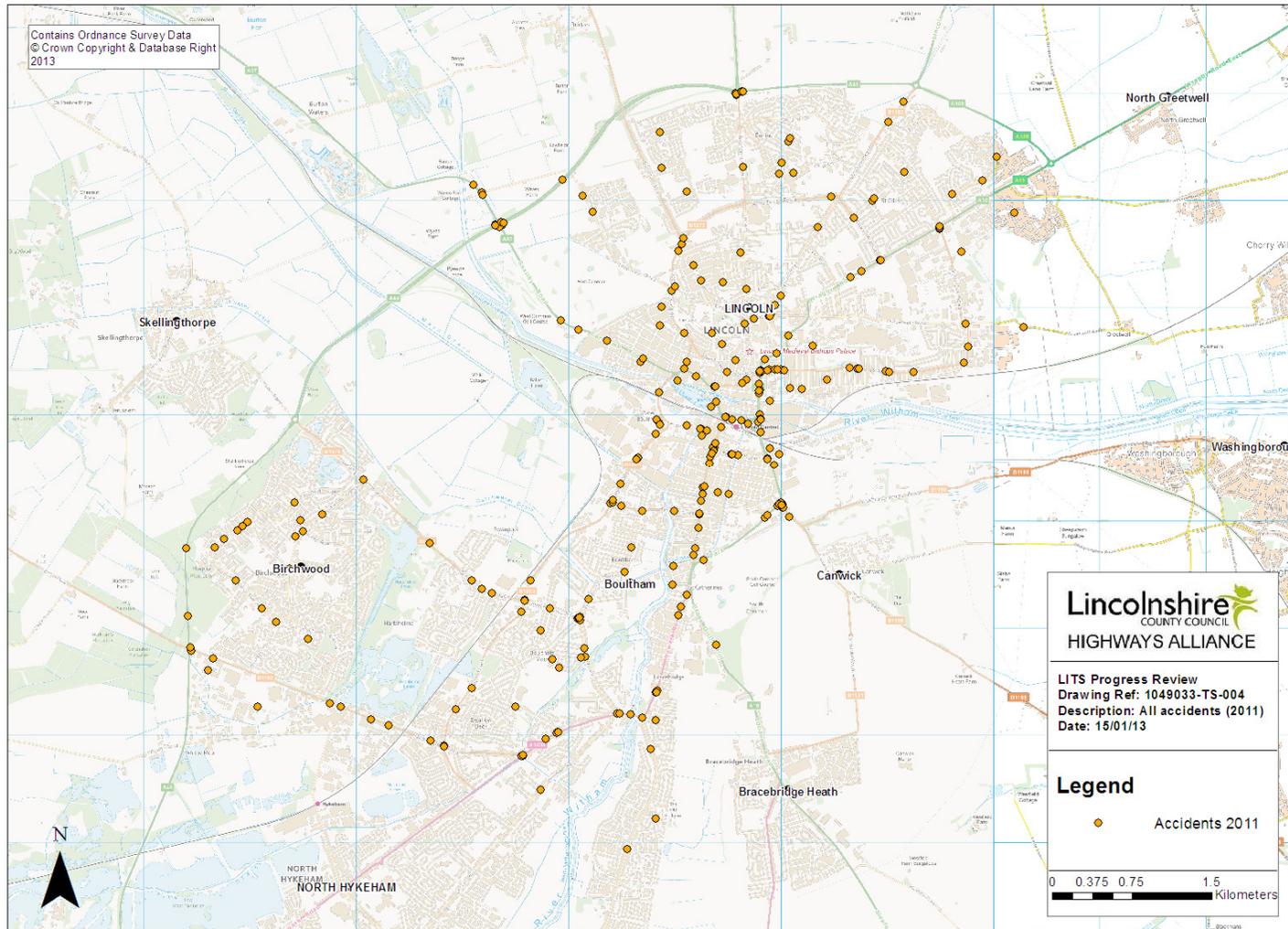


Figure 8.9 – All Accidents in the City of Lincoln Area During 2012

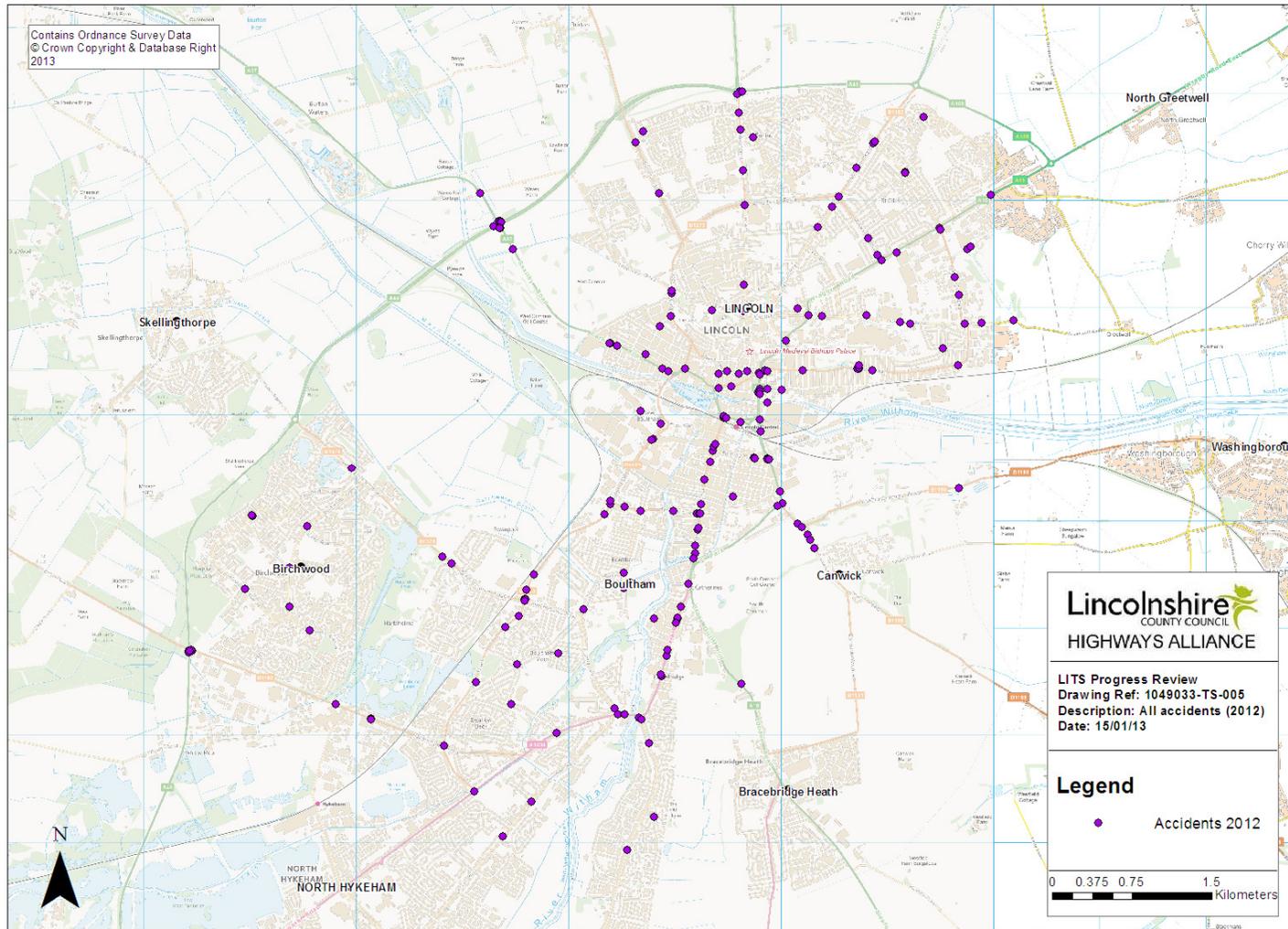


Figure 8-10 – Distribution of Fatal and Serious Accidents

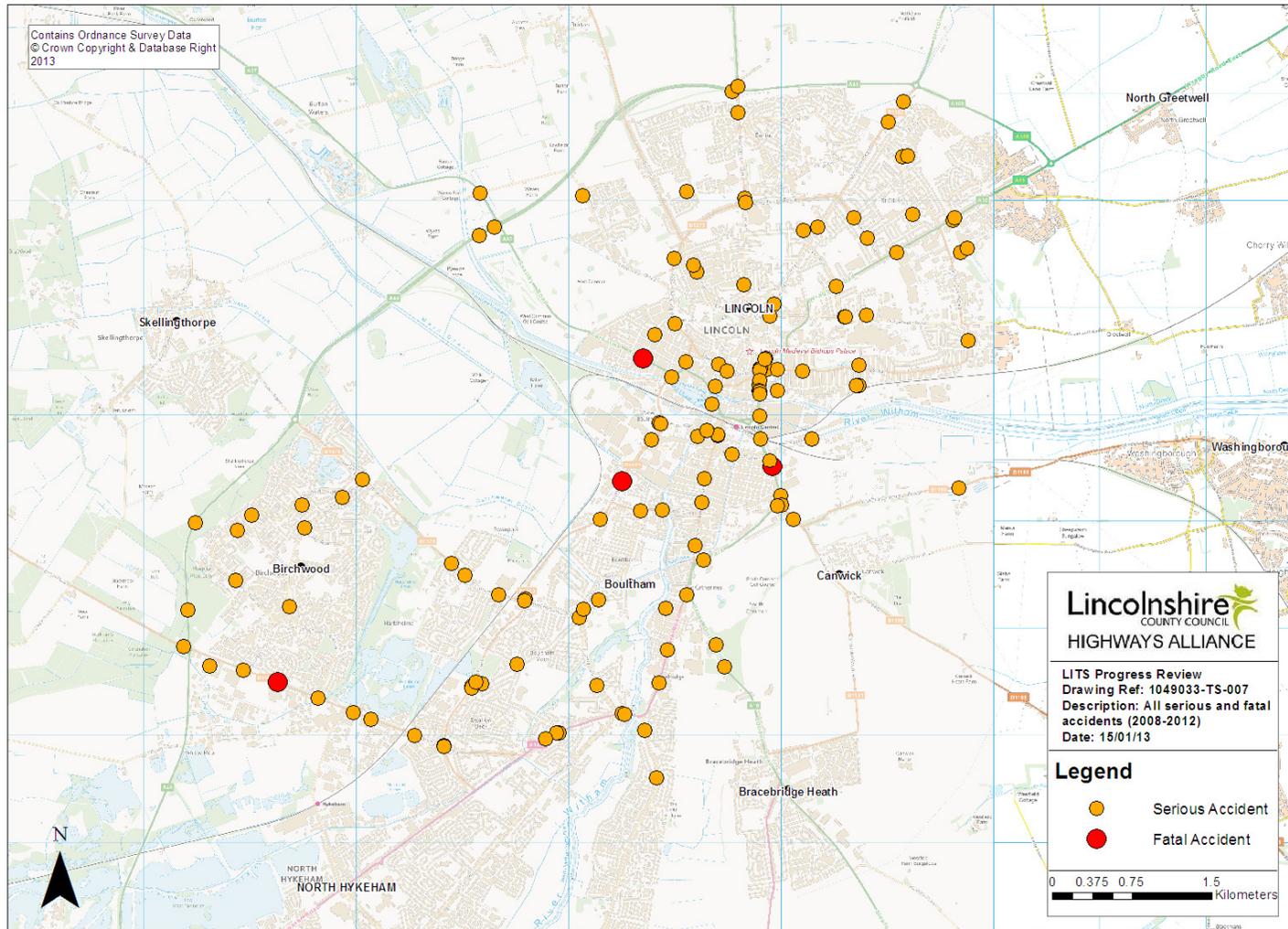
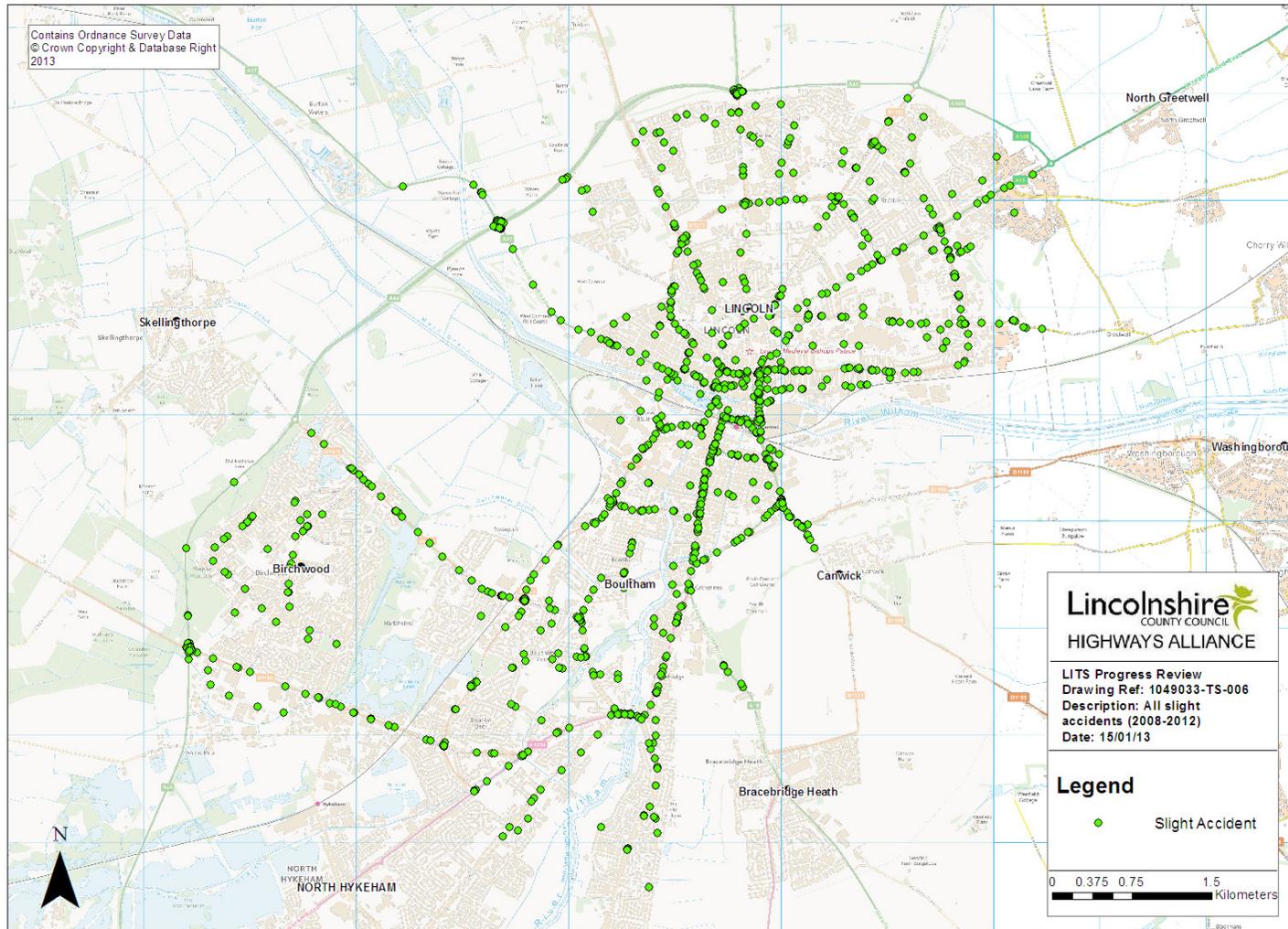


Figure 8-11 – Distribution of Slight Accidents



Appendix A – 2011 Transport White Paper Key Themes Commentary

This appendix provides a summary of the key themes of the 2011 Transport White Paper. These key themes have been used to identify whether the LITS objectives fit with current Government policy on local transport.

As highlighted in the White Paper, the Government's priority for local transport is to:

Encourage sustainable local travel and economic growth by making public transport and cycling and walking more attractive and effective, promoting lower carbon transport and tackling local road congestion.

The White Paper also has a number of key themes including the two primary themes of:

- **Creating economic growth**
- **Cutting carbon emissions**

In addition, the other key themes include:

- **The health impacts of transport** including physical activity, related to obesity; road safety; air quality; and noise.
- **Accessibility to public transport**
- **Decentralisation of power**, including Local Enterprise Partnerships, and planning
- **Simplified transport funding**
- **Enabling local transport choices**
- **Encouraging active travel** including walking, cycling, school travel, Bikeability and Bike & Rail
- **Making public transport more attractive** including focussing on the 'end to end journey'; smart and integrated ticketing; buses (partnerships, low emission vehicles, concessionary fares), rail; rural transport; and accessibility to services
- **Managing traffic** including low carbon technology; car sharing and car clubs; and the design and management of local roads (intelligent transport systems, parking, pedestrians and public realm, decluttering and traffic signs, street lighting, low emission zones, co-operation on strategic infrastructure and road safety)

- **Local transport in society** including community bus and taxi services, taxis and community rail

DRAFT

Appendix B – Strategy Objectives Update – Summary

DRAFT

Ref:	Objectives	Progress Meeting Comments	Transport White Paper Key Themes	Project Team Comments
Overall	-	Show how LITS objectives link to DfT objectives No carbon objective	Cutting carbon emissions	No objectives related to technology, smarter choices, reducing the need to travel and information.
SO1	To assist the sustainable economic growth of Lincolnshire through infrastructure improvements to the following: <ul style="list-style-type: none"> The Strategic Road Network & Non-Strategic Road Network 	Objective should focus on transport, not just roads.	Creating economic growth Managing traffic	Reduce to one sentence
SO2	To remove strategic road-based freight from Lincoln and other adversely affected communities through: <ul style="list-style-type: none"> Encouraging the use of alternative modes Improving links to the Primary/Trans-European Road Network 	The second bullet point should refer to the 'Primary Road Network'	Accessibility to public transport Encouraging active travel Making public transport more attractive Managing traffic	Reduce to one sentence
SO3	To ensure that the transport infrastructure meets the needs of existing and proposed developments especially: <ul style="list-style-type: none"> In the regeneration priorities in the Lincoln Policy Area Including minimising congestion through the promotion of walking, cycling and public transport Managing parking 	Second bullet point should include minor highway improvements Third bullet point should state 'Parking Provision and Management'	The health impacts of transport Accessibility to public transport Enabling local transport choices Encouraging active travel Making public transport more attractive Managing traffic	No further comment

Ref:	Objectives	Progress Meeting Comments	Transport White Paper Key Themes	Project Team Comments
SO4	To reduce the number and severity of road traffic accidents by reducing the potential for conflict between different modes and improving the facilities for convenient and safe alternatives.	No change needed	The health impacts of transport Encouraging active travel Managing traffic	No further comment
SO5	To maximise accessibility and reduce peripherality by improving the range of travel options especially for those without access to the private car.	No change needed	Accessibility to public transport Enabling local transport choices Encouraging active travel Making public transport more attractive Managing traffic Local transport in society	No further comment
SO6	To increase Public Transport usage by improving: <ul style="list-style-type: none"> Reliability, frequency and journey time of bus services. 	Combine into one sentence and include rail as well as bus	Accessibility to public transport Enabling local transport choices Encouraging active travel Making public transport more attractive Local transport in society	It should be noted that the Council has limited control over rail services. Integration should be included
SO7	To improve overall air and noise quality within the study area, especially in the Air Quality Management Area in Lincoln by the removal of unnecessary traffic by: <ul style="list-style-type: none"> Removing through traffic Reducing local journeys in Community Travel Zones Other traffic management measures 	As the implementation of CTZs has now concluded, replace bullet with 'reducing local journeys by car Need to check whether AQMA is still in place	The health impacts of transport Managing traffic	No further comment

Ref:	Objectives	Progress Meeting Comments	Transport White Paper Key Themes	Project Team Comments
SO8	Protect and enhance the built environment by reducing the adverse impacts from traffic, through improvements to the transport infrastructure.	-	Managing traffic	No further comment
SO9	Improve the attractiveness and liveability of central Lincoln for residents, workers and visitors by creating a safe, attractive and accessible environment for pedestrians.	Remove 'for pedestrians'. Include reference to 'encouraging healthy travel and lifestyles'.	The health impacts of transport Enabling local transport choices Encouraging active travel Making public transport more attractive Managing traffic Local transport in society	No further comment
SO10	To support the effective implementation and delivery of both the emerging Sub-Regional Strategy and the new Growth Point agenda of the Lincoln Policy Area.	[This was added as part of the 2008 update]. Sub-regional Strategy and Growth Point no longer relevant. Instead refer to Core Strategy and review potential for references to LTB and LEP	Decentralisation of power Simplified transport funding	Possible reference localism and neighbourhood planning

Appendix C – Meeting Objectives

Existing Transport Improvements

Ref:	Objectives	Sust. Travel	Small Scale Schemes	QBCs	Bus Telematics	PT Inter-change	Park & Ride	Parking Strategy	Rail Service
SO1	To assist the sustainable economic growth of Lincolnshire through transport infrastructure improvements	L	M	H	L	M	M	H	L
SO2	To remove strategic road-based freight from Lincoln and other adversely affected communities through encouraging the use of alternative modes and improving links to the Primary Road Network	L	L	L	L	L	L	L	M
SO3	To ensure that the transport infrastructure meets the needs of existing and proposed developments especially: <ul style="list-style-type: none"> In the regeneration priorities in the Lincoln Policy Area Including minimising congestion through the promotion of walking, cycling, public transport and minor highway improvements Parking provision and management 	H	H	H	M	H	H	H	M
SO4	To reduce the number and severity of road traffic accidents by reducing the potential for conflict between different modes and improving the facilities for convenient and safe alternatives.	M	H	L	L	L	L	L	L
SO5	To maximise accessibility and reduce peripherality by improving the range of travel options especially for those without access to the private car.	H	L	H	M	H	H	M	H
SO6	To increase public transport usage by improving reliability, frequency, journey time and integration of bus and rail services.	M	M	H	H	H	H	L	H
SO7	To improve overall air and noise quality within the study area, especially in the Air Quality Management Area in Lincoln by the removal of unnecessary traffic by: <ul style="list-style-type: none"> Removing through traffic Reducing local journeys in by car 	L	M	H	L	L	H	M	L

Ref:	Objectives	Sust. Travel	Small Scale Schemes	QBCs	Bus Telematics	PT Inter-change	Park & Ride	Parking Strategy	Rail Service	
	<ul style="list-style-type: none"> Other traffic management measures 									
SO8	Protect and enhance the built environment by reducing the adverse impacts from traffic, through improvements to the transport infrastructure.	M	M	H	L	M	H	M	M	
SO9	Improve the attractiveness and liveability of central Lincoln for residents, workers and visitors by creating a safe, attractive and accessible environment.	H	H	M	L	M	H	H	L	
SO10	To support the effective implementation and delivery of the Core Strategy and the emerging priorities of the Local Transport Body and Local Enterprise Partnership.	M	M	H	L	H	H	H	M	
SO11	To reduce Lincoln's carbon emissions through planning, improving and managing transport	H	H	H	M	H	M	H	M	
SO12	To reduce the overall impact of travel decisions by making best use of the range of transport interventions available including smarter choices, technology and information.	H	M	L	H	L	L	M	M	
Summary		H	5	4	8	2	5	7	5	2
		M	4	6	1	3	3	2	4	6
		L	3	2	3	7	4	3	3	4

Ref:	Objectives	LEB	Traffic Mgt	E-W Link	CC Ped Imps	Swanpool	LSB	Relief Road
SO1	To assist the sustainable economic growth of Lincolnshire through transport infrastructure improvements	H	M	H	L	H	H	H

Ref:	Objectives	LEB	Traffic Mgt	E-W Link	CC Ped Imps	Swanpool	LSB	Relief Road
SO2	To remove strategic road-based freight from Lincoln and other adversely affected communities through encouraging the use of alternative modes and improving links to the Primary Road Network	H	M	M	L	L	H	H
SO3	To ensure that the transport infrastructure meets the needs of existing and proposed developments especially: <ul style="list-style-type: none"> In the regeneration priorities in the Lincoln Policy Area Including minimising congestion through the promotion of walking, cycling, public transport and minor highway improvements Parking provision and management 	H	H	H	H	H	H	H
SO4	To reduce the number and severity of road traffic accidents by reducing the potential for conflict between different modes and improving the facilities for convenient and safe alternatives.	L	M	L	M	L	L	L
SO5	To maximise accessibility and reduce peripherality by improving the range of travel options especially for those without access to the private car.	L	L	L	M	L	L	L
SO6	To increase public transport usage by improving reliability, frequency, journey time and integration of bus and rail services.	M	M	M	L	L	L	L
SO7	To improve overall air and noise quality within the study area, especially in the Air Quality Management Area in Lincoln by the removal of unnecessary traffic by: <ul style="list-style-type: none"> Removing through traffic Reducing local journeys in by car Other traffic management measures 	H	M	H	L	L	M	M
SO8	Protect and enhance the built environment by reducing the adverse impacts from traffic, through improvements to the transport infrastructure.	H	M	H	L	L	M	M
SO9	Improve the attractiveness and liveability of central Lincoln for residents, workers and visitors by creating a safe, attractive and accessible environment.	H	M	H	M	L	M	M

Ref:	Objectives	LEB	Traffic Mgt	E-W Link	CC Ped Imps	Swanpool	LSB	Relief Road	
SO10	To support the effective implementation and delivery of the Core Strategy and the emerging priorities of the Local Transport Body and Local Enterprise Partnership.	H	M	H	L	H	H	H	
SO11	To reduce Lincoln's carbon emissions through planning, improving and managing transport	H	M	M	H	L	M	M	
SO12	To reduce the overall impact of travel decisions by making best use of the range of transport interventions available including smarter choices, technology and information.	L	L	L	L	L	L	L	
Summary		H	8	1	6	2	3	4	4
		M	1	9	3	3	0	4	4
		L	3	2	3	7	9	4	4

New Transport Improvements

Ref:	Objectives	LEB Dualing	Coach Parking Facility	Congestion Easing Schemes	Whisby Road	Access LN6
SO1	To assist the sustainable economic growth of Lincolnshire through transport infrastructure improvements	H	M	M	M	M
SO2	To remove strategic road-based freight from Lincoln and other adversely affected communities through encouraging the use of alternative modes and improving links to the Primary Road Network	H	L	M	L	L
SO3	To ensure that the transport infrastructure meets the needs of existing and proposed developments especially: <ul style="list-style-type: none"> In the regeneration priorities in the Lincoln Policy Area 	H	M	H	H	H

Ref:	Objectives	LEB Dualing	Coach Parking Facility	Congestion Easing Schemes	Whisby Road	Access LN6
	<ul style="list-style-type: none"> Including minimising congestion through the promotion of walking, cycling, public transport and minor highway improvements Parking provision and management 					
SO4	To reduce the number and severity of road traffic accidents by reducing the potential for conflict between different modes and improving the facilities for convenient and safe alternatives.	L	L	M	M	L
SO5	To maximise accessibility and reduce peripherality by improving the range of travel options especially for those without access to the private car.	L	L	L	L	H
SO6	To increase public transport usage by improving reliability, frequency, journey time and integration of bus and rail services.	M	L	M	M	H
SO7	To improve overall air and noise quality within the study area, especially in the Air Quality Management Area in Lincoln by the removal of unnecessary traffic by: <ul style="list-style-type: none"> Removing through traffic Reducing local journeys in by car Other traffic management measures 	H	L	M	M	H
SO8	Protect and enhance the built environment by reducing the adverse impacts from traffic, through improvements to the transport infrastructure.	H	L	M	M	H
SO9	Improve the attractiveness and liveability of central Lincoln for residents, workers and visitors by creating a safe, attractive and accessible environment.	H	M	M	M	L
SO10	To support the effective implementation and delivery of the Core Strategy and the emerging priorities of the Local Transport Body and Local Enterprise Partnership.	H	M	M	M	H

Ref:	Objectives	LEB Dualing	Coach Parking Facility	Congestion Easing Schemes	Whisby Road	Access LN6	
SO11	To reduce Lincoln's carbon emissions through planning, improving and managing transport	H	L	M	M	H	
SO12	To reduce the overall impact of travel decisions by making best use of the range of transport interventions available including smarter choices, technology and information.	L	L	L	L	H	
Summary		H	8	0	1	1	8
		M	1	4	9	8	1
		L	3	8	2	3	3

Ref:	Objectives	Bus Network Review	Lincoln Cycle Strategy	Parking Standards Review	Signing Strategy
SO1	To assist the sustainable economic growth of Lincolnshire through transport infrastructure improvements	M	L	H	L
SO2	To remove strategic road-based freight from Lincoln and other adversely affected communities through encouraging the use of alternative modes and improving links to the Primary Road Network	M	L	L	M
SO3	To ensure that the transport infrastructure meets the needs of existing and proposed developments especially: <ul style="list-style-type: none"> In the regeneration priorities in the Lincoln Policy Area Including minimising congestion through the promotion of walking, cycling, public transport and minor highway improvements Parking provision and management 	H	M	H	L

Ref:	Objectives	Bus Network Review	Lincoln Cycle Strategy	Parking Standards Review	Signing Strategy
SO4	To reduce the number and severity of road traffic accidents by reducing the potential for conflict between different modes and improving the facilities for convenient and safe alternatives.	L	M	L	L
SO5	To maximise accessibility and reduce peripherality by improving the range of travel options especially for those without access to the private car.	H	H	L	L
SO6	To increase public transport usage by improving reliability, frequency, journey time and integration of bus and rail services.	H	L	L	L
SO7	To improve overall air and noise quality within the study area, especially in the Air Quality Management Area in Lincoln by the removal of unnecessary traffic by: <ul style="list-style-type: none"> • Removing through traffic • Reducing local journeys in by car • Other traffic management measures 	H	H	H	L
SO8	Protect and enhance the built environment by reducing the adverse impacts from traffic, through improvements to the transport infrastructure.	H	H	H	L
SO9	Improve the attractiveness and liveability of central Lincoln for residents, workers and visitors by creating a safe, attractive and accessible environment.	H	H	H	M
SO10	To support the effective implementation and delivery of the Core Strategy and the emerging priorities of the Local Transport Body and Local Enterprise Partnership.	H	M	H	L
SO11	To reduce Lincoln's carbon emissions through planning, improving and managing transport	H	H	H	L
SO12	To reduce the overall impact of travel decisions by making best use of the range of transport interventions available including smarter choices, technology and information.	H	H	L	M

Ref:	Objectives	Bus Network Review	Lincoln Cycle Strategy	Parking Standards Review	Signing Strategy
Summary	H	9	6	7	0
	M	2	3	0	3
	L	1	3	5	9

Appendix D – Meeting Outcomes

Existing Transport Improvements

Outcome	Description	Sust. Travel	Small Scale Schemes	QBCs	Bus Telematics	PT Inter-change	Park & Ride	Parking Strategy	Rail Service
1	A reduction of 'through trips' within the urban area, particularly: <ul style="list-style-type: none"> • Trips passing through the city centre • HGV trips 	L	L	L	L	L	L	L	L
2	A reduction in the modal share for the private car for: <ul style="list-style-type: none"> • Trips into Lincoln city centre • Trips on the 'school run' 	H	L	H	M	H	H	M	M
3	A reduction in the impact of car trips resulting from development	M	L	M	L	M	M	L	L
4	An improvement in air quality within the urban area (particularly the AQMA within central Lincoln)	M	L	M	L	M	M	L	L
5	A reduction in casualties, particularly: <ul style="list-style-type: none"> • Involving vulnerable road users • At sites with known accident issues 	L	M	L	L	L	L	L	L
6	An increase in public transport trips into and through the city centre	M	L	H	H	H	M	L	H
7	The provision of appropriate parking options for all users of the city centre	L	L	L	L	L	H	H	L
8	Sufficient freedom of movement for all modes to and within the Lincoln Area	M	M	H	M	L	M	L	L

Outcome	Description	Sust. Travel	Small Scale Schemes	QBCs	Bus Telematics	PT Inter-change	Park & Ride	Parking Strategy	Rail Service
9	An increase in levels of walking and cycling within the Lincoln Area, particularly: <ul style="list-style-type: none"> Parents and children travelling to and from school Short trips of less than two miles Trips into the city centre 	H	M	L	L	L	L	L	L
10	An improvement in the liveability quality of life within the Lincoln area	H	M	M	L	L	M	L	L
11	A reduction in noise levels caused by traffic (particularly for sensitive receptors such as schools and hospitals)	M	M	M	L	L	M	L	L
12	An increase in the vitality of Lincoln as a sub-regional centre by encouraging trips for tourism, leisure, business and shopping.	L	L	L	L	M	M	M	M
13	A city that operates effectively for trade and service vehicles	L	M	L	L	L	M	M	L
14	The provision of appropriate access to development sites with minimised impact of increased traffic on the local area	M	M	L	L	L	L	L	L
15	The protection of the historic environment from traffic impacts	M	M	H	M	H	H	H	M
16	The sub-regional strategy delivered by 2016	M	M	H	M	H	H	H	M

Outcome	Description	LEB	Traffic Mgt	E-W Link	CC Ped Imps	Swanpool	LSB	Relief Road
1	A reduction of 'through trips' within the urban area, particularly: <ul style="list-style-type: none"> Trips passing through the city centre HGV trips 	H	L	L	L	L	M	M

Outcome	Description	LEB	Traffic Mgt	E-W Link	CC Ped Imps	Swanpool	LSB	Relief Road
2	A reduction in the modal share for the private car for: <ul style="list-style-type: none"> • Trips into Lincoln city centre • Trips on the 'school run' 	M	L	L	L	L	L	M
3	A reduction in the impact of car trips resulting from development	L	L	L	L	L	L	L
4	An improvement in air quality within the urban area (particularly the AQMA within central Lincoln)	H	M	M	L	L	M	M
5	A reduction in casualties, particularly: <ul style="list-style-type: none"> • Involving vulnerable road users • At sites with known accident issues 	M	H	L	M	L	L	L
6	An increase in public transport trips into and through the city centre	L	L	L	L	L	L	L
7	The provision of appropriate parking options for all users of the city centre	L	L	L	L	L	L	L
8	Sufficient freedom of movement for all modes to and within the Lincoln Area	H	M	H	M	L	M	M
9	An increase in levels of walking and cycling within the Lincoln Area, particularly: <ul style="list-style-type: none"> • Parents and children travelling to and from school • Short trips of less than two miles • Trips into the city centre 	L	L	L	H	L	L	L
10	An improvement in the liveability quality of life within the Lincoln area	H	M	H	M	L	M	M
11	A reduction in noise levels caused by traffic (particularly for sensitive receptors such as schools and hospitals)	H	M	M	L	L	M	M

Outcome	Description	LEB	Traffic Mgt	E-W Link	CC Ped Imps	Swanpool	LSB	Relief Road
12	An increase in the vitality of Lincoln as a sub-regional centre by encouraging trips for tourism, leisure, business and shopping.	M	L	L	M	L	M	M
13	A city that operates effectively for trade and service vehicles	H	M	H	L	L	M	M
14	The provision of appropriate access to development sites with minimised impact of increased traffic on the local area	H	M	M	L	H	M	H
15	The protection of the historic environment from traffic impacts	H	M	M	M	L	M	H
16	The sub-regional strategy delivered by 2016	H	M	H	M	M	H	H

New Transport Improvements

Outcome	Description	LEB Dualing	Coach Parking Facility	Congestion Easing Schemes	Whisby Road	Access LN6	Bus Network Review	Lincoln Cycle Strategy	Parking Standards Review	Signing Strategy
1	A reduction of 'through trips' within the urban area, particularly: <ul style="list-style-type: none"> • Trips passing through the city centre • HGV trips 	H	L	L	L	L	L	L	L	L
2	A reduction in the modal share for the private car for: <ul style="list-style-type: none"> • Trips into Lincoln city centre • Trips on the 'school run' 	M	M	L	L	M	H	H	L	L
3	A reduction in the impact of car trips resulting from development	L	L	L	L	L	H	M	H	L
4	An improvement in air quality within the urban area (particularly the AQMA within central Lincoln)	H	L	M	M	M	M	M	M	L

Outcome	Description	LEB Dualing	Coach Parking Facility	Congestion Easing Schemes	Whisby Road	Access LN6	Bus Network Review	Lincoln Cycle Strategy	Parking Standards Review	Signing Strategy
14	The provision of appropriate access to development sites with minimised impact of increased traffic on the local area	H	L	L	H	H	H	M	H	L
15	The protection of the historic environment from traffic impacts	H	M	L	L	L	L	L	H	L
16	The sub-regional strategy delivered by 2016	H	M	M	M	M	H	M	M	M

Appendix E – Overall Programme

Scheme Development and Preparation	
Scheme Delivery	
Indicative Scheme Development and Preparation	
Indicative Scheme Delivery	

Transport Improvement	Detailed Schemes	'13	'14	'15	'16	'17	'18	'19	'20	'21	'22	'23	'24	'25	'26	'27	'28	'29	'30	'31	Comments
Sustainable Travel Initiatives	Various																				Ongoing implementation of schemes
Small Scale Walking/Cycling/Public Transport Schemes	Various																				Ongoing implementation of schemes
Quality Bus Corridors	QBC 2																				Preparation in run up to 2017 opening of LEB and implementation from 2018 onwards
	QBC 3																				
	QBC 4																				
Bus Telematics	Doddington Road/Tritton Road Junction – INEO installation																				LSTF funding ends in 2015
	Doddington Road/Whisby Road Junction – INEO installation																				LSTF funding ends in 2015
	Other schemes, to be identified																				Indicative
Public Transport Interchange	Public Transport Interchange																				Programme reliant on private sector funding and implementation
Park & Ride	Park & Ride Site 1 and/or 2 (East)																				Indicative
	Park & Ride 3 (West)																				Indicative
Parking Strategy	Parking Strategy Study																				Parking Strategy Study reporting in Summer 2013
	Parking Strategy																				Parking Strategy expected to be adopted by late 2013
	Parking Strategy Schemes																				Ongoing implementation of schemes
Rail Service Improvements	Rail Service Improvements																				Implementation in line with start of new franchises for ECML and East Midlands
Lincoln Eastern Bypass	Lincoln Eastern Bypass																				Construction due to start in 2015 with completion in 2017
Traffic Management Measures	Uphill Area Restrictions																				Indicative – to support Castle Reveil and Magna Carta Anniversary
	City centre improvements associated with Lincoln Eastern Bypass																				Opening following completion of Lincoln Eastern Bypass
	Brayford Wharf East																				Accompanying the Brayford Wharf East Railway Footbridge
	Park Street/Mint Lane																				Indicative
	Dixon Street/Boultham Road																				To be completed Summer 2013
Park Ward Area Review																					To follow completion of East-West Link Phase 1
East-West Link	East-West Link Phase 1																				Current Programme
	East-West Link Phase 1a																				Indicative
	East-West Link Phase 2																				Indicative
	East-West Link Phase 3																				Indicative
City Centre Pedestrian Improvements	Brayford Wharf East Railway Footbridge																				Current Programme
	High Street Railway Footbridge																				Current Programme
	High Street Pedestrianisation (Tentercroft St – Wigford Way)																				To follow completion of East-West Link Phase 1
Swanpool Link	Swanpool Link – Tritton Road Link																				Indicative - delivery dependent on private developers
	Swanpool Link – Skellingthorpe Road Link																				Indicative - delivery dependent on private developers
	Swanpool Link – Beevor Street Link																				Indicative - delivery dependent on private developers
	Swanpool Link – A46 Link																				
Lincoln Southern Bypass	Lincoln Southern Bypass																				Indicative
Relief Road Improvements	Relief Road Improvements																				Indicative
Lincoln Eastern Bypass Dualling	Lincoln Eastern Bypass Dualling																				Indicative
Coach Parking Facility	Coach Parking Facility																				Indicative
Congestion Easing Schemes	Rookery Lane Area Improvement																				Current Programme
	Canwick Road Improvement																				Current Programme
	Outer Circle Road/Wragby Road/Wolsey Way Junctions																				Current Programme
	Newark Road/Station Road Junction, North Hykeham																				Current Programme
Whisby Road Improvements																					Current Programme
Access LN6	Various Schemes																				Current Programme
Bus Network Review																					Indicative
Lincolnshire Cycle Strategy																					Indicative
Parking Standards																					Indicative
City Centre Signing Strategy																					Indicative

Appendix F – Potential Funding Opportunities

We have used our reasonable endeavours to provide information that is correct and accurate and have discussed above the reasonable conclusions that can be reached on the basis of the information available. Having issued the range of conclusions it is for the client to decide how to proceed with this project.